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GAME MANAGEMENT

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1 HUNTING AND GAME-KEEPING IN THE CZECH REPUBLIC

In the Czech Republic, the historical development of hunting was similar to that in Central Europe. We also perceive the importance and organisation of hunting in a different way than in Southern and Western Europe or in Scandinavia and in other continents. In our country hunting and game-keeping is not reduced to the activity of killing the game.

Hunting and game-keeping is understood as:

- economic activity using the reproduction of game, which is managed both to provide the maximum amount of venison and high quality trophies and to minimize the damage caused by game to agricultural, forestry, fishing and hunting economy,
- hobby of skilled hunters of different age and social class, both non-professionals and professionals, who contribute to the development of hunting and game-keeping, environment conservation, dog breeding, falconry, shooting, etc., by taking advantage of their training, artistic, cultural, aesthetic and philosophical skills based on ancient and present hunting traditions,
- scientific activity providing more detailed information about the life of the game and its needs; satisfying those needs will always remain the priority of hunting and game-keeping,
- activity promoting hunters' interests and clarifying the meaning of hunting and game-keeping both in the Czech Republic and abroad.

Our Game Management Act 449/2001 defines game management as activities carried out in the wild focused on wild game as a part of the ecosystem, and activities of associations focused on the maintenance and development of hunting traditions and customs as a part of the Czech national cultural heritage. Game is considered a renewable natural resource represented by populations of wild animals managed in hunting areas of at least 500 ha (usually bigger), in game preserves of 50 ha or more or in pheasantries. For some deer species, areas of game-keeping are established, uniting hunting areas in order to apply the same management rules.

The administration of hunting and game-keeping lies within the Ministry of Agriculture, only in 4 national parks – Krkonoše, Šumava, Podyjí and Českosaské Švýcarsko - within the Ministry of the Environment. Environmental and Agricultural Departments and municipalities with extended competence regulate hunting and game-keeping at regional and local level. The Minister of the Environment appointed the Hunting Board as a consulting body.

The state organs of game management co-operate closely with organisations associating hunters in the Czech Republic. The biggest organisation is the Czecho-Moravian Hunting Union (Českomoravská myslivecká jednota, ČMMJ) with its headquarters in Prague and branches in the districts. Other associations with relatively small number of members – usually also ČMMJ members – are The Order of Saint Hubert (Řád svatého Huberta), The Safari Club (Safari klub), and the Association of Professional Hunters (Asociace profesionálních myslivců).

ČMMJ is active especially in educating and informing the public about the importance of hunting and game-keeping for both society and the hunters; it organizes yearly trophy shows, national or international exhibitions and promotes the skills and ethics of the hunters - of the youngest by organizing the “Zlatá srnčí trofej” (“Golden Trophy Competition”) and of the others by publishing the magazine Myslivost (Hunting and Game-keeping) and other professional literature and VHS cassettes. It also organizes special courses leading to hunting examinations for individuals in order to fulfil the legal requirements for the issue of a hunting

licence, dog's performance trials, and trains the examiners and referees for these exams. The Falconry Club organizes falconry trials and annual international competitions. The Trumpeting Club trains its members as trumpeters for both international trumpeting competitions and every hunting and social event in order to preserve the tradition of trumpeting. The Club of Wildlife Photographers is another active organisation. Members of ČMMJ are obliged to observe the Rules for Hunters, regulating hunting traditions, and safety rules for handling guns that are not explained in detail in the Firearms and Ammunition Act.

The actual hunting and game-keeping is done in hunting areas held by big owners or administrators of the hunting grounds or by the hunting guild associating owners of smaller grounds. Users of hunting areas are hunters allowed to manage the hunting grounds recognised by the state organs. Individuals, the administrators of the grounds and the hunting guild manage their own hunting areas or they rent the hunting rights to associations of hunters.

The state organs of game management recognize the hunting areas of individual holders and set the number of the prescribed game stock that is to be managed by the user of the hunting area according to its size. The prescribed game stock is laid down for hoofed game and for hare and pheasant according to the quality of the area, i.e. the quality of the environment, food opportunities, cover and disturbance. Only the increment is culled and it is divided according to the age of the game. The number of game must not be lower than the minimum stock and it should not be higher than the prescribed game stock laid down in the decree.

The annual plan of game management is based on the spring census (as of March 31) The expected increment is calculated by the means of the coefficients of expected production, followed by number of game to be culled so that the prescribed game stock is left. Each user of the hunting area is obliged to produce a plan of care for game, containing the number and type of game management facilities including quantity of food for the time of famine. Further reports of each hunting area contain e.g. the number of hunting dogs and, at the end of the hunting year, (from April 1 to March 31) the hunting statistics are produced for national summaries.

Hunting records are kept by every user of the hunting area but usually it is the game manager, who is responsible for processing the data and for professional leadership of the area. The game manager is appointed by the state organs of the game management after having passed the prescribed examinations for game managers. Compared to the hunting examination, this examination is of higher degree and usually organized by ČMMJ with the consent of the Ministry of Agriculture.

The Ministry of Agriculture is the sole organizer of the higher-level hunting examination. The examination is the most prestigious and is required for certain positions within the state organs for game management, within the ČMMJ and for the examining commissioner.

There is a different examination for gamekeeper guards. The gamekeeper guard is appointed for continuous 500 ha of hunting area and have the status of public servant.

Hunting rights mean a complex of rights and duties to protect, to keep purposefully and to hunt the game, to appropriate shot or found dead game, its development stages and cast antlers, and to use hunting grounds for these purposes to the necessary extent.

The hunting grounds belong to their owners who receive the settled rent paid by the user of the hunting area. The user also covers any provable damage caused on the relevant ground by the game. This results in contracts being concluded between the landowners and the users about the prevention of damage to the stands. Disputes are settled by an agreement or in a court of law.

The Game Management Act defines the banned hunting methods and the decree lays down the hunting season for each game species. Violation of these regulations as well as hunting without a valid hunting permit is defined as poaching. The game-keeper guard and the irremovable seals that have to be fastened to the dead animal's leg immediately after being

found contribute greatly to curbing such despicable behaviour. The seal and the tag of the animal's origin have to accompany the carcass when transported for further processing in compliance with all the provisions of the Veterinary Care Act.

This act regulates the use of hunting dogs and their numbers for the hunting areas or for group hunting; it also sets types of hunting licences and requirements for obtaining them. The requirements for a gun licence are set in the Firearms and Ammunition Act. Anybody exercising hunting rights has to be insured. Violation of legal provisions may be fined.

It seems that in the future multinational hunting organisations will be of great importance. However, to unify hunting legislation and traditions of the different countries is beyond the organisations' power, however, they will play a very important role in respecting national dissimilarities. It is necessary to convey the meaning of hunting to the public in order to make people understand it was hunting which contributed greatly to the establishment and survival of mankind and that the hunting period had been the longest in the history of mankind. Only ten thousand years ago, the change to agriculture liberated mankind from dependence on decreasing numbers, and often also migrating game species; it was not until 250 years ago that technical development was brought by the industrial revolution. Hunting and game-keeping is not an anachronism but a rational use of renewable natural resources, protecting consciously nature and creating environment for game and also for man.

Establishing such a multinational hunting organisation was for the first time proposed in former Czechoslovakia in the presence of delegates from France, Rumania, and Poland in 1928. The International Council for Game and Wildlife Conservation (CIC) was founded in Paris in 1930 in the presence of Czechoslovakia. The Czech Republic is also an active member.

The international organisation FACE plays an important role in monitoring all EU directives and points out any flaws and influence on hunting and hunters in different countries. ČMMJ became a FACE member already in 1965 – many years before the access of the Czech Republic to the EU.

FACE and CIC are considered to be the two most important organisations for the development of hunting in the Czech Republic. We do not underestimate the membership in other organisations as long as their activity is relevant for the improvement of hunting and game-keeping; it also promotes the development of bilateral relationship with hunters from different countries, especially from neighbouring countries. Co-operation agreements are signed and experience, particularly with hunting legislation, is exchanged. We support also personal meetings, as this friendship across the border gives us a chance to experience and to have a better understanding of our dissimilarities. Publications about hunting in foreign countries make this process easier.

2 ZOOLOGY OF IMPORTANT GAME SPECIES

A list of all game species (Act 449/2001 Sb) is presented on pages 116-118.

2.1 Mammals

Red deer (*Cervus elaphus*)

Overall info, Description:

The red deer is one of the largest deer species. The red deer inhabits most of Europe, the Caucasus Mountains region, Asia Minor, parts of western Asia, and central Asia. In the Czech Republic it inhabits mainly the border Mountains and the Bohemian-Moravian Highlands, among other things, is a common species kept in the game reserves.

Generally, the male is typically 175 to 230 cm long and weighs 160 to 240 kg; the female is 160 to 210 cm long and weighs 120 to 170 kg. Shoulder height is about 95 to 130 cm. Male deer tend to have stronger and thicker neck muscles than female deer, which may give them an appearance of having neck manes. Red deer hinds (females) do not have neck manes. The European red deer is adapted to a woodland environment.

Only the stags have antlers, which start growing in the spring and are shed each year, usually at the end of winter. Antlers typically measure 71 cm in total length and weigh 1 kg, although large ones can grow to 91 cm and weigh 3 kg. Antlers are made of bone which can grow at a rate of 2,5 cm a day. A soft covering known as velvet helps to protect newly forming antlers in the spring. European red deer antlers are distinctive in being rather straight and rugose, with the fourth and fifth tines forming a "crown" or "cup" in larger males. A stag can (exceptionally) have antlers with no tines, and is then known as a switch. Similarly, a stag that does not grow antlers is a hummel. The antlers are testosterone-driven and as the stag's testosterone levels drop in the last summer, the velvet is shed and the antlers stop growing (exploit of shed: July/August).

During the autumn, all red deer subspecies grow thicker coats of hair, which helps to insulate them during the winter. Autumn is also when some of the stags grow their neck manes. The autumn/winter coat of most subspecies are most distinct. European red deer has more of a greyish-brown coat with a darker yellowish rump patch in the winter. By the time summer begins, the heavy winter coat has been shed; the animals are known to rub against trees and other objects to help remove hair from their bodies. Red deer have different colouration based on the seasons and types of habitats, with grey or lighter colouration prevalent in the winter and more reddish and darker coat colouration in the summer. Most European red deer have reddish-brown summer coats, and some individuals may have a few spots on the backs of their summer coats.

Mating season:

With the approach of autumn, the antler begins to calcify and the stags' testosterone production builds for the approaching rut (mating season: September/October). Male booting and around them being collected females. Deer removers of antlers in February/March (old deers earliest). Female after 32 weeks of pregnancy puts usually one fawn (May/June).

Feeding strategy:

Red deer eat all kinds of plants including grasses, heather, berries, lichens and mosses. They will also eat tree seedlings and the bark of trees. In summer they feed mainly at dawn and dusk, resting during the day. During the winter most of the day is spent searching for food.

Specifics of hunting:

The states of red deer in the Czech Republic at 31st March 2011 was estimated 29 266 individuals, in the hunting year 2010/2011 were shot 21 399 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established for red deer from 1st July to 15th January.



Fig.: Distribution on the Europe



Fig.: Red deer

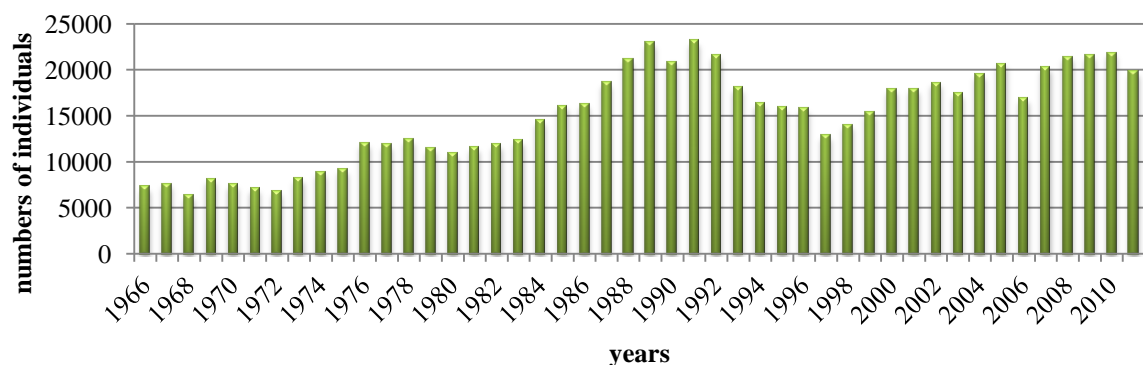


Fig.: Development of hunted red deer in the Czech Republic

Fallow deer (*Dama dama*)

Overall info, Description:

The fallow deer is a ruminant mammal belonging to the family Cervidae. This common species is native to western Eurasia. The male fallow deer is known as a buck, the female is a doe, and the young a fawn. Adult bucks are 140–160 cm long with a 85–95 cm shoulder height, and typically 60–100 kg in weight; does are 130–150 cm long with a 75–85 cm shoulder height, and 30–50 kg in weight. The largest bucks may measure 190 cm long and weigh 150 kg. Fawns are born in spring at about 30 cm and weigh around 4,5 kg. The life span is around 12–16 years.

The species has great variations in the colour of their coats, with four main variants, "common", "menil", melanistic and leucistic – a genuine colour variety, not albinistic. The white is the lightest colored, almost white; common and menil are darker, and melanistic is very dark,

sometimes even black (easily confused with the sika deer). Most herds consist of the common coat variation, yet it is not rare to see animals of the menil coat variation. The Melanistic variation is rarer and white very much rarer still.

Agile and fast in case of danger, fallow deer can run up to a maximum speed of 30 mph (48 km/h) over short distances (being naturally less muscular than other cervids such as roe deer, they are not as fast). Fallow deer can also make jumps up to 1,75 metres high and up to 5 metres in length.

The fallow deer is a Eurasian deer that was a native to most of Europe during the last Interglacial. In the Holocene, the distribution was restricted to the Middle East and possibly also parts of the Mediterranean region, while further southeast in western Asia was the home of the Persian fallow deer, that is bigger and has larger antlers. In the Paleolith, fallow deer were an important source of meat (17 000–10 000 BC), as is shown by animal bones from sites in northern Israel, but the numbers decreased in the following epi-Palaeolithic culture (10 000–8 500 BC), perhaps because of increased aridity and the decrease of wooded areas.

Mating season:

Only bucks have antlers, which are broad and shovel-shaped (palmate) from three years. In the first two years the antler is a single spike. They are grazing animals; their preferred habitat is mixed woodland and open grassland. During the rut (October) bucks will spread out and females move between them, at this time of year fallow deer are relatively ungrouped compared to the rest of the year when they try to stay together in groups of up to 150. Female is pregnant for 33 weeks. Male sheds antlers in April and beating out in August.

Feeding strategy:

Fallow deer are herbivores and graze all types of ground vegetation. They also browse shrub layers in a wood, and the growing shoots and leaves of holly and beech trees. Fallow deer inhabit woodland both for food and shelter, but they like to feed in arable fields on root crops such as carrots, sugar beet, parsnips or potatoes.

Specifics of hunting:

The states of fallow deer in the Czech Republic at 31st March 2011 was estimated 25 067 individuals, in the hunting year 2010/2011 were shot 13 064 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established for red deer from 15th July to 31st December.

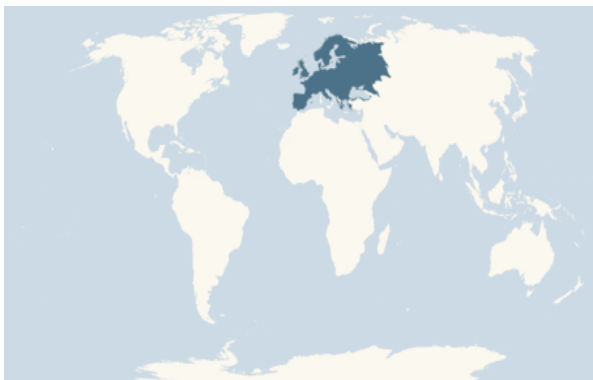


Fig.: Distribution on the world



Fig.: Fallow deer

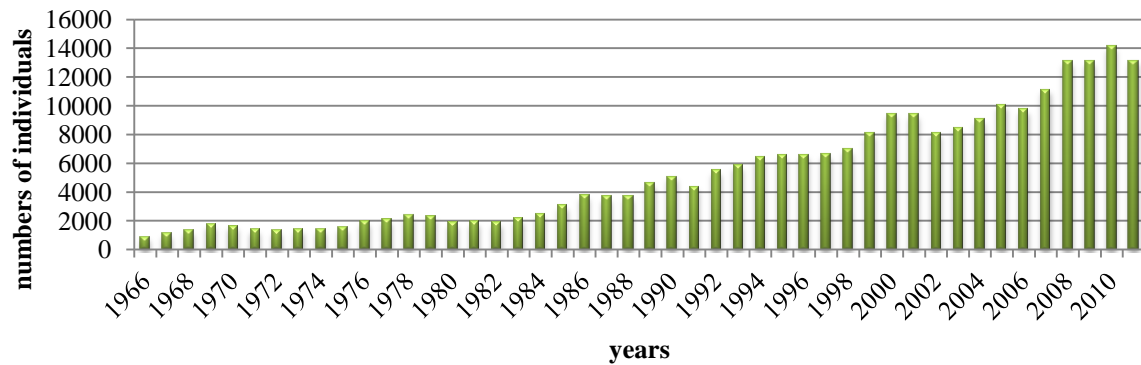


Fig.: Development of hunted fallow deer in the Czech Republic

Roe deer (*Capreolus capreolus*)

Overall info, Description:

The roe deer is a relatively small deer, with a body length of 95–135 cm, a shoulder height of 65–75 cm, and a weight of 15–35 kg. It has rather short, erect antlers and a reddish body with a grey face. Its hide is golden red in summer, darkening to brown or even black in winter, with lighter undersides and a white rump patch; the tail is very short (2–3 cm), and barely visible. Only the males have antlers. The first and second set of antlers are unbranched and short (5–12 cm), while older bucks in good conditions develop antlers up to 20–25 cm long with two or three, rarely even four, points. When the male's antlers begin to regrow, they are covered in a thin layer of velvet-like fur which disappears later on after the hair's blood supply is lost. Males may speed up the process by rubbing their antlers on trees (April/June), so that their antlers are hard and stiff for the duels during the mating season. Unlike most cervids, roe deer begin regrowing antlers almost immediately after they are shed (October/November).

The roe deer is primarily crepuscular, or primarily active during the twilight, very quick and graceful, lives in woods although it may venture into grasslands, sparse forests and fields. It feeds mainly on grass, leaves, berries and young shoots. It particularly likes very young, tender grass with a high moisture content, i.e., grass that has received rain the day before. Roe deer will not generally venture into a field that has had or has livestock (sheep, cattle) in it because the livestock make the grass unclean. A pioneer species commonly associated with biotic communities at an early stage of succession, during the Neolithic period in Europe the roe deer was abundant, taking advantage of areas of forest or woodland cleared by Neolithic farmers.

The roe deer attains a maximum life span (in the wild) of ten years. When alarmed, it will bark a sound much like a dog and flash out its white rump patch. Rump patches differ between the sexes, with the white rump patches heart-shaped on females and kidney-shaped on males. Males may also bark, make a low grunting noise or make a high pitched wolf-like whine when attracting mates during the breeding season, often luring multiple does into their territory. The roe deer lives usually in small groups, each of which include a male, 2–3 females, and fawns.

Mating season:

The polygamous roe deer males clash over territory in early summer and mate in early fall. During courtship, when the males chase the females, they often flatten the underbrush leaving behind areas of the forest in the shape of a figure eight called 'roe rings'. Males may also use

their antlers to shovel around fallen foliage and dirt as a way of attracting a mate. Roebucks enter rutting inappetence during the July and August breeding season. Females are monoestrous and after delayed implantation usually give birth (after 41 weeks) the following June, after a ten-month gestation period, typically to two spotted fawns of opposite sexes. The fawns remain hidden in long grass from predators until they are ready to join the rest of the herd; they are suckled by their mother several times a day for around three months. Roe deer adults will often abandon their young if they sense or smell that an animal or human has been near it. Young female roe deer can begin to reproduce when they are around 16 months old.

Feeding strategy:

The roe deer is primarily crepuscular, or primarily active during the twilight, very quick and graceful, lives in woods although it may venture into grasslands, sparse forests and fields. It feeds mainly on grass, leaves, berries and young shoots. It particularly likes very young, tender grass with a high moisture content, i.e., grass that has received rain the day before. Roe deer will not generally venture into a field that has had or has livestock (sheep, cattle) in it because the livestock make the grass unclean. A pioneer species commonly associated with biotic communities at an early stage of succession, during the Neolithic period in Europe the roe deer was abundant, taking advantage of areas of forest or woodland cleared by Neolithic farmers.

Specifics of hunting:

The states of roe deer in the Czech Republic at 31st March 2011 was estimated at 318 252 individuals, in the hunting year 2010/2011 were shot 127 211 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established for roebuck from 16th May to 30th September, for doe and brood from 1st September to 31st December.



Fig.: Distribution on the world



Fig.: Roe deer

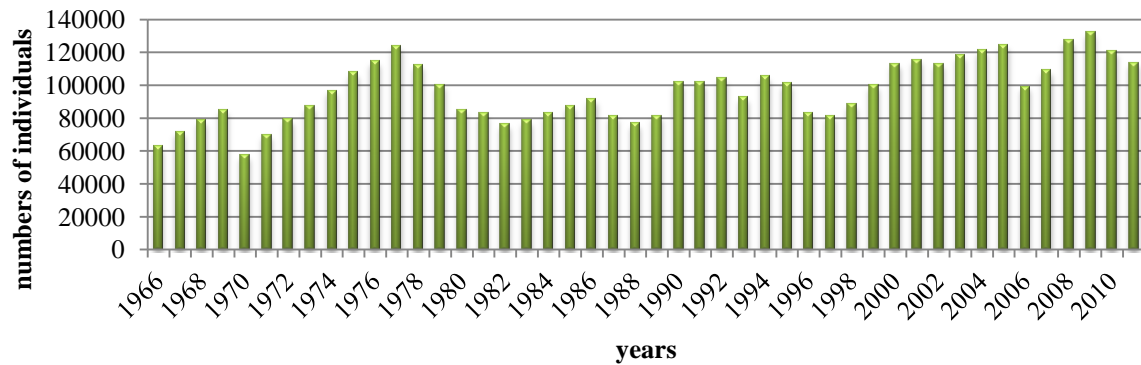


Fig.: Development of hunted roe deers in the Czech Republic

Sika deer (*Cervus nippon*)

Overall info, Description:

The sika deer is one of the few deer species that does not lose its spots upon reaching maturity. Spot patterns vary with region. The mainland subspecies have larger and more obvious spots, in contrast to the Taiwanese and Japanese subspecies, whose spots are nearly invisible. Many introduced populations are from Japan, so also lack significant spots.

The color of the pelage ranges from mahogany to black, and white individuals are also known. During winter, the coat becomes darker and shaggier and the spots less prominent, and a mane forms on the back of the males' necks. They are medium-sized herbivores, though they show notable size variation across their several subspecies and considerable sexual dimorphism, with males invariably much larger than females. They can vary from 50 to 110 cm tall at the shoulder and from 95 to 180 cm in head-and-body length. Japanese sika deer, which is the most common sika in Czech Republic, males weigh 40–70 kg and females weigh 30–40 kg. When alarmed, they will often display a distinctive flared rump, much like the American elk.

In the Czech Republic, several distinct feral populations now exist (Plzeňsko, Bouzovsko). Some of these are in isolated areas, for example on the Bouzovsko, but others are contiguous with populations of the native red deer. Since the two species sometimes hybridise, there is a serious conservation concern. In research which rated the negative impact of introduced mammals in Europe, the sika deer was found to be among the most damaging to the environment and economy, along with the brown rat and muskrat.

Sika stags have stout, upright antlers with an extra buttress up from the brow tine and a very thick wall. A forward-facing intermediate tine breaks the line to the top, which is usually forked. Occasionally, sika antlers develop some palmation (flat areas). Females carry a pair of distinctive black bumps on the forehead. Antlers can range from 28 to 45 centimetres. Stags also have distinctive manes during the rut. Sika sheds antlers later than red deer, usually in May or June, and the new antlers beating out in September.

The sika deer can be active throughout the day, though in areas with heavy human disturbance, they tend to be nocturnal. Lifestyles vary between individuals, with some occurring alone while others are found in single-sex groups. Large herds will gather in autumn and winter. The sika deer is a highly vocal species, with over 10 individual sounds, ranging from soft whistles to loud screams.

Mating season:

Sika males are territorial and keep harems of females during the rut, which peaks from early September through October, but may last well into the winter months. Territory size varies with habitat type and size of the buck; strong, prime bucks may hold up to 2 hectares. Territories are marked with a series of shallow pits or "scrapes", into which the males urinate and from which emanates a strong, musky odor. Fights between rival males are sometimes fierce and long, and may even be fatal. Female is packed after 30-32 weeks and born usually one fawn (in May/June).

Feeding strategy:

Deer are herbivorous, feeding on plants. The main food of sika deer is grass and sedges on the mountains, along with leaves of trees and shrubs such as holly, heather and bilberry. In hard winters, deer may strip the bark off trees for food, and may also take vegetables and grain crops. Males eat large amounts of coarser plants, while females eat less but are more choosy, taking higher-quality food. The young feed on their mother's milk until eight months of age.

Specifics of hunting:

Sika deer is very resistant species, which could easily replace the natural red deer population, which is not in terms of its originality desirable. The states of sika deer in the Czech Republic at 31st March 2011 was estimated at 8 240 individuals, in the hunting year 2010/2011 were shot 9 081 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established from 16th July to 31th December (Dybowski sika deer) and from 1st July to 15th January (Japanese sika deer).

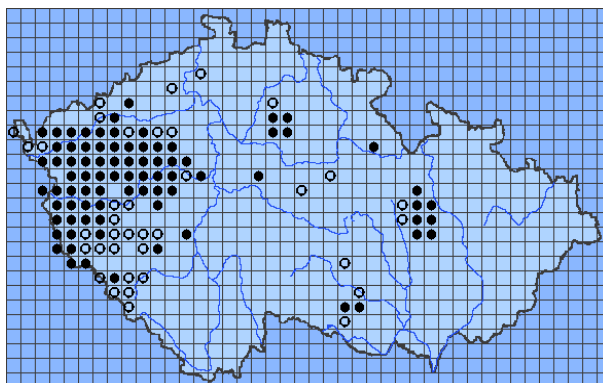


Fig.: Distribution in the Czech Republic



Fig.: Japanese sika deer

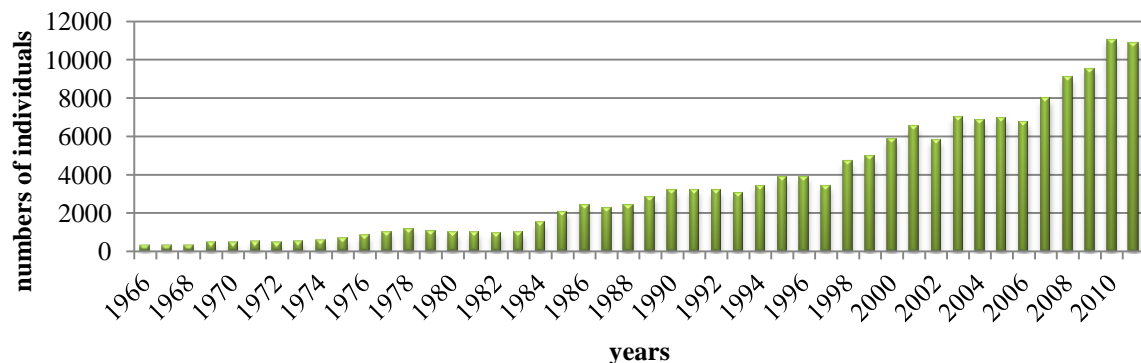


Fig.: Development of hunted sika deers in the Czech Republic

Mouflon (*Ovis musimon*)

Overall info:

The mouflon is thought to be one of two original ancestors of all modern day sheep. It originated on the islands of Corsica, Sardinia, and Cyprus, but has recently been introduced in much of Europe. Like most wild sheep, the mouflon lives in mountainous terrain, usually above the tree line or in mountain meadows. In Corsica it lives on steep-sided rocky peaks, where it is protected from predators.

It has a red-brown color with a dark area along its back, and lighter colored side patches. Its underparts are white as well as the bottom half of their legs. It has a white muzzle and white circles around its eyes. The males and females have horns, but those of the males are larger. The curved, spiral horns are usually around 60 cm in length and are arch back over its head. The mouflon's horns don't flare out at the end as most wild sheep's do. The size of male mouflon's horns determines his status in the group.

Description:

A mouflon is about the size of a medium sheep with a weight range of 25-45 kg. They are 100-125 cm long, and stand about 65-75 cm tall at the shoulders. They have a rough coat, and during the winter grow a woolly under coat that keeps them warm. Currently, the Czech Republic is a world leader in the breeding of mouflon. From the forest race in Židlochovice near Brno - example comes eight of the 10 largest mouflon's trophies in the world. Although exact numbers of mouflon world are not known, the Czech Republic, with about 35,8 % of the world's mouflon population.

Mating season:

The males and females live in separate groups and only come together during mating season. The ewes will usually have the better foraging grounds because their health is more important for reproduction. Mouflon mate, or go through a rut, in late autumn to early winter. The rams' dominance is determined by his age and the size of his horns. They will crash their horns together to re-enforce dominance. The ewes don't mate until they are about 2-3 years old. Males don't mate until they are about 7 years old because they have to establish a strong social standing before being allowed to mate with a female. The ewes are pregnant 21-22 weeks and can give birth to either one, or twin lambs. The ewe will go into cover to have her lamb which is up on its feet within minutes after birth.

Feeding strategy:

The mouflon's diet is tough. Being a herbivore, it grazes on short grasses, heather, and shrubs. It has a multi-chambered stomach with special microbes that break down the cellulose of the plant cell walls. After it has eaten its fill, the mouflon will lie down somewhere, and regurgitate its food, chewing it a second time to soften it some more. It then swallows it again for the last time. The mouflon is a shy animal which feeds mostly at night and doesn't stay long in one place.

Specifics of hunting:

The states of mouflon in the Czech Republic at 31st March 2011 was estimated 20 182 individuals, in the hunting year 2010/2011 were shot 9 019 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established for mouflon from 1st July to 31st December.



Fig.: Distribution in the Europe



Fig.: Mouflon



Fig.: The largest trophy in the world (hunted in 6th October 2011, game reserve Borky)

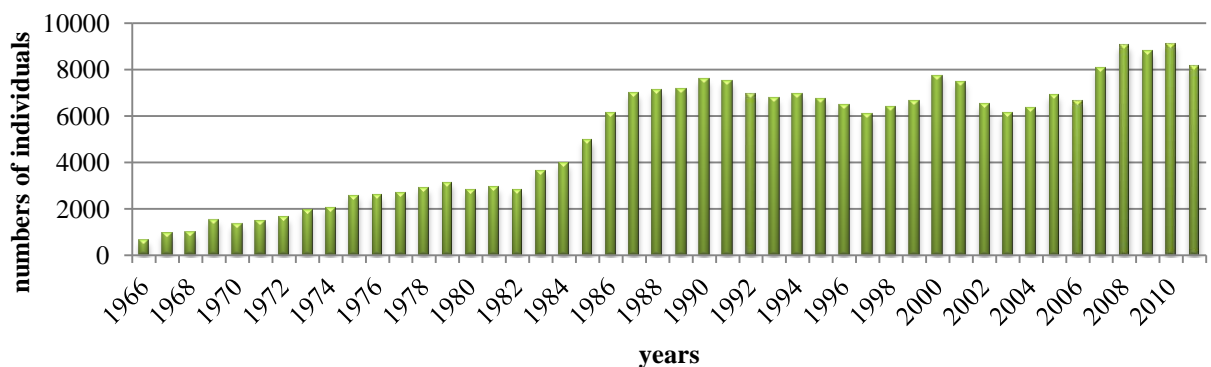


Fig.: Development of hunted mouflon in the Czech Republic

Chamois (*Rupicapra rupicapra*)

Overall info, Description:

The chamois is a goat-antelope species native to mountains in Europe, including the Carpathian Mountains of Romania, the European Alps, the Tatra Mountains, the Balkans, parts of Turkey and the Caucasus. Some subspecies of chamois are strictly protected in the EU under the European Habitats Directive. In the Czech Republic is present in Jeseníky, Lužické mountains and in Kralický Sněžník.

The chamois is a mid-sized bovid. A fully grown chamois reaches a height of 70–80 cm and measures 107–137 cm (the tail is not generally visible except when defecating). Males, which weigh 30–60 kg, are slightly larger than females, which weigh 25–45 kg. Both males and females have short, straightish horns which are hooked backwards near the tip, the horn of the male being thicker. In summer, the fur has a rich brown colour which turns to a light grey in winter. Distinct characteristics are white contrasting marks on the sides of the head with pronounced black stripes below the eyes, a white rump and a black stripe along the back.

Common causes of mortality can include avalanches, epidemics and predation. The main predators of Chamois are Eurasian Lynxes and Gray Wolves, although a few may predated by Brown Bears and Golden Eagles as well. The main predator of chamois now is humans. Chamois usually use speed and stealthy evasion to escape predators and can run at 50 kilometers per hour (31 mph) and can jump 2 m vertically into the air or over a distance of 6 m.

Mating season:

Female chamois and their young live in herds of up to 100 individuals; adult males tend to live solitarily for most of the year. During the rut (late November/early December in Europe), males engage in fierce battles for the attention of unmated females. An impregnated female undergoes a gestation period of 170 days, after which a single kid is born in May or early June, although rarely twins may be born. If a mother is killed, other females in the herd may try to raise them. The kid is weaned at 6 months of age and is fully grown by 1 year of age. However, the kids do not reach sexual maturity until they are 3 to 4 years old, although some females may mate at as early 2 years old. At sexual maturity, young males are forced out of their mother's herds by dominant males (who sometimes kill them), and then wander somewhat nomadically until they can establish themselves as mature breeding specimens at 8 to 9 years of age.

Feeding strategy:

Chamois eat various types of vegetation, including highland grasses and herbs during the summer and conifers, barks and needles from trees in winter. Primarily diurnal in activity, they often rest around mid-day and may actively forage during moonlit nights.

Specifics of hunting:

The states of chamois in the Czech Republic at 31st March 2011 was estimated 391 individuals, in the hunting year 2010/2011 were shot 27 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established from 1st October to 30th November.



Fig.: Distribution on the Europe



Fig.: Chamois

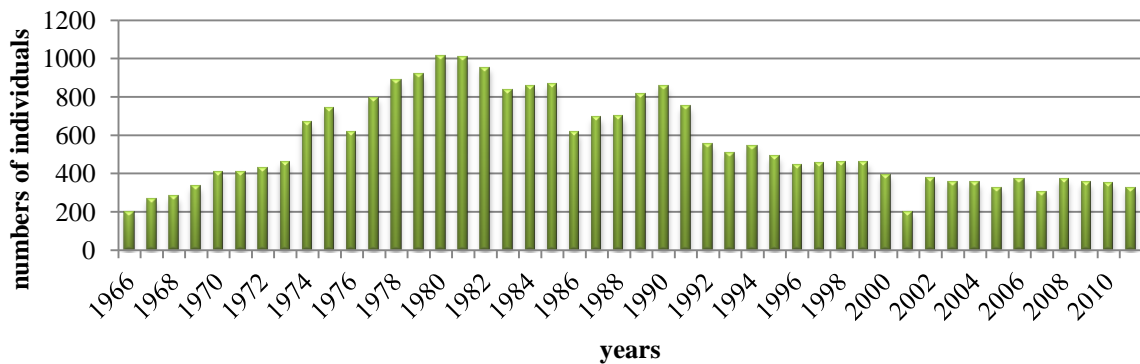


Fig.: Development of census states of chamois in the Czech Republic

Moose (*Alces alces*)

Overall info, Description:

On average, an adult moose stands 1,4–2,1 m high at the shoulder. Males (or "bulls") weigh 380–700 kg and females (or "cows") typically weigh 200–360 kg. The head-and-body length is 2,4–3,2 m, with the vestigial tail adding only a further 5–12 cm.

The male's antlers grow as cylindrical beams projecting on each side of the head at right angles to the midline of the skull, and then fork. The lower prong of this fork may be either simple, or divided into two or three tines, with some flattening. In the common elk this branch usually expands into a broad palmation, with one large tine at the base, and a number of smaller snags on the free border. The male will drop its antlers after the mating season and conserve energy for the winter. A new set of antlers will then regrow in the spring. Antlers take three to five months to fully develop, making them one of the fastest growing animal organs. They initially have a layer of skin, called "velvet," which is shed once the antlers become fully grown. Immature bulls may not shed their antlers for the winter, but retain them until the following spring.

Moose are mostly diurnal. They are generally solitary with the strongest bonds between mother and calf. Although moose rarely gather in groups, there may be several in close proximity during the mating season. Mating occurs in September and October. The males are polygamous and will seek several females to breed with. During this times both sexes will call

to each other. Males produce heavy grunting sounds that can be heard from up to 500 meters away, while females produce wail-like sounds. Males will fight for access to females. They either assess which is larger, with the smaller bull retreating, or they may engage in battles, usually only involving the antlers.

Mating season:

Female moose have an eight-month gestation period, usually bearing one calf, or twins if food is plentiful, in May or June. Newborn moose have fur with a reddish hue in contrast to the brown appearance of an adult. The young will stay with the mother until just before the next young are born. The life span of an average moose is about 15–25 years.

Feeding strategy:

The moose is a herbivore and is capable of consuming many types of plant or fruit. Much of a moose's energy is derived from terrestrial vegetation, mainly consisting of forbs and other non-grasses, and fresh shoots from trees such as willow and birch. These plants are rather low in sodium, and moose generally need to consume a good quantity of aquatic plants. A typical moose, weighing 360 kg, can eat up to 32 kg of food per day. A moose's diet often depends on its location, but they seem to prefer the new growths from deciduous trees such as white birch, trembling aspen and striped maple, among many others.

Specifics of hunting:

The states of mooses in the Czech Republic at 31st March 2011 was estimated 21 individuals. This species is protected and therefore is not possible to hunt him.

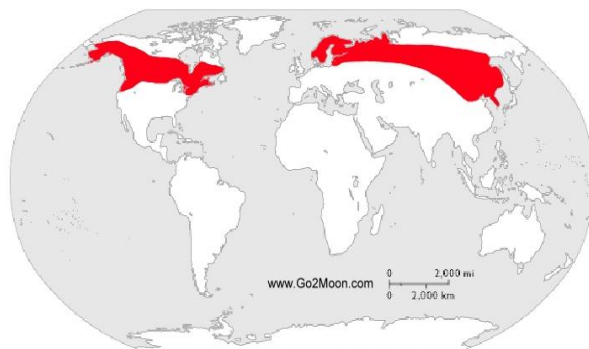


Fig.: Distribution on the world



Fig.: Moose

Wild boar (*Sus scrofa*)

Overall info, Description:

The body of the wild boar is compact; the head is large, the legs relatively short. The fur consists of stiff bristles and usually finer fur. The colour usually varies from dark grey to black or brown, but there are great regional differences in colour. During winter the fur is much denser.

Adult boars can measure from 90 to 200 cm in length, not counting a tail of 15 to 40 cm, and have a shoulder height of 55 to 110 cm. As a whole, their average weight is 50–90 kg, though boars show a great deal of weight variation within their geographical ranges.

Adult males develop tusks, continuously growing teeth that protrude from the mouth, from their upper and lower canine teeth. These serve as weapons and tools. The upper tusks are bent upwards in males, and are regularly ground against the lower ones to produce sharp edges. The tusks normally measure about 6 cm, in exceptional cases even 12 cm. Females also have sharp canines, but they are smaller, and not protruding like the males' tusks. Wild boars can be dangerous to humans, especially when they have piglets.

Wild boar piglets are coloured differently from adults, having marbled chocolate and cream stripes lengthwise over their bodies. The stripes fade by the time the piglet is about 6 months old, when the animal takes on the adult's grizzled grey or brown colour.

Adult males are usually solitary outside of the breeding season, but females and their offspring (both sub-adult males and females) live in groups called sounders. Sounders typically number around 20 animals, although groups of over 50 have been seen, and will consist of 2 to 3 sows; one of which will be the dominant female. Group structure changes with the coming and going of farrowing females, the migration of maturing males (usually when they reach around 20 months) and the arrival of unrelated sexually active males.

Wild boars are situationally crepuscular or nocturnal, foraging in early morning and late afternoon or at night, but resting for periods during both night and day.

Mating season:

Sexual activity and testosterone production in males is triggered by decreasing day length, reaching a peak in mid-autumn. The normally solitary males then move into female groups, and rival males fight for dominance, whereupon the largest and most dominant males achieve the most mating. The age of puberty for sows ranges from 8 to 24 months of age depending on environmental and nutritional factors. Pregnancy lasts approximately 115 days and a sow will leave the group to construct a mound-like nest out of vegetation and dirt, 1–3 days before giving birth (farrowing). Litter size is typically four to six piglets but may be smaller for first litter, usually two to three. The largest litters can be up to fourteen piglets. The sex ratio at birth is 1:1. Piglets weigh 750–1 000 g at birth.

Feeding strategy:

They are omnivorous scavengers, eating almost anything they come across, including grass, nuts, berries, carrion, nests of ground nesting birds, roots, tubers, refuse, insects and small reptiles. Wild boar is committing considerable damage to agricultural crops, especially digging of soil surface and flattening of stems.

Specifics of hunting:

The states of wild boar in the Czech Republic at 31st March 2011 was estimated 57 770 individuals, in the hunting year 2010/2011 were shot 138 723 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established for adult boars from 1st July to 31st December, and piglets (including individuals under the age of 2 years) is possible hunt throughout the year (from 1st January to 31st December).



Fig.: Wild boar

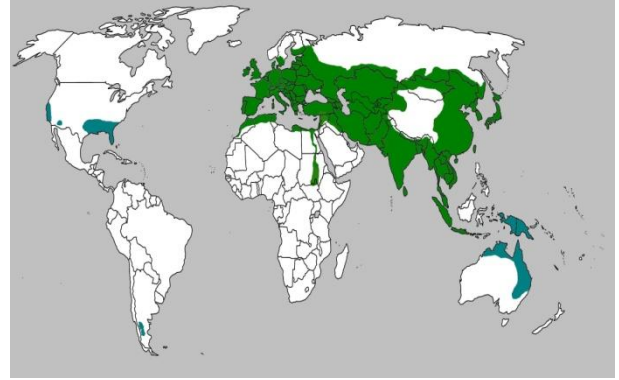


Fig.: Distribution on the world



Fig.: Damages by wild boars

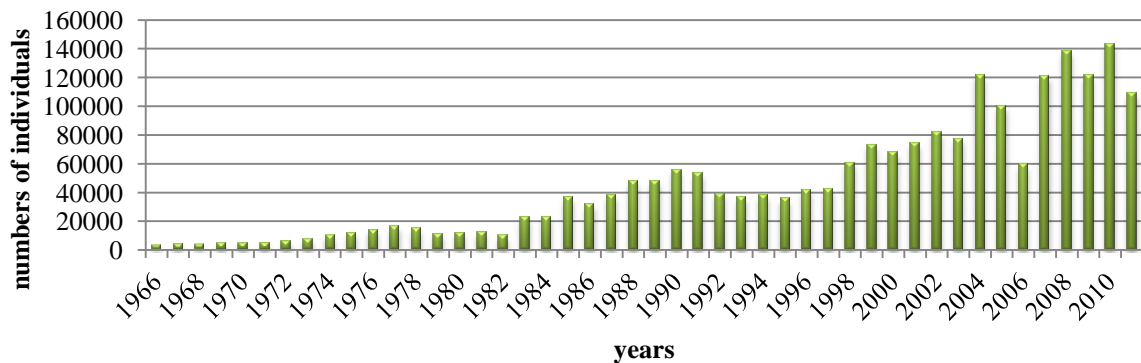


Fig.: Development of hunted wild boars in the Czech Republic

Red fox (*Vulpes vulpes*)

Overall info, Description:

The red fox has orangish-red fur on its back, sides and head. It has white fur under its neck and on its chest. It has a long bushy tail tipped in white, pointed black ears and black legs and feet. The body is long from 100 to 140 cm, including the tail, and the body 30 to 40 cm high. Tail length is 35-45 cm. Body weight fluctuates considerably, in the range of 4-10 kg, rarely may even exceed 12 kg.

Mating season:

The red fox makes its home in wooded areas, meadows and farmland. The red fox mates from January through March. The female will make one or more dens right after mating. The extra dens are used if the original den is disturbed. A little less than two months after mating (56 days), the female gives birth to a litter of between one and ten kits. The male brings the female food while she is caring for the kits. The kits start playing outside the den when they are about a month old. The mother begins feeding her kits regurgitated food, but eventually she will bring them live prey to "play" with and eat. Playing with live prey helps the young kits develop the skills they will need for hunting. The kits leave their mother when they are about seven months old.

Except for breeding females, the fox doesn't usually use a den. Sometimes it will sleep in the open, wrapping its bushy tail around its nose to stay warm. When it does use a den, it will usually find an abandoned badger den instead of making its own den.

Feeding strategy:

The red fox eats a wide variety of foods. It is an omnivore and its diet includes fruits, berries and grasses. It also eats birds and small mammals like squirrels, rabbits and mice. A large part of the red fox's diet is made up invertebrates like crickets, caterpillars, grasshoppers, beetles and crayfish. The red fox will continue to hunt even when it is full. It stores extra food under leaves, snow or dirt. The red fox is mostly nocturnal, although it will sometimes venture out in the day. The red fox, unlike other mammals, hears low-frequency sounds very well. It can hear small animals digging underground and will frequently dig in the dirt or snow to catch prey. The fox stalks its prey, much like a cat. It gets as close as it can and then pounces and chases its prey.

Specifics of hunting:

The states of red fox in the Czech Republic at 31st March 2011 was estimated 59 526 individuals, in the hunting year 2010/2011 were shot 81 335 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established throughout the year (from 1st January to 31st December).

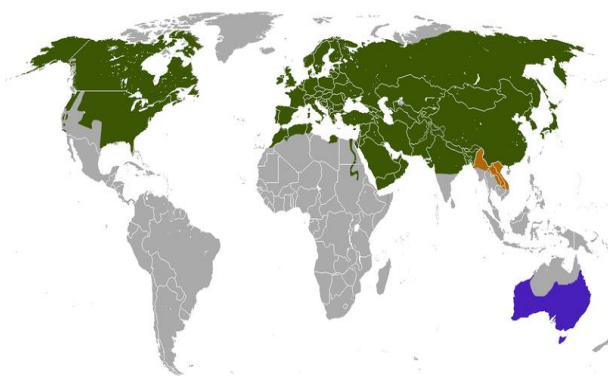


Fig.: Distribution on the world



Fig.: Red fox

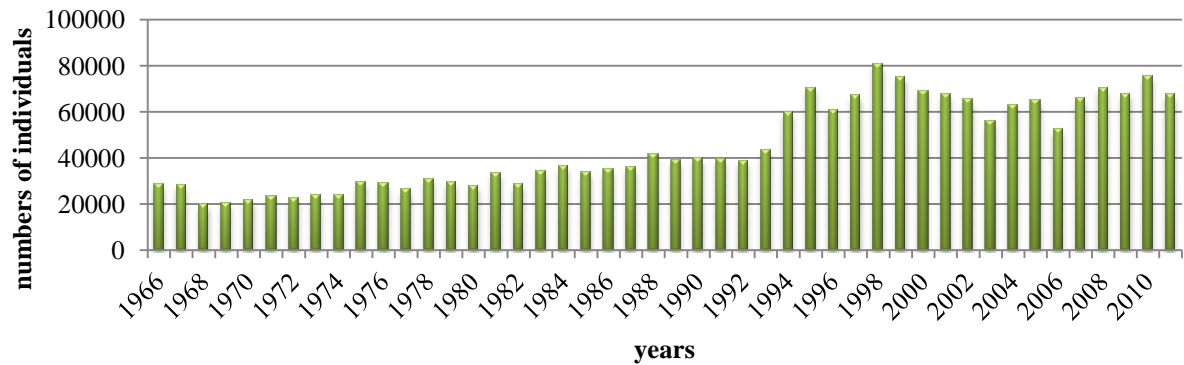


Fig.: Development of hunted red fox in the Czech Republic

Badger (*Meles meles*)

Overall info, Description:

European badgers are powerfully built animals with small heads, thick, short necks, stocky, wedge-shaped bodies and short tails. Their feet are digitigrade and short, with five toes on each foot. The limbs are short and massive, with naked lower surfaces on the feet. The claws are strong, elongated and have an obtuse end, which assists in digging. Adults measure 25–30 cm in shoulder height and 60–90 cm in body length. Males (or boars) slightly exceed females (or sows) in measurements, but can weigh considerably more. Their weights vary seasonally, growing from spring to autumn and reach peaks during the onset of hibernation. During the summer, they weigh 7–13 kg and 15–17 kg in autumn. Sows can attain a top weight of around 17,2 kg.

Eurasian badger territories may cover as little as 2500 m² or may be as large as a few square kilometers. Territory size depends on food quality and abundance as well as the amount of area suitable for excavating setts.

Mating season:

Eurasian badgers are usually polygynous. For those living in social groups, only the dominant male and female mate. Eurasian badgers breed year-round; however, most breeding occurs during late winter/early spring (February through May) and during late summer/early autumn (August through October). Gestation last 9 to 12 months, and litters range from 1 to 6 cubs, with an average of 3. On average, cubs are weaned by 2,5 months, and male and female Eurasian badgers reach sexual maturity by about one year after birth. Social groups may have between 2 and 23 individuals.

Feeding strategy:

Eurasian badgers eat multiple species of earthworms. In addition to earthworms, Eurasian badgers also prey on rabbits, voles, shrews, moles, mice, rats and hedgehogs. They also eat a wide variety of large insects, including beetles, leatherjackets, caterpillars, and wasps. They target wasps, in particular, by eating their nests. Eurasian badgers also eat carrion and occasionally eat birds, frogs, fish, newts, lizards, slugs, and snails. Eurasian badgers also feed on more than 30 different kinds of fruit, including pears, plums, raspberries, cherries, strawberries, acorns, beechmast, and blackberries. Some cereals that they consume include maize, oats, wheat, and occasionally barley. Badgers also eat tubers and occasionally fungi.

Specifics of hunting:

The states of badger in the Czech Republic at 31st March 2011 was estimated 24 972 individuals, in the hunting year 2010/2011 were shot 2 093 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established for badger from 1st October to 30th November.



Fig.: Distribution on the world



Fig.: Badger

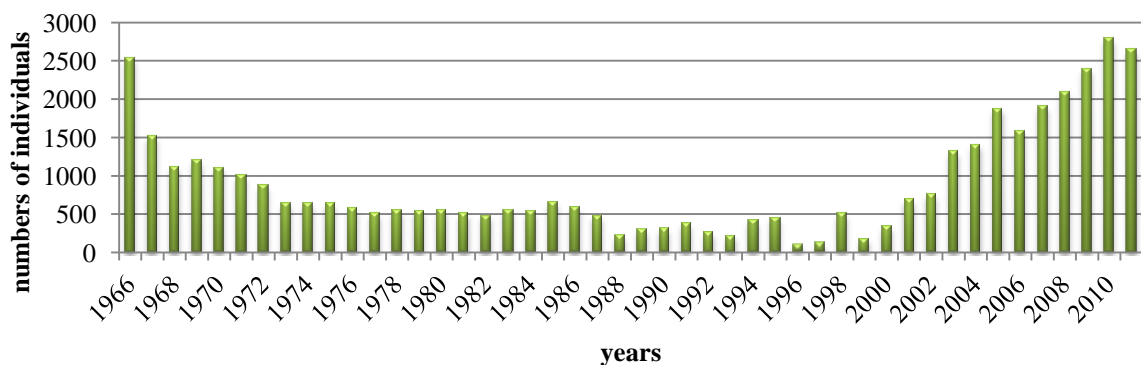


Fig.: Development of hunted badger in the Czech Republic

Beech marten (*Martes foina*)

Overall info, Description:

It is superficially similar to the pine marten, but differs from it by its smaller size and habitat preferences. While the pine marten is a forest specialist, the beech marten is a more generalist and adaptable species, occurring in a number of open and forest habitats. The beech marten is superficially similar to the pine marten, but has a somewhat longer tail, a more elongated and angular head and has shorter, more rounded and widely spaced ears. Its nose is also of a light peach or grey colour, whereas that of the pine marten is dark black or greyish-black. Its feet are not as densely furred as those of the pine marten, thus making them look less broad, with the paw pads remaining visible even in winter. Because of its shorter limbs, the beech marten's manner of locomotion differs from that of the pine marten ; the beech marten moves by creeping in a polecat-like manner, whereas the pine marten move by bounds.

Its skull is similar to that of the pine marten, but differs in its shorter facial region, more convex profile, its larger carnassials and smaller molars. The beech marten's penis is larger than the pine marten's, with the bacula of young beech martens often outsize those of old pine martens. Males measure 430–590 mm in body length, while females measure 380–470 mm. The tail measures 250–320 mm in males and 230–275 mm in females. Males weigh 1,7–1,8 kg in winter and 2–2,1 kg in summer, while females weigh 1,1–1,3 kg in winter and 1,4–1,5 kg in summer.

The beech marten's fur is coarser than the pine marten's, with elastic guard hairs and less dense underfur. Its summer coat is short, sparse and coarse, and the tail is sparsely furred. The colour tone is lighter than the pine marten's. Unlike the pine marten, its underfur is whitish, rather than greyish. The tail is dark-brown, while the back is darker than that of the pine marten. The throat patch of the beech marten is always white. The patch is large and generally has two projections extending backwards to the base of the forelegs and upward on the legs. The dark colour of the belly juts out between the forelegs as a line into the white colour of the chest and sometimes into the neck. In the pine marten, by contrast, the white colour between the forelegs juts backwards as a protrusion into the belly colour.

The beech marten is mainly a crepuscular and nocturnal animal, though to a much lesser extent than the European polecat. It is especially active during moonlit nights. Being a more terrestrial animal than the pine marten, the beech marten is less arboreal in its habits, though it can be a skilled climber in heavily forested areas. It is a skilled swimmer, and may occasionally be active during daytime hours, particularly in the summer, when nights are short. It typically hunts on the ground. Reproduction and development is the same as in the pine marten.

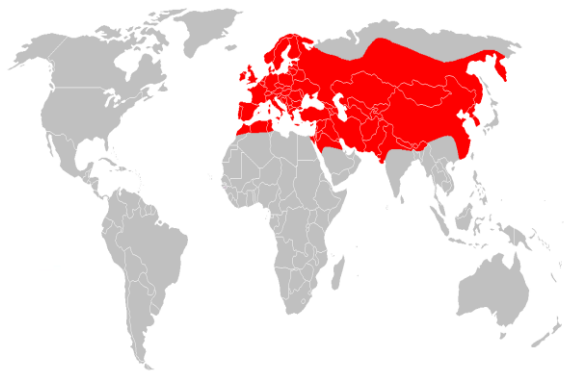


Fig.: Distribution on the world

Fig.: Beech marten

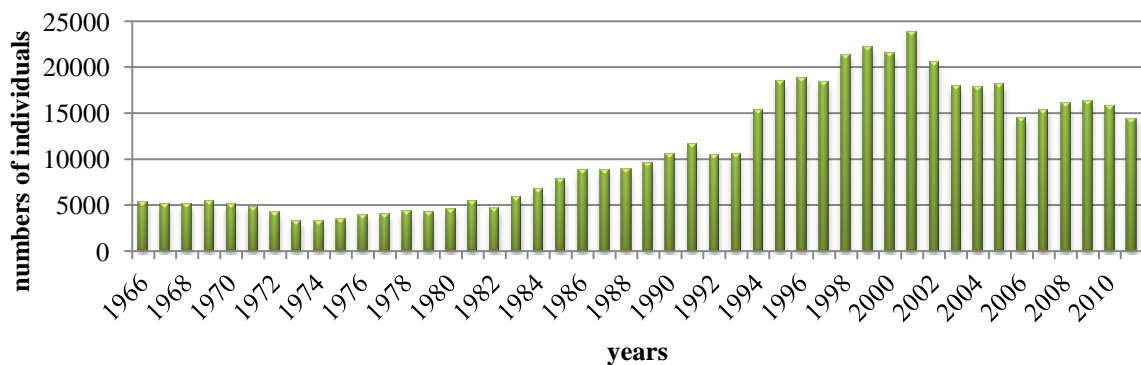


Fig.: Development of hunted martens (beech and pine) in the Czech Republic

Pine marten (*Martes martes*)

Overall info, Description:

Its body is up to 53 cm in length, and its bushy tail can be 25 cm. Males are slightly larger than females; on average a marten weighs around 1,5 kg. Their fur is usually light to dark brown and grows longer and silkier during the winter months. They have a cream to yellow coloured "bib" marking on their throats.

Their habitats are usually well-wooded areas. European pine martens usually make their own dens in hollow trees or scrub-covered fields. Martens are the only mustelids with semi-retractable claws. This enables them to lead more arboreal lifestyles, such as climbing or running on tree branches, although they are also relatively quick runners on the ground.

Mating season:

The European pine marten has lived to 18 years in captivity, but in the wild a lifespan of eight to ten years is more typical. They reach sexual maturity at two or three years of age. The young are usually born in March or April after a 7 month-long (35-42 weeks) gestation period in litters of one to five. Young European pine martens weigh around 30 grams at birth. The young begin to emerge out of their dens by the middle of June and are fully independent around six months after their birth.

Feeding strategy:

They are mainly active at night and dusk. They have small rounded, highly sensitive ears and sharp teeth for eating small mammals, birds, insects, frogs, and carrion. They have also been known to eat berries, bird's eggs, meat, nuts and honey. European pine martens are territorial animals that mark their range by depositing faeces (called 'scats') in prominent locations.

Specifics of hunting:

The states of martens in the Czech Republic at 31st March 2011 was estimated at 78 482 individuals, in the hunting year 2010/2011 were shot 16 013 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established from 1st November to 28th February.



Fig.: Distribution on the world



Fig.: Pine marten

Brown bear (*Ursus arctos*)

Overall info, Description:

They are 87-126 cm tall at the shoulder and their weight is 100-345 kg. On average, adult males are larger than females. Fur is usually dark brown, but varies from light brown to almost black. *Ursus arctos* has an excellent sense of smell (able to follow the scent of a rotting carcass for miles), human-level hearing and eyesight. Brown bears are extremely intelligent, resourceful and opportunistic, allowing them to live in a variety of habitats.

Ursus arctos may be active at any time of the day, but generally forages in the morning and evening, and rests in dense cover by day. Brown bears may excavate shallow depressions in which to lay, commonly referred to as day beds. Seasonal movements of *Ursus arctos* have been observed, with individuals sometimes traveling many miles during the autumn to reach areas of favorable food supplies, such as areas of high berry production. Home ranges can be as large as 800 square miles, but are on average between 50 and 150 square miles, with male ranges being greater than female ranges. *Ursus arctos* begins hibernation in November - December, and resumes activity in March - April.

Mating season:

Mating of brown bears takes place from May to July, although the fertilized eggs are not implanted in the uterus until hibernation. Births occur during January and February, while the female is in hibernation. Females remain in estrus throughout the breeding season until mating occurs, and do not ovulate again for at least 2 (usually 3 or 4) years after giving birth. Generally, two offspring, which are blind at birth, are born per litter and remain with their mother until their third summer of their life (usually until the fourth, at 3 1/2 years old). Brown bears mature sexually between 5 - 7 years of age - females first, then males - but continue growing until they are 10 - 11 years old. Bears have been known to live and reproduce at 25 years of age, with a potential life span of up to 35 years.

Feeding strategy:

The diet of *Ursus arctos* consists mainly of vegetation, and shifts to different foods as the seasons progress. In spring, grasses, sedges, roots, moss and bulbs are mainly eaten. During summer and early autumn, berries are essential, with bulbs and tubers also eaten. *Ursus arctos* consumes insects, fungi and roots at all times of the year and also digs mice, ground squirrels and marmots out of their burrows. Bears are also carnivorous, feeding on red deers, roe deers, mountain sheep and goats.

Specifics of hunting:

Brown bear in the Czech Republic fully extinct in the second half of the 19th century, the last catch was recorded in 1887 in the Beskydy. Currently, the bear still exists in Moravia and Silesia and occasionally wanders away to the west, south or southwest. He is most abundant on the Moravian Carpathians (eg in Javorníky or Moravskoslezské Beskydy - in 2011 were monitoring 4 individuals), which penetrates from Slovakia, where it is significantly more abundant. According to the legislation, the brown bear in the Czech Republic is critically endangered and strictly protected species.

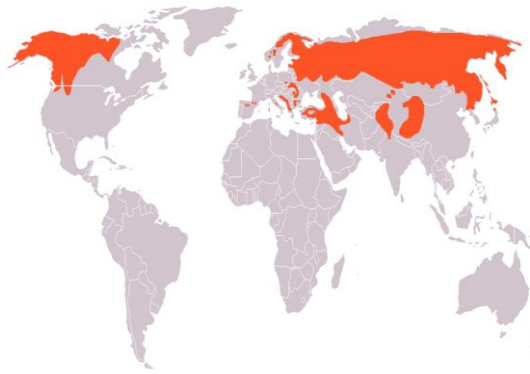


Fig.: Distribution on the world



Fig.: Brown bear

Eurasian wolf (*Canis lupus*)

Overall info, Description:

The Eurasian wolf, also known as the European, common, or forest wolf, is a subspecies of gray wolf which has the largest range among wolf subspecies and is the most common in Europe and Asia, ranging through Mongolia, China, Russia, Scandinavia, Western Europe, Caucasus, the Himalayan Mountains and Balkans.

The size of Eurasian wolves is subject to geographic variation with animals in Russia and Scandinavia being larger and bulkier than those residing in Western Europe, having been compared by Theodore Roosevelt to the large wolves of north-western Montana and Washington. Adults from Czech republic measure 100–170 cm in length, 65-115 cm in shoulder height and weigh on average 35-40 kg, with a maximum weight of 80 kg.

The fur is generally coarser than that of American wolves, with less soft wool intermixed with it, and the mane is much more pronounced. The summer fur is a mix of ochreous and rusty ochreous tones with light grey.

Because of widespread habitat reduction and displacement of large prey, European wolf packs are usually smaller than North American ones, and generally form territorial ranges of 100–500 km².

Mating season:

The wolf mates from January through February. The female gives birth to a litter of between one and eight kits (time of pregnancy - 9-10 weeks).

Feeding strategy:

Unlike wolves in North America, many Eurasian wolf populations are forced to subsist largely on livestock and garbage in areas with dense human activity, though wild ungulates such as moose, red deer, roe deer and wild boar are still important food sources in Russia and the more mountainous regions of Eastern Europe. The wolf hunts brown hare, small rodents, fishes, reptiles, insects but eats also fruit.

Specifics of hunting:

Wolf is a protected species in the Czech Republic because he was in the 19th and 20th century entirely extinct. Few individuals inhabiting Beskydy, where they came from Slovakia. Wolves

also occurring sporadically in Rychlebské mountains, Jeseníky and Beskydy, the observation of single individuals were also reported in Šumava. The states of wolves in the Czech Republic at 31st March 2011 was estimated 5 individuals.

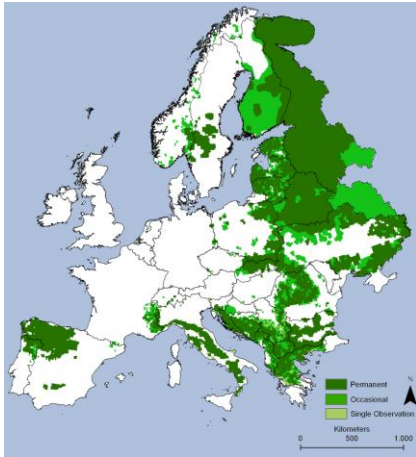


Fig.: Distribution on the Europe



Fig.: Eurasian wolf

Eurasian lynx (*Lynx lynx*)

Overall info, Description:

The Eurasian lynx is the biggest of the lynxes. He is typically 81 to 129 cm long (he has a shoulder height 70 cm) and weighs 18 to 30 kg (the female weighs 18 kg). It is native to European and Siberian forests. While its conservation status has been classified as "Least Concern", populations of Eurasian lynx have been reduced or extirpated from western Europe, where it is now being reintroduced (also on Šumava).

During the summer, the Eurasian lynx has a relatively short, reddish or brown coat, which is replaced by a much thicker silver-grey to greyish-brown coat during winter. The lynx hunts by stalking and jumping its prey, helped by the rugged, forested country in which it resides. A favorite prey for the Lynx in its woodland habitat is roe deer they will feed however on whatever animal appears easiest as they are opportunistic predators much like their cousins.

Mating season:

Lynx are usually solitary, although a small group of lynx may travel and hunt together occasionally. Mating takes place in the late winter (February-March) and they give birth from two to four kittens once a year (in May). The gestation time of lynx is about 70 days. The young stay with the mother for one more winter, a total of around nine months, before they move out to live on their own as young adults. Lynx will create their dens in crevices or under ledges.

Feeding strategy:

They also feed on a wide range of animals, from white-tailed deer, reindeer, roe deer, small red deer, and chamois, to smaller, more usual prey: snowshoe hares, fish, foxes, sheep, squirrels, mice, turkeys and other birds, and goats. They also eat ptarmigan, voles and grouse.

Specifics of hunting:

Accordance with Czech laws belongs among strongly endangered and protected species which can not hunted. Currently, there are three isolated populations in the Czech republic: 1) Northeastern Moravia (Beskydy, Javorníky and Vsetínské vrchy, Bílé Karpaty): about 10-15 individuals; 2) Jeseníky: 3–5 individuals; 3) Southern and Eastern Bohemia (Český les, Šumava, Blanský les, Novohradské hory, Třeboňsko and neighboring areas): 52-85 individuals.



Fig.: Distribution on the world



Fig.: Eurasian lynx

Eurasian beaver (*Castor fiber*)

Overall info, Description:

Eurasian beavers are one of the largest living species of rodent and are the largest rodent native to Eurasia. They weigh around 11–30 kg, with an average of 18 kg. While the largest specimen confirmed on record weighed 31,7 kg, the Smithsonian has reported that this species can exceptionally exceed 40 kg. Typically, the head-and-body length is 80–100 cm and the tail length is 25–50 cm.

Beaver are a keystone species helping support the ecosystem of which they are a part. They create wetlands, which increase biodiversity and provide habitat for many rare species such as water voles, otters and water shrews. They coppice waterside trees and shrubs so that they regrow as dense shrubs which provide cover for birds and other animals. Beaver dams trap sediment and improve water quality; recharge groundwater tables and increase cover and forage for trout. A recent study in Poland found that beavers increased the abundance and diversity of bats, apparently because they create gaps in forest cover making it easier for bats to navigate in.

Mating season:

Eurasian beaver have one litter per year, coming into estrus for only 12 to 24 hours, between late December and May but peaking in January. Unlike most other rodents, beaver pairs are monogamous, staying together for multiple breeding seasons. Gestation averages 107 days and they average three kits per litter with a range of two to six kits. Most beaver do not reproduce until they are three years of age, but about 20 % of two year old females reproduce.

Feeding strategy:

Beavers are herbivores, and prefer the wood of quaking aspen, cottonwood, willow, alder, birch, maple and cherry trees. They also eat sedges, pondweed, and water lilies.

Specifics of hunting:

To the Czech Republic after its temporary extinction at the turn of the 18th and 19th century began to return, migration from Austria in the second half of the eighties of the 20th century. The Czech Republic is found in the Elbe, Morava, Oder, and Danube, Thaya. In the Czech Republic there were in 2008 over 1000 beavers, of which meadows Litovelského Pomoraví about 300 individuals in the lowland forests of southern Moravia, from Lednice-Valtice field after confluence, about 500 individuals. Abundance of beavers due to the absence of natural enemies and legislative protection is still growing. If beaver activity causes damage to private property, the state shall pay compensation.

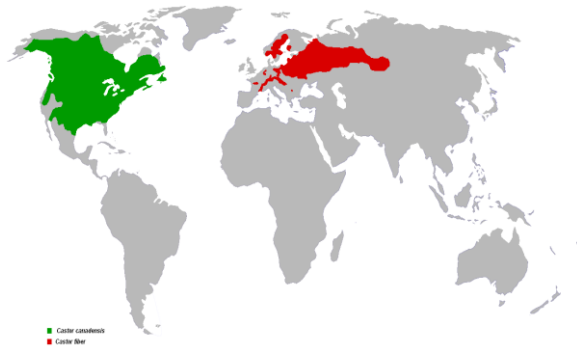


Fig.: Distribution on the world



Fig.: Eurasian beaver



Fig.: Damagse caused by beavers

Raccoon dog (*Nyctereutes procyonoides*)

Overall info, Description:

The raccoon dog is a small species of canine (50-65 cm, 3-10 kg), native to parts of eastern Asia. As its name suggests, this wild dog has markings that closely resemble those of a raccoon and has also been known to display similar behaviours including the washing of food. Despite their similarities however, raccoon dogs are not actually closely related to the raccoons found in North America. The raccoon dog is now found across Japan and throughout Europe where it has been introduced and appears to be thriving. Historically however, the raccoon dog's natural range stretched through Japan and across eastern China where the raccoon dog is now extinct in many parts. Raccoon dogs are found inhabiting forests and woodland, that is close to water.

Raccoon dogs are unique canines as they are the only dog-like mammal that hibernates through the winter. Although raccoon dog hibernation is not true hibernation, it means that raccoon dogs are able to sleep through severe snowstorms when there is not enough food to allow them to survive. Raccoon dogs usually become more active again in February when the warmer, spring weather begins to return.

Today, although raccoon dog populations are thriving in their introduced habitats in Europe, wild populations in the far east have been rapidly declining mainly due to over-hunting and habitat loss.

Mating season:

Raccoon dog pups are usually born when the summer begins in late April to early May. After a gestation period of up to 12 weeks, the female raccoon dog gives birth to a litter of between 5 and 16 raccoon dog pups which are blind when they are first born. Both raccoon dog parents help to raise their young until they are big enough to become independent and begin hunting for themselves.

Feeding strategy:

Raccoon dogs are carnivorous animals meaning that they only hunt and eat other animals in order to survive. As raccoon dogs spend a great deal of time close to water, their diet is primarily made up from frogs and fish along with rodents, small birds, eggs and invertebrates such as insects and spiders.

Specifics of hunting:

Regulating of their abundance is enable to game-keeper guard and game-manager of concrete hunting ground (all year). In the hunting year 2010/2011 were shot 940 pcs in Czech republic.

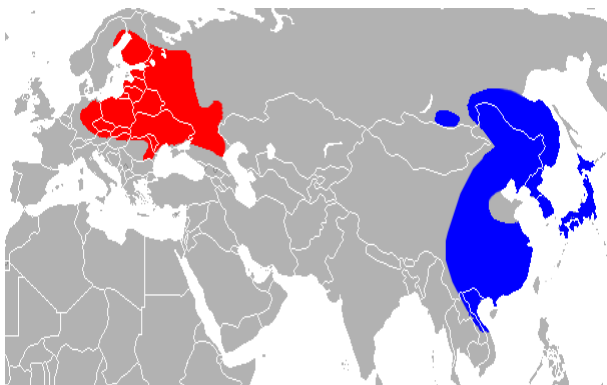


Fig.: Distribution on the world



Fig.: Raccoon dog

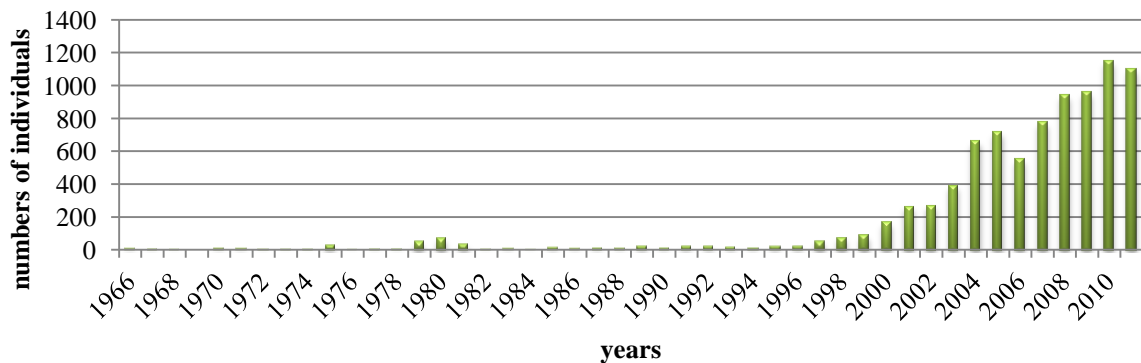


Fig.: Fig.: Development of hunted raccoon dog in the Czech Republic

American mink (*Mustela vison*)

Overall info, Description:

Mink are sexually dimorphic, with males weighing between 0,9-1,6 kg (average 1,2 kg) and females between 0,6-1,1 kg (average 0,7 kg). The spacing system is characterised by intra-sexual territoriality with inter-sexual overlap. Life expectancy is 3-4 years in the wild. Males usually disperse further than females and can disperse up to 50 km from their natal home range, typically along water bodies.

Nearly always found associated with water, habitat requirements are determined mainly by food availability, and secondarily by the availability of dens. Mink are sensitive to pollution by PCBs. They are absent from areas with snow cover all year round. Their native range is in the North America and from there they expanded to Europe, the former Soviet Union, and to the most southern countries of South America (Argentina and Chile).

They were introduced for the fur farming industry or to be released in the wild. Feral populations formed because of intentional or accidental releases from the farms or because of intentional introductions. Intentional releases from the farms are often carried out by Animal rights activists.

Mating season:

In the temperate zone mating takes place between late February and early April. Mink exhibit delayed implantation and gestation lasts about 39 days. On average 5,8 young are born between April and May, they start dispersing in August and reach sexual maturity at 10 months.

Feeding strategy:

Small, semi-aquatic carnivore living in freshwater and marine habitats. It is a generalist and opportunist predator with a variable diet that includes aquatic, semiaquatic and terrestrial prey. The impact on native species can occur through predation, competition, and potentially also by acting as a vector of disease. Significant population declines of ground nesting birds (e.g. *Larus ridibundus*, *Sterna hirundo*) and small mammals (e.g. *Arvicola terrestris*) have resulted from mink predation in its introduced range. The European mink (*Mustela lutreola*), whose range is now restricted to a few fragmented populations, is threatened by the American mink through competition by means of direct aggression. Little is known about mink as a vector of disease but Aleutian disease has been found in a feral population.

Specifics of hunting:

Regulating of their abundance is enable to game-keeper guard and game-manager of concrete hunting ground (all year). In the hunting year 2010/2011 were shot 666 pcs in Czech republic.

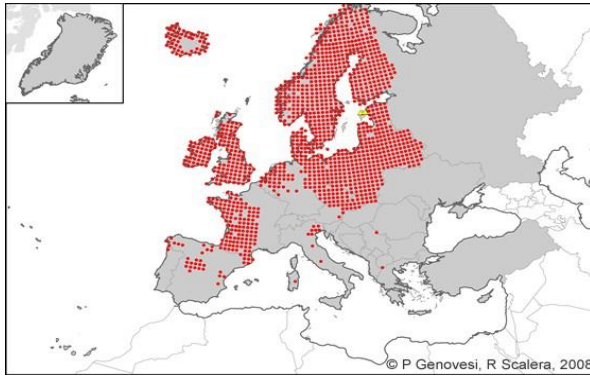


Fig.: Distribution on the Europe



Fig.: American mink

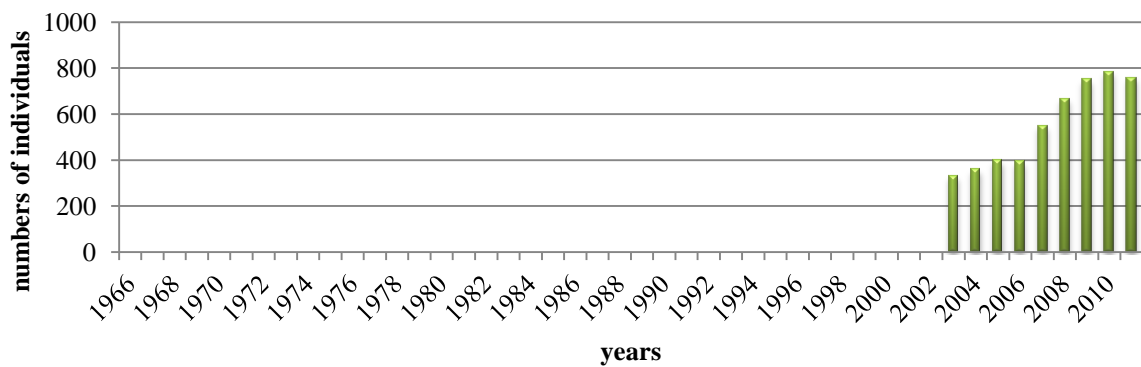


Fig.: Development of American mink in the Czech Republic

Brown hare (*Lepus europaeus*)

Overall info, Description:

The European hare is one of the largest living lagomorphs. Its head and body length can range from 48 to 75 cm with a tail length of 7–13 cm. The body mass can range from 2,5 to 7 kg. There is no noticeable sexual dimorphism in the species. The ears of the European hare are greyish white inside and have black tips on the top ends. It also has long hind feet that have a length from 142 to 161 mm. Most of the hare's body is covered in yellowish-brown to greyish-brown fur but has greyish-white fur on the underside. In addition its face is brown with black rings around the eyes.

Hares primarily live in open fields and pasture usually near agricultural areas and bordered by hedgerows and woodlots. They prefer to live in shallow forms like clumps of grass, weeds or brush. According to a study done in our country the mean hare densities were highest in habitat with elevations from sea level to 200 m (231,47/10 km²), annual snow cover duration from 40–60 days (183,95/10 km²); mean annual precipitation: 450–700 mm (174,71/10 km²), annual sunshine duration: 1 801-2 000 (169,72/10 km²) and mean annual air temperature of around 10,0°C (245/10 km²).

Hares are capable of running in speeds of up to 56 km/h in a straight line. When running from its predators, the hare can dodge and change direction quickly. Little evidence shows that hares stay within a restricted home range. Predators of the hare include the red fox, wolf, coy-

ote, wild cats and birds of prey. Although they are usually quiet, hares will make low grunts and females will make "guttural" calls to her young. They emit a shrill call when caught or hurt.

Mating season:

European hares have a prolonged breeding season which lasts from January to August. At least some females, or does, have been found pregnant in all breeding months and males, or bucks, are fertile in all months of the year except in October and November. After the rest period in autumn, the size and activity of the males' testes increase in November, the first indication of a new reproductive cycle. This continues through December, January and February and the reproductive tract becomes fully functional again. Full reproductive activity occurs by March and April and nearly 100% of females may become pregnant with most carrying three or more fetuses. During breeding, females are receptive for just a few hours on one day in each of their six-weekly cycles. Thus local bucks compete for a doe's favor with dominant males striving to keep the others at bay. In addition the female will fight off any male that approaches her before she is ready. This phenomenon is known as "March madness". This is because the behavior is more often observed in March as the nights, the bucks preferred time for activity, are shorter and thus forces them to be active in the daytime.

Feeding strategy:

European hares are primarily herbivorous. During the summer, they eat grasses, herbs and field crops. During the winter, they eat twigs, buds and the bark of shrubs and young fruit trees. They have been known to eat their own green, pellet feces to recover proteins and vitamins. Though normally comparatively solitary, European hares will forage in groups. Group feeding is beneficial as individuals can spend more time feeding, as there is increased corporate vigilance.

Specifics of hunting:

The states of brown hare in the Czech Republic at 31st March 2011 was estimated at 328 698 individuals, in the hunting year 2010/2011 were shot 104 518 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established from 1st November to 31st December.

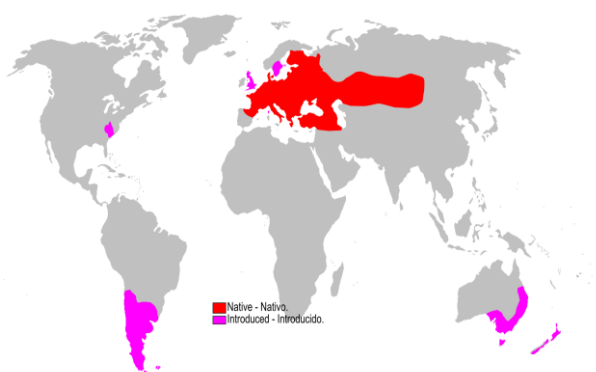


Fig.: Distribution on the world



Fig.: Brown hare

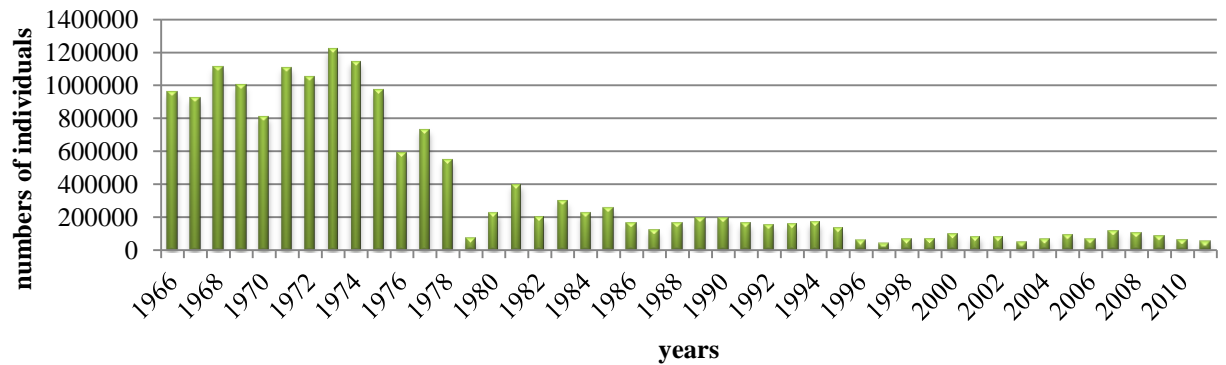


Fig.: Development of hunted brown hare in the Czech Republic

2.2 Birds

Common pheasant (*Phasianus colchicus*)

Overall info, Description:

The Common Pheasant, is a bird in the pheasant family (*Phasianidae*). It is native to Asia and has been widely introduced elsewhere as a game bird. It is a well-known gamebird, among those of more than regional importance perhaps the most widespread and ancient one in the whole world. The Common Pheasant is one of the world's most hunted birds; it has been introduced for that purpose to many regions, and is also common on game farms where it is commercially bred.

Body weight can range from 0,5 to 3 kg, with males averaging 1,2 kg and females averaging 0,9 kg. The adult male Common Pheasant of the nominate subspecies *Phasianus colchicus colchicus* is 60–89 cm in length with a long brown streaked black tail, accounting for almost 50 cm of the total length. The body plumage is barred bright gold and brown plumage with green, purple and white markings. The head is bottle green with a small crest and distinctive red wattle. *P. c. colchicus* and some other races lack a white neck ring. The female (hen) is much less showy, with a duller mottled brown plumage all over and measuring 50–63 cm long including a tail of around 20 cm. Juvenile birds have the appearance of the female with a shorter tail until young males begin to grow characteristic bright feathers on the breast, head and back at about 10 weeks after hatching.

Common Pheasants are gregarious birds and outside the breeding season form loose flocks. Wherever they are hunted they are always timid once they associate humans with danger, and will quickly retreat for safety after hearing the arrival of hunting parties in the area. While Common Pheasants are able short-distance fliers, they prefer to run. If startled however, they can suddenly burst upwards at great speed (43–61 kilometres per hour), with a distinctive "whirring" wing sound and often giving kok kok kok calls to alert conspecifics.

Mating season:

The males are polygynous as is typical for many Phasianidae, and are often accompanied by a harem of several females. Common Pheasants nest on the ground, producing a clutch of around ten eggs over a two-three week period in April to June. The incubation period is about 23–26 days. The chicks stay near the hen for several weeks after hatching but grow quickly, resembling adults by only 15 weeks of age.

Feeding strategy:

Common Pheasants feed solely on the ground but roost in sheltered trees at night. They eat a wide variety of animal and vegetable type-food, like fruit, seeds and leaves as well as a wide range of invertebrates, with small vertebrates like snakes, lizards, small mammals, and birds occasionally taken.

Specifics of hunting:

The states of wild common pheasant in the Czech Republic at 31st March 2011 was estimated 271 532 individuals, in the hunting year 2010/2011 were shot 591 515 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established for cock from 16th October to 31st November, in pheasantry from 16th October to 31st January, capture from 1st January to 31st March, capture in pheasantry from 1st February to 31st March and falconry from 1st September to 31st December.

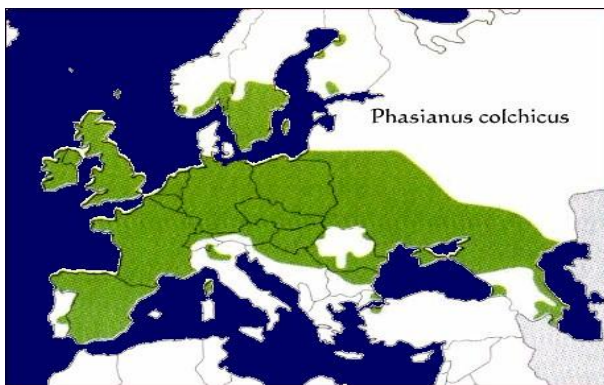


Fig.: Distribution on the Europe

Fig.: Common pheasant

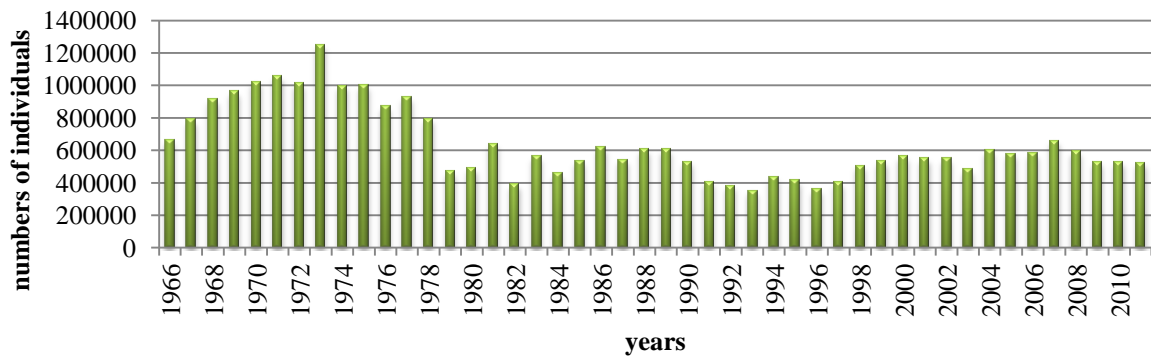


Fig.: Development of hunted pheasant (cock and hen) in the Czech Republic

Mallard (Anas platyrhynchos)

Overall info, Description:

The Mallard is a large (50–65 cm long) and heavy (0,72–1,58 kg) bird. Males have gray bodies with chestnut-brown breasts, white collars, iridescent-green heads, and yellow bills. Females are mottled brown-and-black with lighter brown heads and necks and yellow bills mottled with black. They have a black stripe running horizontally through the eye. Both sexes have orange feet and a blue speculum, or wing-patch, bordered in white on two sides, best

seen in flight. From June to September, immatures and males, which are then in non-breeding (eclipse) plumage, look much like females.

Shallow marshes are the preferred habitat, although mallards are found virtually everywhere there is open water, from city parks to subalpine lakes. Although they favor fresh water, they are also often found in sheltered bays and estuaries along the coast.

Mating season:

Mallards forage by up-ending in shallow water and by grazing on land. Mallard pairs form in the fall and winter, and remain intact through the winter and into spring. Pair bonds tend to break up, however, when the female begins incubating eggs.

The female usually picks a nest site that is close to water, but may be over a mile away. Typically situated on the ground under dense vegetation, the nest is sometimes on a stump, platform, or even up to 10 feet off the ground in a tree. It is usually a shallow bowl of plant matter, lined with down. The female typically lays 7 to 10 eggs, which she incubates for 26 to 30 days. Within a day of hatching, the young leave the nest. The female leads the young to the water and continues to tend them, and they feed themselves. The young first fly at 52 to 60 days.

Feeding strategy:

Mallards are omnivorous, eating seeds, stems, and roots from a variety of aquatic plants, especially sedges, grasses, pondweeds, and smartweeds. Insect larvae and other aquatic invertebrates are also part of the diet, especially the diet of young birds. In many places, humans provide Mallards with food year round.

Specifics of hunting:

The states of wild duck in the Czech Republic at 31st March 2011 was estimated 123 290 individuals, in the hunting year 2010/2011 were shot 315 773 pcs. Hunting season is, according to Decree of the Ministry of Agriculture No. 445/2002 Coll., established for wild duck from 1st September to 31st November.

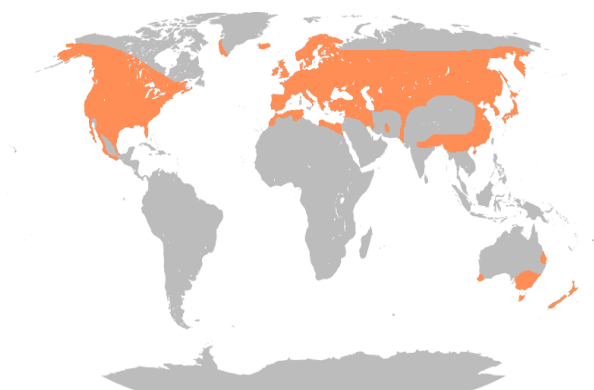


Fig.: Distribution on the world



Fig.: Mallard

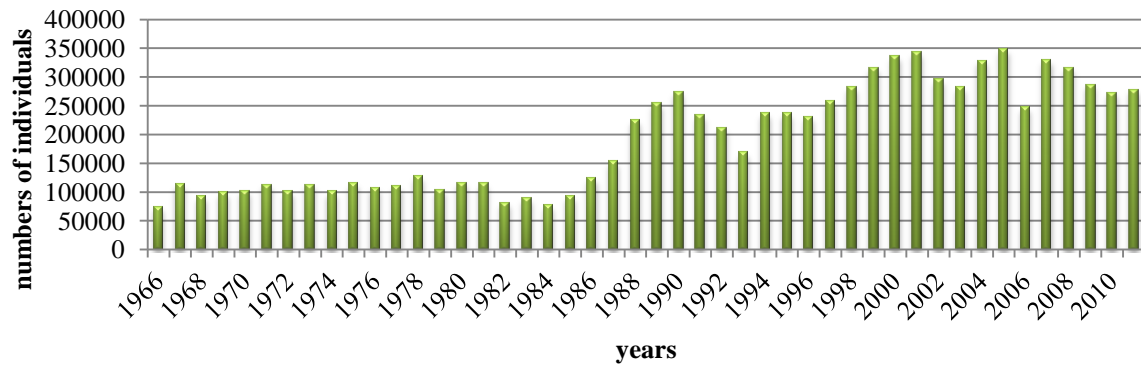


Fig.: Development of hunted mallard in the Czech Republic

Capercaillie (*Tetrao urogallus*)

Overall info, Description:

Male and female Capercaillie - the cocks and the hens - can easily be differentiated by their size and colouration. The male bird (or cock) is much bigger than the female (or hen). Cocks typically range from 74 to 85 cm in length with wingspan of 90 to 125 cm and an average weight of 4,1 kg. The larger wild cocks can attain a length of 100 cm and weight of 6,7 kg. The body feathers are coloured dark grey to dark brown, while the breast feathers are dark metallic green. The belly and undertail coverts vary from black to white depending on race (see below).

The hen is much smaller, weighing about half as much as the cock. Feathers on the upper parts are brown with black and silver barring, on the underside they are more light and buffish-yellow.

Both sexes have a white spot on the wing bow. They have feathered legs, especially in the cold season for protection against cold. There is a bright red spot of naked skin above each eye. In German hunters' language, these are the so-called "roses". The small chicks resemble the hen in their cryptic colouration, which is a passive protection against predators.

In April, the male capercaillies move to an open part of their woodland territory and perform their 'lek'. Lek is an Old Norse word meaning 'to dance', and relates to the birds' bizarre courtship display. The males strut about with their tails fanned out, and wings held down, while producing an extraordinary sequence of noises including some that sound like strangled gurgles and asthmatic wheezes. Interspersed with these are popping noises like corks being drawn from champagne bottles. Some experts believe that some of these sounds, below the range of human ears, carry for many miles and declare to any female capercaillie that the male making the noise is in his prime. They may also indicate that he has a fine territory, well provided with nesting sites and a good food source for the chicks. As the females arrive at the lekking site, the males become even more excited. Sometimes, several males will gather at a lekking site and spectacular fights can break out, during which birds can be seriously injured and even killed.

Mating season:

Once the female has been mated, the males play no further part in rearing the young. Between 5 and 12 eggs is the usual clutch, but as many as 18 have been recorded. They are laid in a nest on the ground, lined with pieces of nearby vegetation. Incubation takes from 26 to 29 days and the young chicks, like those of all game birds, are highly mobile, leaving the nest with the female the day after they hatch. Their wing feathers appear in two weeks and the young birds are then able to fly, albeit rather weakly. They stay as a family throughout the rest of the summer months, joining larger groups of birds in the autumn.

Feeding strategy:

Capercaillie feed on blaeberrries (also known as bilberries), shoots and seeds. In common with many birds, the chicks are fed initially on insects, graduating to the more vegetable-based adult diet later.

Specifics of hunting:

In the past, the capercaillie in the Czech Republic is relatively common species, especially from the 40th 20th century, however, his condition began to decline sharply and gradually disappeared from most of the occupied sites. Today he is present the Bohemian Forest, Slavkov Forest, Beskydy Mountains, Jeseníky Mountains and Kralický sněžník (in 2011 were monitoring 73 individuals). According to the legislation, the capercaillie in the Czech Republic is endangered and strictly protected species.

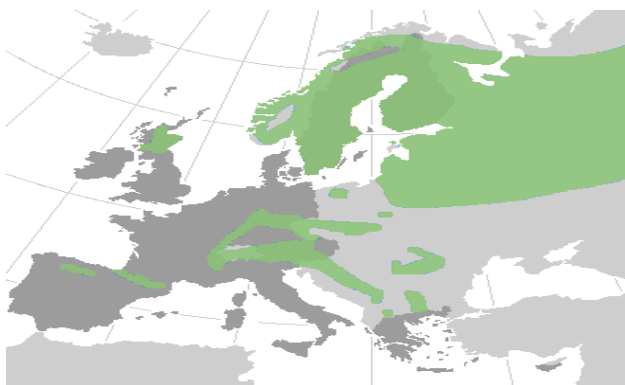


Fig.: Distribution on the Europe

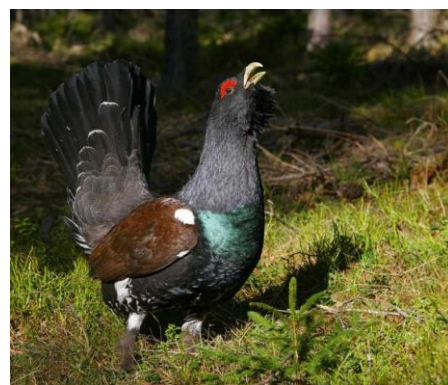


Fig.: Capercaillie

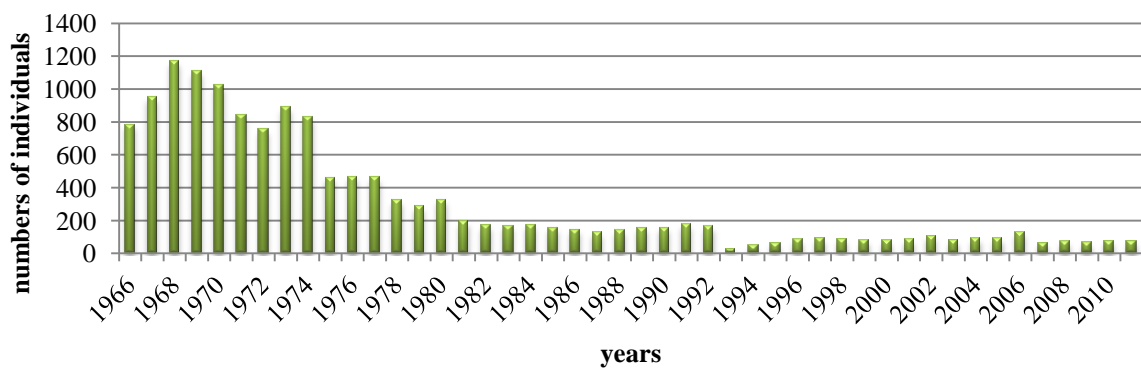


Fig.: Development of census states of capercaillie in the Czech Republic

Eurasian magpie (*Pica pica*)

Overall info, Description:

The Eurasian Magpie is 44–46 centimetres in length - in the adult over 50% of this is tail - and a wingspan of 52–62 centimetres. Its head, neck and breast are glossy black with a metallic green and violet sheen; the belly and scapulars (shoulder feathers) are pure white; the wings are black glossed with green or purple, and the primaries have white inner webs, conspicuous when the wing is open. The graduated tail is black, shot with bronze-green and other iridescent colours. The legs and bill are black.

The young resemble the adults, but are at first without much of the gloss on the sooty plumage. The male is slightly larger than the female.

Like other corvids, such as crows, the Magpie usually walks, but it can also hop quickly sideways with wings slightly opened. The Magpie and the rest of its family are fond of bright objects.

Magpies are common to suburban areas but can be more shy and cautious in country areas. The birds do not avoid humans unless they are harassed. Sometimes two or more birds display "teasing" behaviour towards animals such as cats. It is thought that this behaviour may be to scare away potential predators and egg thieves.

Magpies are territorial and stay in their territory all year, even in north of the species range. The pairs are monogamous, and remain together for the duration of their lives. Should one of the two die, the widow or widower will find a new partner from the stock of yearlings.

Mating season:

Mating takes place in spring. In the courtship display, the males rapidly raise and depress their head feathers, uplift, open and close their tails like fans, and call in soft tones quite distinct from their usual chatter. In the display the loose feathers of the flanks are brought over and the primaries, and the patch on the shoulders is spread so as to make the white conspicuous, presumably to attract the female eye. Short buoyant flights and chases are part of the courtship.

The eggs, small for the size of the bird, number from five to eight, and as many as ten are recorded; they show much variation in ground and marking, but a usual type is blue-green with close specks and spots of brown and grey. They are laid in April, and only one brood is reared unless disaster overtakes the first clutch.

Feeding strategy:

The Magpie will eat any animal food. These foods include young birds and eggs, insects, scraps and carrion. The bird will also eat acorns, grain and other vegetable substances.

Specifics of hunting:

The states of Eurasian magpie in the Czech Republic at 31st March 2011 was estimated 96 036 individuals, in the hunting year 2010/2011 were shot 15 104 pcs.

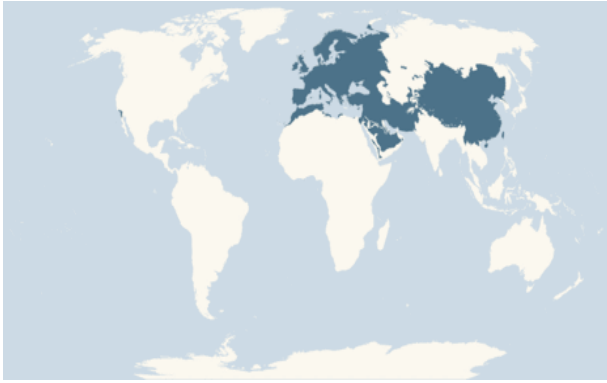


Fig.: Distribution on the world



Fig.: Eurasian magpie

3 GAME KEEPING AND GAME TENDING

One of the specific features of game keeping in Central Europe is universal game care provided the whole year. The primary aim of this care is to produce venison and trophies and to minimize damage to agriculture and forestry. The current form of game tending is deeply rooted in the past. High density of population in the convenient places and high demand for hunting and venison led to a sophisticated management. One of the first means of providing care for some game species was the protection against predators – with the predators often becoming extinct – and the restriction of hunting females as the source of increment. Later, other activities were added, until contemporary systematic game tending consists of:

- regulation of the game stock,
- providing food at the time of famine,
- selective culling,
- environmental care in the area.

Such intensive game management is unusual in the world. In countries with low density of population and excessive hunting opportunities, the main activity is only hunting - the number of killed animals is subject to regulation. The principle of this form of game management originates in the fact that wild life populations reach only the size consistent with the capacity of their environment; hunting thus removes only part of the increment and has only little impact on the natural process. The approach of whole generations of Czech hunters is based on the fact that the number of game and kills can be increased by eliminating stress factors, such as predators, and losses due to insufficient nutrition during the winter months.

Although game management has deep roots, its aims and means have been changing lately and the way hunting is perceived has been partly reassessed. The traditional approach prevailing until the 1990's prefers the production to game keeping. This production was based on the largest possible number of game and minimum damage caused to agricultural and forest lands. The care was aimed at maintaining high numbers, reducing death loss and improving the condition of game.

In recent years, it has been the ecosystem that plays a more important role in game keeping. This new approach supports the balance of all its components. Game keeping is returning to its ancient roots of regulating the numbers of game without a natural regulation mechanism of its own, and preventing adverse impacts and ecosystem changes. In future, more effort will be spent on decreasing the numbers of game to comply with the capacity of the ecosystem and on contributing to the welfare of the whole environment. It is not possible to change the ecosystem profoundly and intensive care will always be a significant part of game management.

3.1 Regulation of the game stock

In the Czech Republic, game is managed in hunting areas – own or rented – in 10-year periods. This system of long-term management of the same hunting area encourages sustained game tending. The most important task of each user is to maintain a reasonable life stock, especially of hoofed game. Environmental changes happened to have only little impact on big herbivores, and the result is that the high numbers are in conflict with forest economy. The most significant factors regulating the quantity of game stock and its interaction with the environment include changes of forest vegetation, agricultural management, absence of bog predators, feeding in winter and insufficient cull. Over the last dozen of years, these factors caused the number of game stock to rise in Central Europe as a whole, and the absence of intensive cull threatens with the destruction of the environment and huge damage to forest stands. Thus,

culling of hoofed game is inevitable in the present landscape. The regulation of other game species is less important; for hare and pheasant, the main task is to prevent any decrease in numbers and for fox, to prevent overpopulation.

The regulation of game stock is planned for each hunting area and takes into account the prescribed and real stock. The prescribed stock is the optimum number of game set by authorities (state organs for game management) for each hunting area. The real stock is established in a census during the spring months. The cull is then calculated using the coefficient of expected production to make the game stock in the spring of the next year equal the prescribed stock. Although this way of management, employing census and prescribed stock, is logical and has been exercised for decades, its accuracy is limited by the mistakes made when counting the game. During the communist era, the management was characterized by a discrepancy between census and prescribed game stock. The reason for this was the absence of liability for damage caused to the stands. At that time the prescribed game stock was set low, the user reported numbers the same as the prescribed game stock, which resulted in the growth of the numbers of real game stock. For several consecutive years, the cull was higher than the census and the prescribed game stock. The situation changed when unsustainable damage to the stands forced users to multiply cull and reduce game stock. Since 1995, game stock has been decreased and damage is less significant. Albeit the management employing the census is not functioning properly, it is still being used and it is also provided for in the hunting legislation. An alternative – still not adopted – is to set the cull according to different criteria of the condition of the environment. The condition of the ground cover is taken into consideration and the cull is then set from previous experience. More damage means higher cull. This approach takes into account the difference in game keeping in different areas and in the attitude of hunters, which is hard to establish. It is applicable also in cases when census is impossible. However, it is still only a draft that has not yet been introduced in praxis.

3.2 Census

The determination of real game stock is the trickiest issue of game management. The real game stock is used for calculating the cull in order not to exceed the prescribed game stock. Census should be done with responsibility, repeatedly and employing different methods in order to provide the most accurate result. The credibility of census results provided by the users of hunting areas constitutes one of the problems of Czech game keeping. Especially the users of areas owned by the state forest enterprise report constantly lower numbers of game, which on the other hand causes substantial damage to the stands. The ability to estimate the game stock as accurately as possible is the precondition of a more effective management. Users are obliged to count the game on days set by the game management authorities – usually two dates. The accuracy of the census depends on experience of the users of hunting areas. It is appropriate to count on more dates and to combine the methods taking into consideration the knowledge of the biotope.

Hoofed game is counted at the end of winter or at the beginning of spring when the conditions are optimal for good results. Game is concentrated in winter groups on smaller areas and moves around only little. The snow helps too. The methods depend on the experience and on knowledge of the biotope. The most common methods are counting near the feeding places, direct observation or counting the tracks in the snow or in transects, counting while stalking through the area or driving the game out of the forest. Other methods, like counting from airplanes or counting droppings on clear areas are too time- and equipment-consuming and therefore seldom used. The users should also count small game (hares and pheasants) in the spring, and in the summer before the start of the season, and then calculate the cull. Par-

ticularly suitable is driving the game out of the cover on sampling plots. The situation of small game is the completely different. In comparison to the number of hoofed game the number of small game is very low – often on the verge of not being shot at all – and it is high quality census that can reverse the situation.

The census is fundamental for game management in the Czech Republic. Counting game is a very complex process providing only estimates of different quality. There has been no satisfactory solution to this issue.

3.3 Providing food for game

Providing food to animals in the winter months is an often emphasised activity of Czech hunters and presented to the public as saving wild life. The aim of feeding is to offset the natural conditions during winter, to eliminate death losses and to increase the number of kills. In natural conditions, a certain part of the population dies due to adverse weather, famine and predators. The population is of bottle shape with only the strongest individuals passing through the narrow winter neck. The food provided contributes to more game passing through the neck and increasing the increment and cull in the next year. However, the weak survive too and then take part in the reproduction process, which leads to a decrease in the average population quality. This is the reason for selective culling being of such importance. Providing food is essential in intensive breeding with population densities so high that food is provided also during growing season; in winter game depends only on the feeding. Apart from positive effects on free-range game, there are some issues because of which feeding is regulated or prohibited in some countries.

In the Czech Republic, users of hunting areas are obliged by law to provide feed. They usually feed game with forage and cereals.

Feeding game species means increasing their numbers and interfering with the natural process. These effects correspond more with a production based approach and contradict the approach adopted by reservations, where feeding is often restricted or prohibited. On the other hand, in certain places providing food can reduce the adverse impacts of both changed landscape and winter sports on game.

The purpose of feeding must not be to create overpopulation that would devastate forest stands and prevent reproduction of other attractive tree species. Rational feeding should respect natural processes and substitute the lack of food in the changed landscape. It is vital to manage only such numbers of game that is self sufficient for almost the whole year and feeding helps it to overcome the time of famine. In the past, nature used to provide game with a food surplus during autumn – seeds of different tree species. At this time of the year game is grazing intensively and storing fat for surviving the winter. Nowadays, this source is missing due to the changed composition of forests and the way of harvesting crops and it is essential to replace the food shortage with high quality food. Therefore, game is fed mainly during autumn and winter. Most important is feeding of hoofed game, but birds – especially in intensive breeding – and hares are fed as well.

3.4 Management of feeding game

Traditionally, we divide the food in to the four following types: forage, fleshy food, cereal food and minerals. The way it is provided reflects its energetic value and ample previous experience.

Forage has a high content of fibre, but low feeding value. It is important for all ruminants apart from roe deer (which eats only top quality food) and includes hay, dried shoots of plants, shrubs and trees and silage. Hay should contain top quality young grass and should be well dried. Unsuitable is hay made late in May and mouldy and damp hay. Shoots –usually raspberry, nettle, ash, maple, linden, hornbeam, etc.- approx. 50 cm long, are dried in shade. Silage is prepared from fresh or light faded flora and can be mixed with other sorts of food. It is essential to tread the cut or mixed mass properly and to store it without any oxygen present. The conservation happens during the following months of lactic fermentation. Good quality silage smells nicely and a bit sour and preserves its original structure and colour. Rotten or strongly smelling silage is absolutely unsuitable. Ensilage is a new method providing enough forage of sufficient quality. The latter can be stored in plastic bags or in big wrapped bales and served in special facilities that uncover the food gradually, in the forest itself on a hard surface or simply scattered on the ground. With right choice of food, a silage with balanced energetic value and fibre content is produced and game can feed on it during the whole feeding period.

Hay is provided ad libitum in different in different kinds of facilities with long-term magazines.

Cereal food - also includes seeds of legume, acorns and chestnuts - have low fibre content but high energetic value. It is cereals that are the easiest to access, and it is oats that is most suitable for game - wheat has too high gluten content. Legume, acorns and chestnuts are better to be served mixed with other type of food. All cereal food must be of high quality - not mouldy - and served with forage. It is served scattered on the ground or in all sorts of mangers; especially suitable are food automats with magazines filling up the manger continuously.

Fleshy food – root crop, beet cuttings, fruit, pressed fruit, etc.- is very attractive and an important source of water for game. Serving is difficult, as it cannot be stored for long. Served in small amounts, it has a positive impact on the processes in the ventriculus. Served in large amounts as huge piles, it causes decomposition of the food and may be toxic.

Nowadays, by minerals we understand salt. Various facilities for providing salt are described in older literature. Today, we use mainly rock salt served ad libitum.

3.5 Feeding of hoofed game

Hoofed game - with the exception of wild boar- is ruminant adapted to feeding on plants with high fibre content, which for other herbivores with simple stomach are hard to digest. Therefore, they developed a ventriculus, consisting of the paunch, honeycomb, bile and true stomach, where the food is microbiologically digested, the products of the digestion are absorbed and serve as a source of energy.

Different kinds of ruminants adapted their digestion according to different components of food supply and they differentiate from each other according to the ability to harness the food with high fibre content. Roe deer is our most demanding game and during winter feeds mainly on annual shoots of broadleaf species and almost refuses the high quality hay. Less demanding is red and fallow deer as they feed on grass, and the least demanding is mouflon, preferring hard grass the whole year. This difference in ability to use food of various quality must be remembered when providing winter food. For roe deer, cereals prevail and for other species, hay. Hay is provided ad libitum. Cereals are served regularly in the feeding facilities and are replenished, ideally, every day, which in free hunting areas is very difficult.

Very important is that the technique of feeding respects the seasonal cycles of game. Game reacts to adverse weather condition by refraining from moving around, eating less and changing its digestion patterns. Food – especially for roe deer - should be provided from the

autumn onwards. At this time of the year, game is trying to use the accessible food as much as possible and to store fat fast. Quality and high energetic food is completely natural for roe deer and is taken in with other accessible foods, so there are no digestive complications. This period of gaining fat ends at the end of December, when the time of resting takes over. At this time, excessive food is unnatural and being served in huge quantity often causes indigestion. Providing food once a week is highly dangerous, leading to death or increased activity and thus to damage to the forest stands.

It is better to provide less energetic food during winter. The seasonal changes in the organism of the game are to be respected as well as the requirements of the stomach microorganisms. Game needs to get used gradually to the food. It is also important to eliminate pauses, providing food only at weekends, with game eating up the food within few days and being left with nothing for the rest of the week.

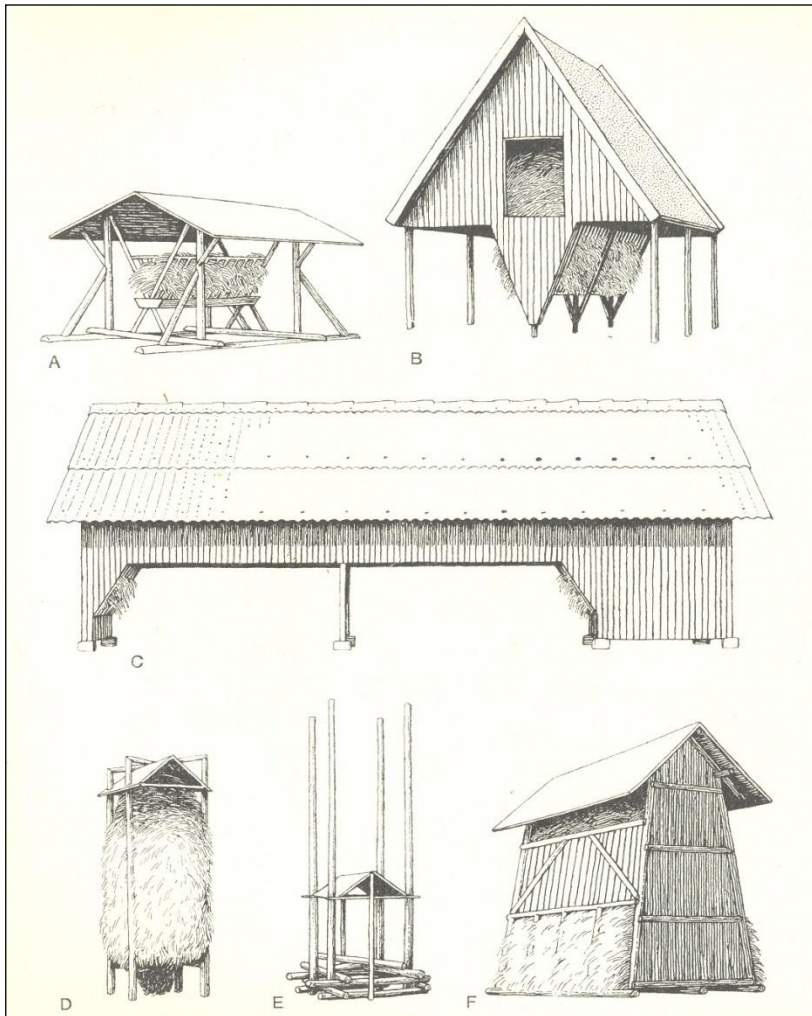


Fig.: Types of the feed racks: A – mobile feeder, B – roe deer rack, C, D, E, F – haylofts

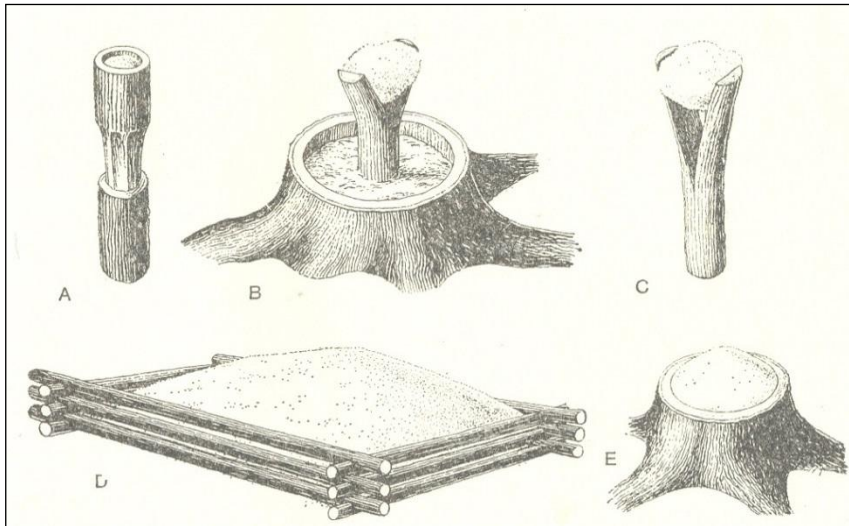


Fig.: Types of the salt licks

3.6 Feeding of wild boar

Sufficient suitable food is the prerequisite for full reproductive potential. In recent years some neighbouring countries have been restricting feeding due to the high numbers of boars. In our country there are no limitations, feeding however does not always correspond with the environmental principles. Wild boars are not ruminants, they demand higher quality food and are not able to exploit food with high fibre content. Consequently, the food provided should consist of cereal and fleshy food – suitable is also waste from the food industry. All food has to be of sufficient energetic value and good quality. Hygiene is important. Food is to be served in small amounts in facilities with a roof to prevent moulding. Pigs can be fed through out the year, especially in large forests. Consistent feeding near places of night rest, where no hunting takes place, prevents migration. From autumn till spring high energetic food should be provided. Cereal refuse and silage – also for other game species – is usually scattered on the ground. However, huge amounts left directly on the ground tend to mould and could cause indigestion and often evoke criticism.

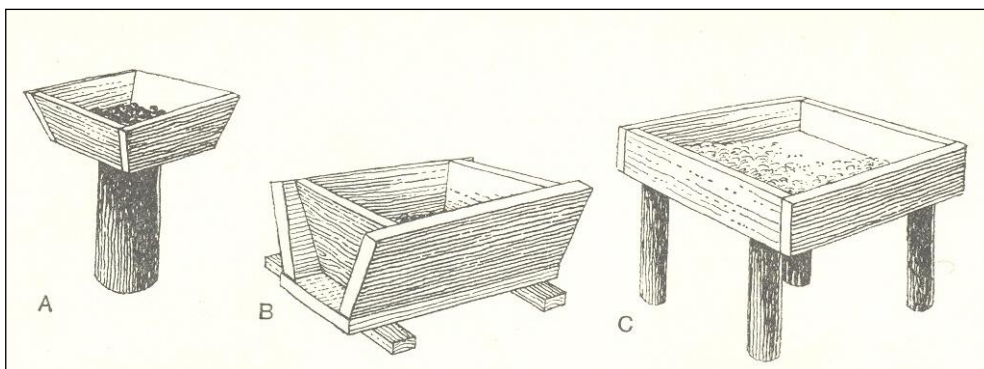


Fig.: A, B – types of the troughs for grain feeding, C – ensilage table

3.7 Feeding of small game

Feeding of small game is important in both free hunting areas and in intensive breeding. Food has to be spread across the whole area. Hares require salt for the whole year and quality forage from autumn on. Birds are fed with cereals served in feed trough.

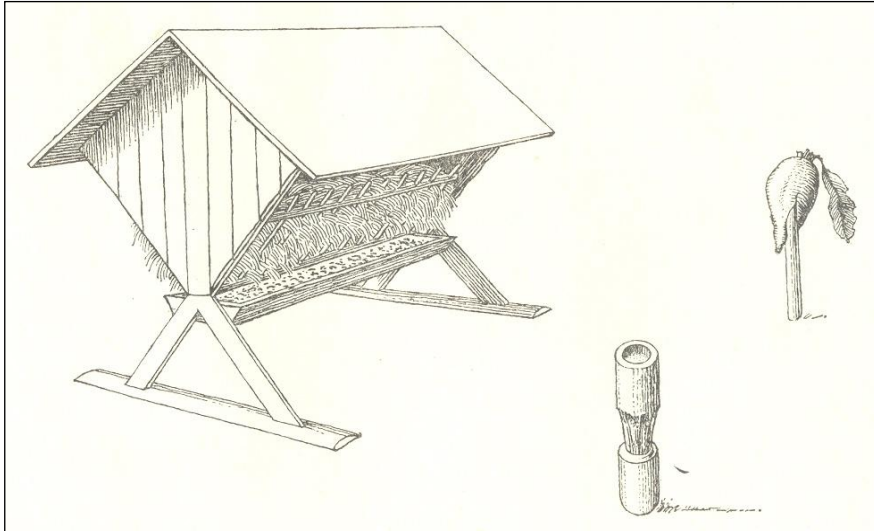


Fig.: Feed rack for brown hare, peg for beetroot and salt lick

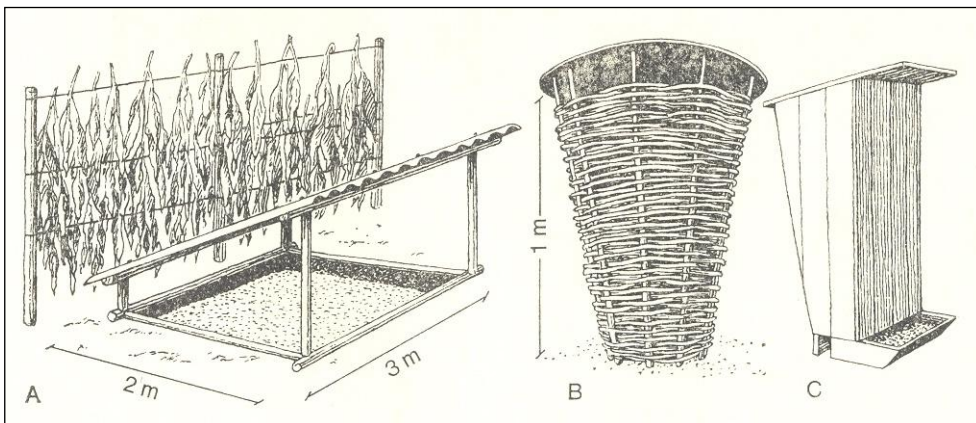


Fig.: A – feeding hopper for pheasant, B, C – reservoirs for grain feeding

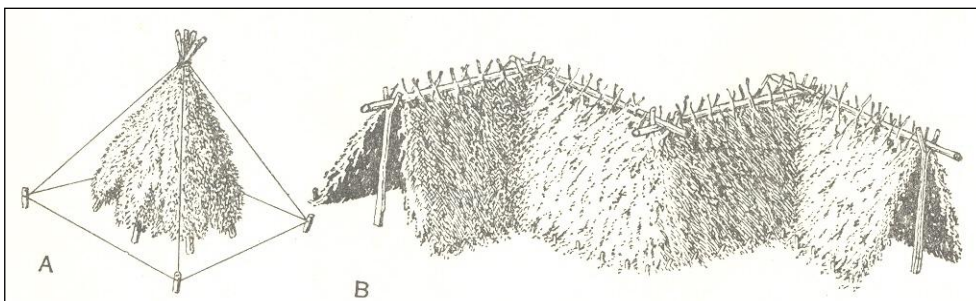


Fig.: A, B – types of the feeding hoppers for partridge

3.8 Selective culling

In the Czech Republic, sophisticated game tending includes culling – selective killing of game of certain categories. Its aim is to improve the results of game management – to produce venison and quality trophies and to reduce damage to forests. The purpose of culling is to substitute natural selection by removing the weak and ill and to increase the quality of the population. Top quality individuals are to live as long as possible in order to produce both ample offspring and valuable trophies. Promising individuals should reach trophy maturity. The optimum age for red deer is 12-14 years and for roe deer 6-7 years.

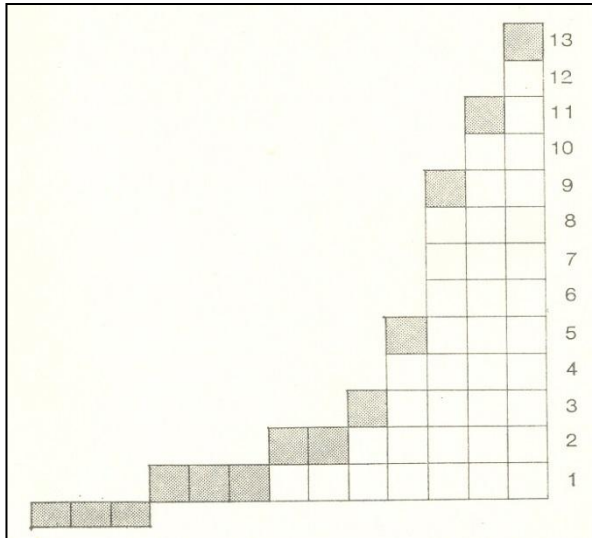


Fig.: Optimal structure of red deer population, grey plots are selective culling parts of population.

Correct culling is based both on age structure of game designated for hunting and on criteria for grading the quality of the animal. The main principle is to remove all unsuitable individuals before they take part in reproduction. Culling therefore focuses intensively on animals in their first and second year. This principle, along with the division of the cull into age groups, is embedded in the game management plan of each hunting area. Ideally, selection is done at the age of 3-4 years; all older animals left in the area meet all quality requirements and will be subject to hunting when they are old. The presumption is that hunters can estimate the age of living game correctly.

When culling, hunters select mainly the ill, the wounded and the weak. For males, the basic criteria are the size of the antlers in relation to the age (trophies are later graded on trophy shows). For females, they are size and physical condition. To fulfil the purposes of selective culling both sexes have to be killed in the same intensities and the criteria must reflect the quality of the animal. In reality, this aim is often difficult to reach. Culling of females takes place at the end of the year – also the end of the season – and under time pressure, so that the criteria are often not observed. With males, the size of the trophy is usually the prime criterion for quality and others are neglected. Selective culling is a tool for improvement of game quality, but in common hunting areas it cannot fulfil all expectations – in particular to impact game genetic quality. Nevertheless, it remains an essential part of game management.

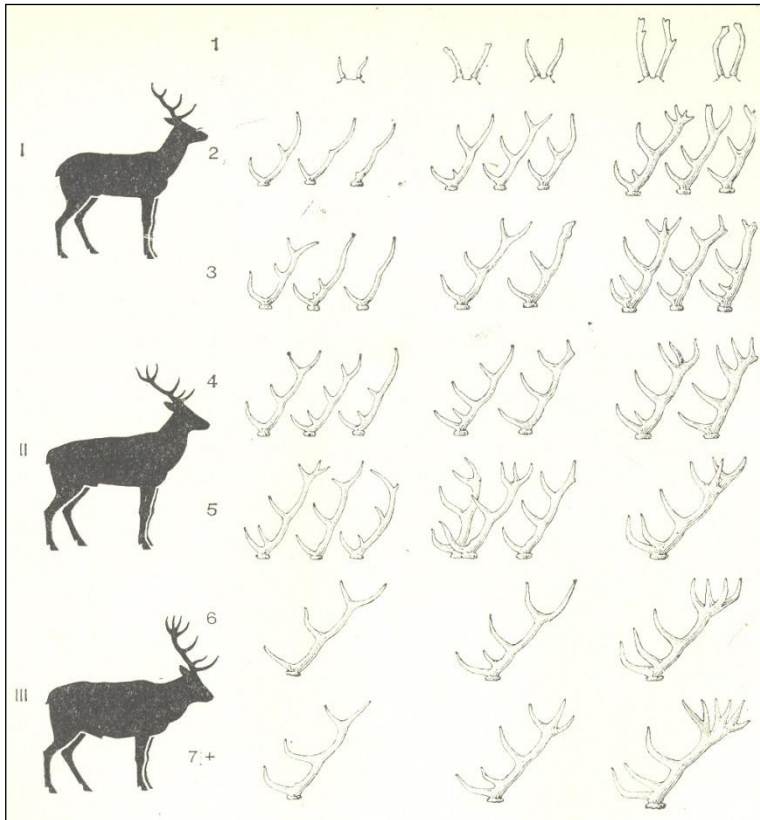


Fig.: Years - Huntable red deer, Breeding red deer

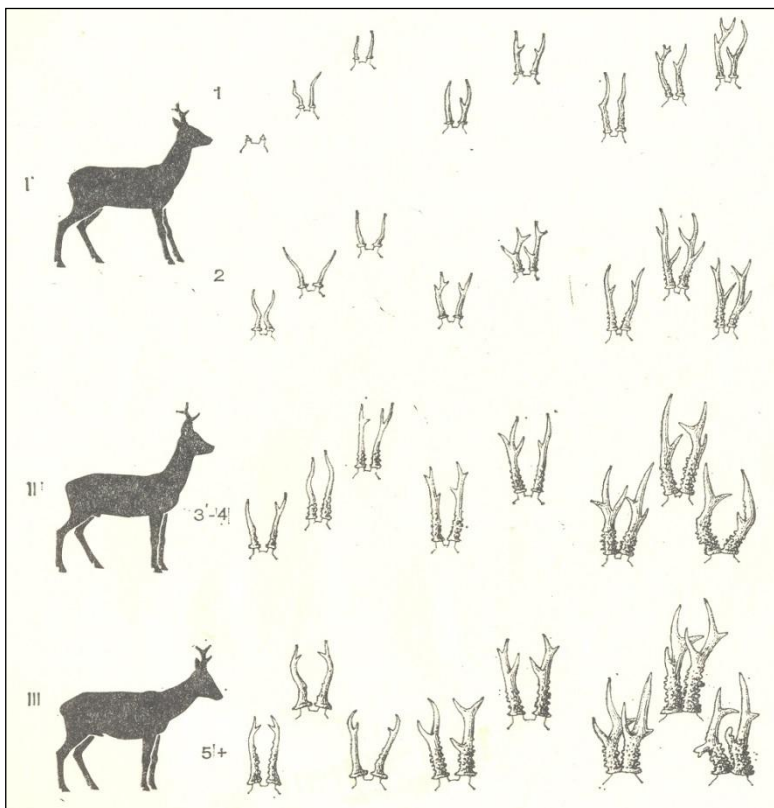


Fig.: Years - Huntable roe deer, Breeding roe deer

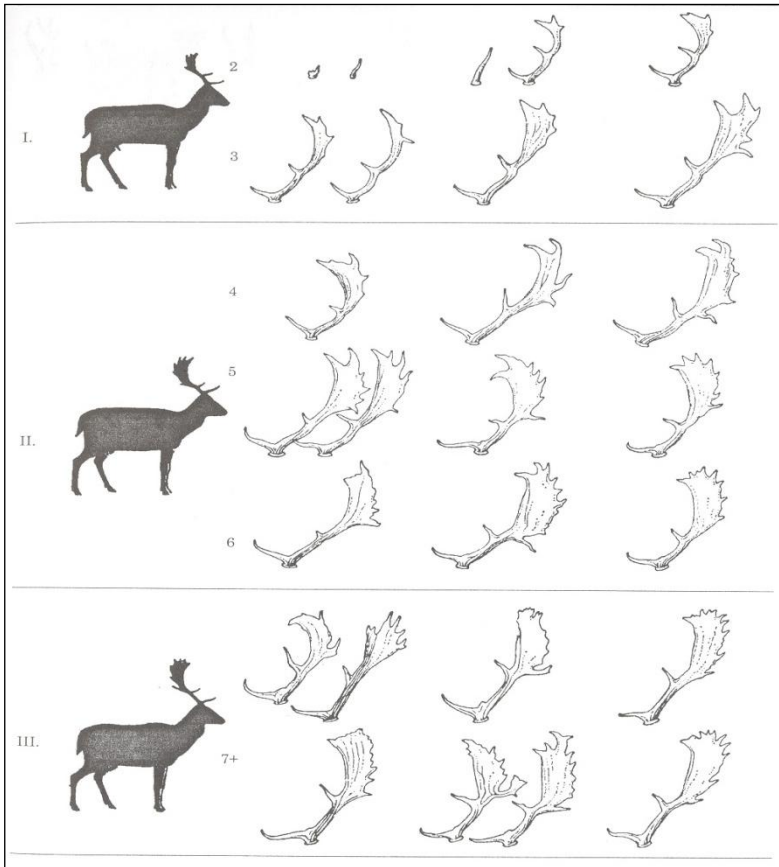


Fig.: Years - Huntable fallow deer, Breeding fallow deer

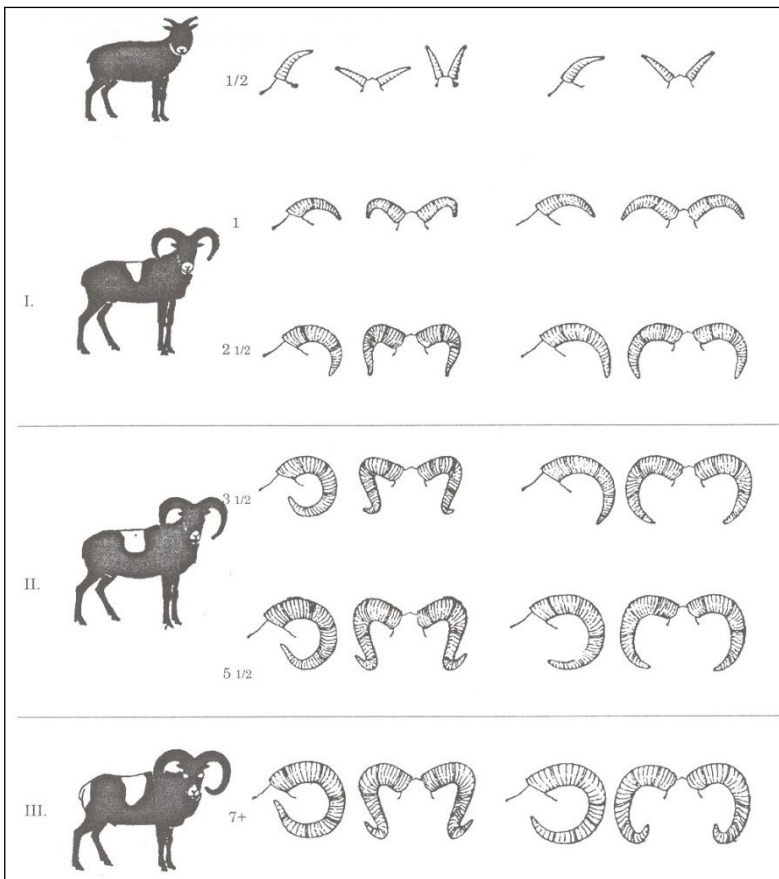


Fig.: Years - Huntable mouflon, Breeding mouflon

3.9 Environmental care

Game management enables the game to be cared for systematically and consistently. The suitability of the environment depends on food and cover options changing through the whole year. In the growing season nature provides ample food, but in winter there is food left only for a small number of game. Systematic environmental care increases the carrying capacity and so minimizes the damage to forest stands and maximizes the cull. The food options are to be monitored consistently and once there is a food shortage providing food becomes necessary. There are many possible ways to increase the carrying capacity. In the forests, hunters should look for deforested spots at the edges and, with consent from the owner plant species suitable for browsing. They should take care of meadows and pasture lands near the forests, which provide – when cut and treated regularly – high quality food. On derelict land, important crops should be grown. In the areas with prevailing field, hunters should establish game food plots, providing food and cover. Particularly in an environment with intensive agriculture this effort helps the small game to survive. Environmental care is essential for intensive breeding.

Complex environmental care is common practice in game preserves and pheasantries, where the land use focuses on the needs of the animals, thus browsing areas, game food plots, meadows, game refuge and areas providing cover are established. In other hunting areas, in particular rented areas, options are limited, but not impossible. It is possible to get consent from the landowner and consequently to increase the carrying capacity. Providing water is vital - lack of water is one of the reasons for low numbers of small game.

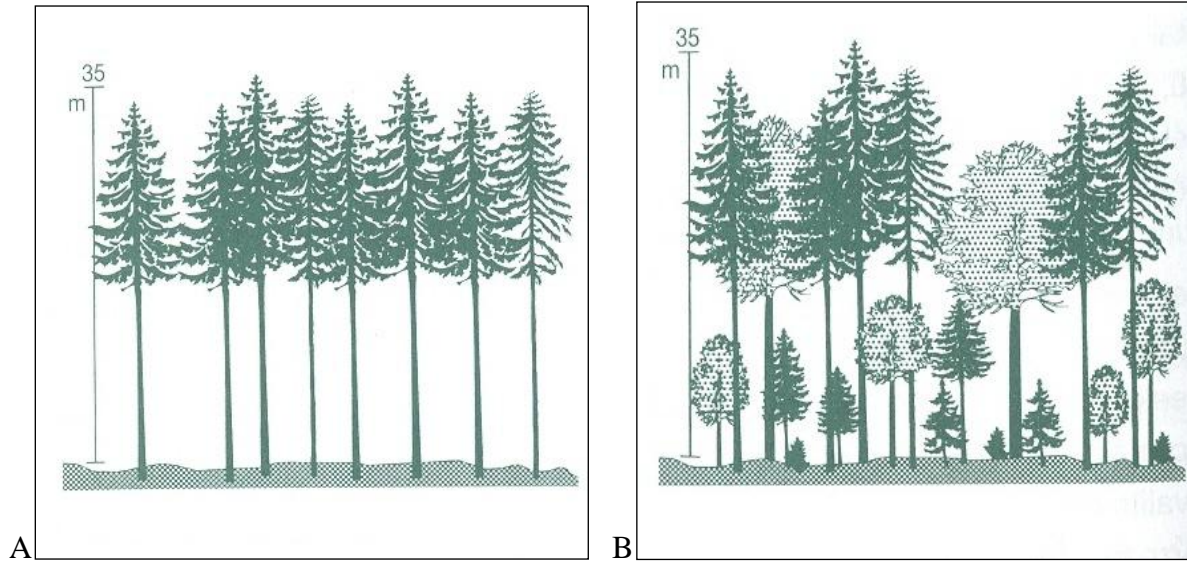
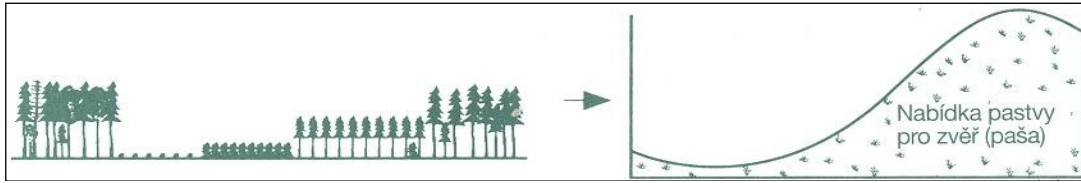


Fig.: Diferention between A - even age clear cut system without food for game and B-selective cut system with enough food for game (mainly in winter period)

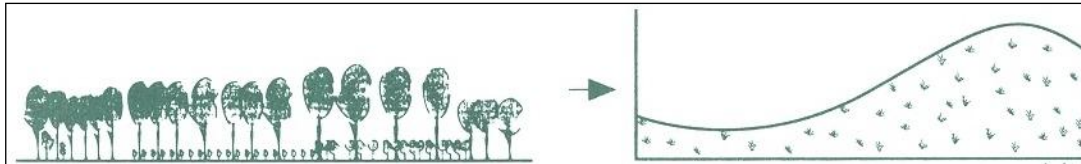
Quantity of food for game



Clear cut system (poor in the winter period)

Winter

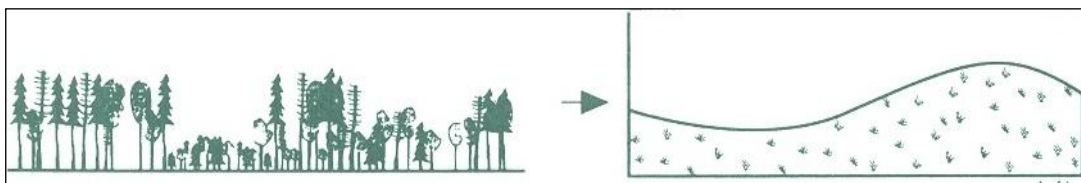
Summer



Shelter wood system

Winter

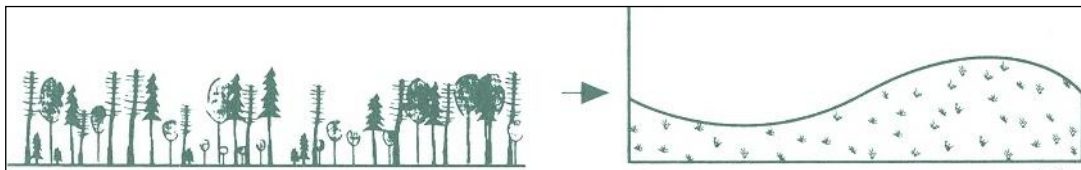
Summer



Group cut system (wealthy in the winter period)

Winter

Summer



Selektiv cut system

Winter

Summer

Fig.: Forest regeneration and providing of food for game during the year

4 INTENSIVE REARING OF HOOFED AND SMALL GAME IN THE CZECH REPUBLIC

The effort of mankind headed always to establishment of intensive rearing. People realised that nature can feed in its food niche only restricted numbers of individuals and they started to migrate for game. However, migration was not the answer to the food shortage, therefore, they started to catch living animals and to domesticate them.

Hunting becoming more and more popular, especially of trophy game, was the reason for increased interest in saving (or multiplying) game species. The aim was to rear relative high numbers of game (later also quality trophy game) on small areas.

Intensive rearing of game are

- the base for multiplying game in our hunting areas,
- the source of rearing individuals, pairs or flocks,
- the source of biology knowledge and practical experience,
- centres from where game spreads in free nature.

What is intensive rearing?

Intensive rearing is rearing of high numbers of game on confined area. It is rearing in game preserves, in pheasantries and in facilities for ducks. Numbers of game depend on the capacity of the environment, and in intensive rearing, this capacity is often exceeded. Thus, intensive rearing comprises sustainable care for game – veterinary care, feeding, etc.

The Preventing Cruelty to Animals Act No. 77/2004 Sb. defines the intensive rearing as “rearing, where farm animals are kept under conditions, in numbers, and densities as provided for by legal regulations, and under current and permanent observation by individuals, who provide care for their health and environment.” The Decree No. 7/2004 Sb. on pheasantries lays down the area, numbers of birds, environmental requirements and requirements for releasing the birds into free nature.

4.1 Intensive rearing of hoofed game

4.1.1 Origin of game preserves

The origin of game preserves lies in the South Europe, where Romans bred whole variety of game in fences. First reference to game preserves establishment in the Czech Republic dates back to the 13th century, to the times, when the royalty and the rulers fenced forests and deforested areas. Artists, sculptors and landscape architects were invited to arrange some garden changes. The biggest boom of game preserves was from 15th till 17th century. At the end of 19th century there were some 350 game preserves and the Czech Republic has the most game preserves in the world.

Game preserves are important landscape features of exploited cultural environment. They serve as factors of biological balance in nature. The Hunting Act No. 449 provides for the area of game preserves to be composed by continuous hunting grounds of at least 50 ha. Till 2000 there were 82 game preserves registered. Nowadays, due to the changes in the legal provisions there are 159 game preserves registered. Till 2000, the average size of game preserve was 379 ha, nowadays it is 302 ha. Small game preserves are not suitable for rearing, because they do not provide enough peace, cover, and food for game.

Legal provisions of the Hunting Act do not consider deer farms as game preserves. What they have in common are only the game species. On farms, game is kept according to the

principles of rearing of domestic animals. The sex ratio lays from 1 : 8 to 1 : 10 for females in order to secure the increment as big as possible.

For establishment and abrogation of game preserve see the Hunting Act No. 449/2001 Sb.

Purposes of game preserve:

- representation, guests paying money for hunting
- rearing of game and selling it to other preserves
- research and observation
- rearing of rare game species (white red deer, bezoar goat, European bison)
- forming of landscape
- landscape management – many game preserves are considered as regional, supraregional environmental stability centres
- agrotourism
- education of public
- preserving genetically important populations
- production of venison
- establishing working places
- effective use of land (decline of agriculture)
- education of students

Advantages of game preserves:

- concentration of high numbers of game on small area
- relatively easy and fast hunting possibilities throughout the whole year
- possibility for selection of unsuitable animals
- easy and regular health checks
- veterinary care

Disadvantages of game preserves:

- building and maintaining of the impermeable fence
- building and maintaining of numerous hunting facilities, pastures, game food plots
- special forest management,
- providing supplementary food for game throughout the whole year (or feeding game)
- damage caused by game and the prevention
- easier transfer of contagious diseases
- restricted access by public
- presence of skilled and involved staff

4.1.2 Types of game preserves

a) according to the number of owners

- **own preserve:** on hunting grounds belonging to one owner

- **community preserve**: continuous hunting grounds belonging to more owners; the owners have to create a hunting guild

- b) quarantine preserves
- c) preserves for acclimatization
- d) preserves for overcoming the winter

The quarantine preserve is a fenced area of 1 – 3 ha within the game preserve and any imported game for refreshing of the local blood of local game, that is suspicious of a disease, is placed there. Health examination is carried out and supervised by a vet. After release in the game preserve veterinary care is still provided.

The acclimatization preserve are temporary facilities of 3 – 5 ha for game to get used to new environment, before it is released either for restocking or refreshing of the local blood. This preserve fulfils all requirements for usual game preserve. Usually 1 stem of game (2 males, 4 females, 4 offspring) is placed there. In the spring, females give birth to new offspring and in the autumn game is strictly selected. It is suitable to keep game in the preserve for 2 years and to select it strictly.

Preserves for overcoming the winter are facilities of an area up to 10 ha, built in places of winter rest, especially of red deer. The intake area is 1500 – 3000 ha. Game is caught there by means of attractive food and spends the whole dormancy – from the beginning of winter till April – May (according to the weather conditions). These preserves are a very effective element of forest protection. Especially damage by barking is prevented. Furthermore, the physical condition of game can be improved by suitable food and game can receive medical treatment.

4.1.3 Game species in preserves

Game species kept in preserves in the past include: red deer, fallow deer, wild boar, rabbit, camel, buffalo, Asian sheep.

For game preserves only herd game species - red deer, fallow deer, sika deer, mouflon, and wild boar are suitable. Territorial game species - roe deer, elk or white-tailed deer – are not suitable, because they are stressed by high concentration of game, which results in bad physical condition and health, and low fertility. Nevertheless, roe deer is kept in some preserves but only as low-profile game. White-tailed deer is kept in 2 preserves. Only offspring raised without their mothers are suitable for rearing.

Optimal is to keep game species separate, because e.g. red and sika deer can crossbreed. Similarly red deer and mouflon should not be kept together due to the aggressive behaviour of mouflon. On the other hand, mouflon and fallow deer can be kept together fairly well. Wild boars are kept separate from other game species.

The most common game kept in preserves is fallow deer.

From the genetic point of view, at least 60 animals should be present in order to eliminate crossbreeding. The import is “refreshing of the local blood” by buying or exchanging animals.

The maximum prescribed game stock is laid down by the Decree 491/2002 Sb. The stock is greatly influenced by species composition and age structure of the forest, percentage of pastureland, carrying capacity and the area of the game preserve.

The sex ratio is from 1 : 1 to 1,4 : 1 for males.

4.1.4 Feeding game in preserves

In game preserves of highest carrying capacity, there is no need for providing food from May till September. In preserves of lower carrying capacity, food with high fibre content is provided during this period. During dormancy (September – April) and mainly after mating time, when game needs to get fast in good shape, silage and silage made with hay are permanently provided. In the spring, beet, kohlrabi, carrots, turnip, etc. are provided.

Red deer has not high demands on food. Originally, it inhabited steppes and forest steppes, where its main food consisted of grass and plants. In forest environment it has to get used to eat annual shoots of trees and shrubs; however, grass still prevails. Off course, it prefers food, which is more nutritious and easier to digest, food as annual shoots of willow, be- am, aspen, European elder, and hazel (if present in the habitat); it also eats annual shoots of oak, beech, ash, maple, also of coniferous as spruce and pine. It likes young or faded nettles, blueberries, blackberries, and of grass species it likes fescue.

Fallow deer also originally inhabited steppes and has therefore digestive tract similar to red deer. Taking into account the weight, the stomach is bigger. Food requirements are also similar: high demand on fibre gained mainly from grass and plants.

Mouflon has only moderate food requirements and pastures on grass and plants with high fibre content. It likes acorns, chestnuts, beechnuts, and cereals. Thus, ventriculus is fairly large, because food stays there for quite a long time.

For herd game it is better to build few but larger feeding facilities. Cereals should be divided in many feed trough and cribs should be fenced in order to secure access to food also for females and offspring.

4.1.5 Veterinary care

Veterinary care should be provided for by the owner. Preventative measures focus on protecting game from parasites, indigestion and diseases. Killed game and found carcasses are regularly examined. At least twice a year preventative dehelminthation takes place.

Veterinary care is provided for by Act No. 166/1999 Sb. and decrees. Breeders must:

- keep game in a way that respects biological requirements, function and the state of game
- continuously observe the state of health of game
- prevent diseases and their transfer
- use medication only with consent from vets
- maintain facilities in proper condition
- use food and water, which are not contaminated

4.1.6 Care by hunters

Hunters' care for game are basically activities for maintaining optimal (prescribed) stock of healthy game, for increasing the quality of environment in hunting areas (carrying capacity, cover, disturbance), providing food in the time of famine, preventing stress factors and finally responsible and selective culling. Following should be monitored:

- numbers of game
- sex ratio
- ratio of age group
- constitution, physical condition and state of health
- carrying capacity throughout the year, feeding
- frequency, size and distribution of cover possibilities
- eliminating disturbance
- preventing stress factors
- selective culling
- holes in the fence, passing through by people and vehicles, places enabling game to return into the preserve

4.1.7 Fence and facilities in the game preserve

Game is protected against predators, people, and is prevented from escaping. When building a new game preserve, the character of nature should not be disturbed and existing roads and rides should be used as boundaries. The fence for red deer should be at least 2,2 m high, for fallow deer and mouflon 1,8 m, and for wild boar 1,6 m. The fence is also includes facilities enabling game to return into the preserve, gates and grates, which prevent the game from escaping. Turns of the fence should be in obtuse angle (lower danger of injury, less material needed).

The facilities for returning game should be placed on its natural passages.

4.1.8 Service regulation of game preserves

Service regulations must be composed. They contain description of all facilities, of aims and criteria for evaluation of rearing, of care for game, public access management, providing of staff, ways of the control of the estate.

The biggest trophies from game preserves in the Czech Republic

Trophy	CIC points	Killed in	District	Name of game preserve	Area (ha)	Evaluated in
Red deer	244,14	1988	CR	Slavice	615	Ni 80
Dybowski sika deer	430,45	1984	BO	Židlochovice		Br 85

Fallow deer	224,22	1994	BV	Termanec	202	Ni 95
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4.2 Intensive rearing of wild ducks

In the Czech Republic there are many water bodies, especially in the southern part, thus it is suitable environment for ducks.

Generally, in the areas, where the fish industry was developing, more nutrients were getting into the water, thus the numbers of ducks (till 1970's and 1980's) were increasing. In 1980's there was a break through, massive death losses and the numbers dropped permanently.

At the beginning of 1979, botulism was diagnosed (western duck sickness – USA 1910). In some cases of dead waterfowl, it was not confirmed, however, it remains a big threat even nowadays.

The disease is caused by the bacteria *Clostridium botulinum*, which occurs in water with eutrophication (high mineral nutrients content). In the summer, plankton multiplies fast, consequently it dies massively and creates anaerobic habitat and also favourable conditions for the bacteria to infest. Birds are intoxicated by consuming the bacteria.

Following reasons contributed to slowly dropping numbers of wild ducks: decreasing possibilities for nests, food and cover, decreased transparency of water, and rising numbers of predators. The wetland vegetation of water bodies was cut and the level of water changed during the year. Adverse impact had also the stream regulation of rivers and brooks, building of stone stream beds, and deforestation.

4.2.1 The beginning of wild duck rearing

Rearing of wild ducks originates in the 17th century. At the beginning, it was not rearing, as we understand it today, it was more one of the hunting methods – calling. The idea of big traps for ducks - duck hutches - was born in the Netherlands.

Adam František Schwarzenberg from Hluboká nad Vltavou made the first attempt to build a duck hutch in 1684 in the Czech Republic. Nevertheless, the first duck hutch was built in 1699.

The intensive rearing boomed in 1980's. First rearing houses were established in 1965 and 1968. Intensive rearing of pheasants was introduced, but it was the rearing of wild ducks that was more profitable, was less demanding, had minimal death losses and high percentage of killed game.

4.2.2 Methods of intensive rearing

In the Czech Republic there are three methods of rearing wild ducks – wild, semi-wild and tame rearing. Nowadays, concerning numbers of birds, tame rearing prevails.

a) Wild rearing

With wild rearing we mean increased care for environment and living conditions of ducks. It comprises building of nesting boxes, creating areas for nesting (small islands), main-

taining the suitable level of water, maintaining the vegetation on shores, feeding, protection against predators, etc.

Important are continuous strips of reed, where ducks stay during the time of nesting and throwing their feathers. Shores should be covered by small plants (sedge). There should be also small patches cut on the water surface for ducks to sunbathe. Unsuitable is continuous, thick cover with no patches or cover too thin for ducks to hide and nest in there.

During nesting stable level of water must be maintained in order to prevent flooding of nests. Where suitable, artificial nests should be made out of wood, reed, and willow wicker. Most tried nests are wooden boxes placed above the water surface with own support or fixed to trees. Safe are also islands with a very limited access of predators. The island can be artificial, made by piling up soil during amelioration.

In the winter a certain part of the surface should be prevented from freezing, because not all ducks migrate. Feeding should respect the food supply of the environment, and it is necessary in the winter.

Sex ratio is balanced naturally when making pairs in winter.

Advantages of wild rearing include: low arduousness and costliness, ducks maintain natural timidity and good flying ability. Disadvantages include: the success depends on weather conditions (temperature, rain, etc.), higher stress by predators and lower increment.

b) Semi-wild rearing

Eggs for semi-wild rearing are obtained from nature, either from natural or artificial nests. When ducks are laying eggs, part of these eggs is removed and part is left for hatching.

All eggs can be removed in order to make ducks lay again or when nests are threatened (e.g. by parasites). Collected eggs are hatched in artificial hatching facilities with certain temperature and humidity. Care for hatched ducklings respects further intentions (selling, maintaining ducks in the region). Ducklings can be released only after 14 days, when the cere starts working.

Advantages of semi-wild rearing include: the increment of ducklings rises fast, good genetic base of ducklings, and thus good flying ability and low costs. Disadvantages include: finding nests and transporting eggs for hatching is arduous, ducklings hatch differently, losses when transporting into nature, and providing staff for hatching and rearing.

Semi-wild rearing is rare, because spring flooding destroys many nests, and the quantity and quality of collected eggs, beginning, length and quality of laying are strongly influenced by the environment.

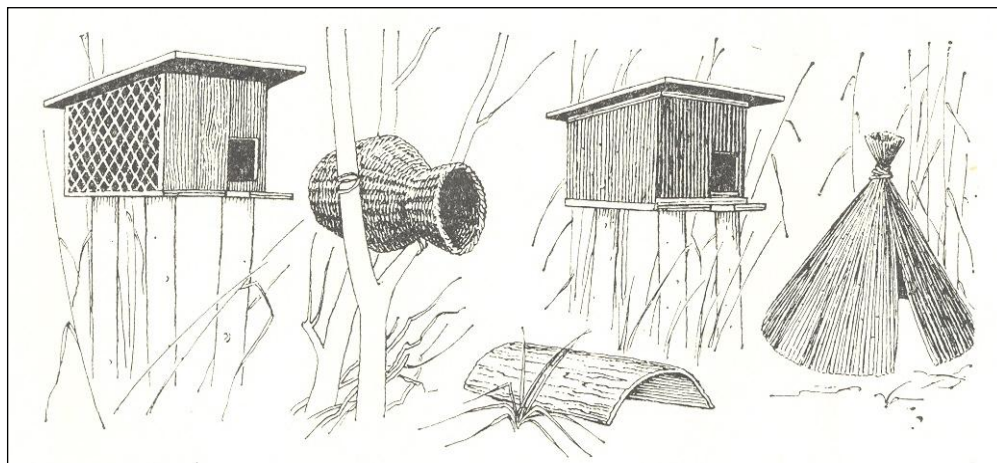


Fig.: Types of bird boxes for ducks and for bean geese

c) Tame rearing

Tame rearing is actually rearing of birds kept in captivity. During winter, the rearing flock is kept in pens. The rearing flock composes of top quality individuals kept in stem or mixed aviaries. This type of rearing is most common, with the possibility to influence the environment of game.

Every day, optimally at the same time, eggs are collected, stored, and then hatched in artificial facilities. Hatched ducklings are kept in captivity up to 3 – 4 weeks, consequently are vaccinated, selected, and sold or released in water into acclimatization aviaries.

Advantages of tame rearing include: independence on the environment and on wild population when obtaining eggs and regulating numbers of hatched eggs according to the planned demand. Disadvantages include: the highest cost of all three ways of rearing (building facilities for hatching and rearing, functioning, staff, providing enough of quality food, educating of staff), necessary veterinary care, interfering with the purity of the population, possibility of crossbreeding of hybrids with the wild population, occurrence of aberrations and partial domestication – losing timidity and ability to fly.

Advantages:

- economic
- possibilities for hunters and meeting of friends
- supporting of industry e.g. armament, textile, and leather industry
- money for the rent for hunting area
- supporting of the state by paying fees

Disadvantages:

- threatening the native genetic resources of wild population
- poor flying ability of ducks

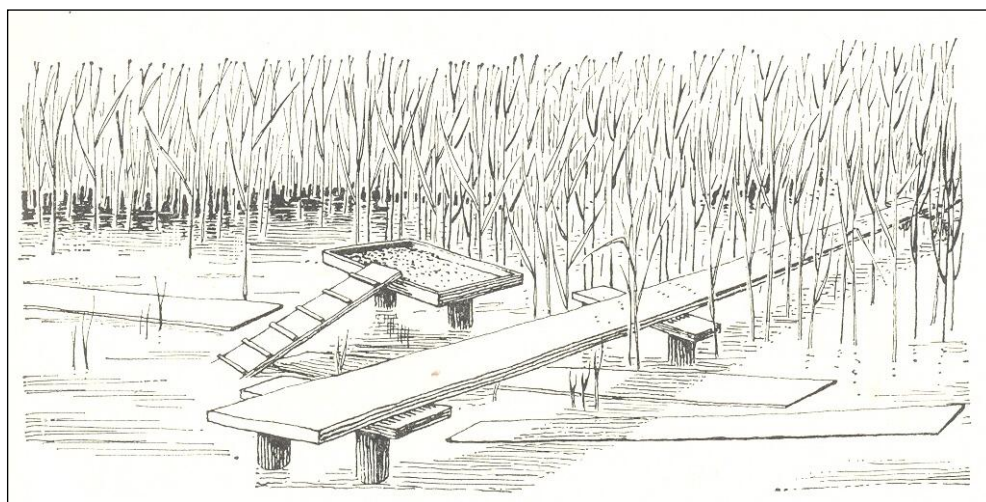


Fig.: Table for grain feeding of ducks

4.2.3 Evaluating of the environment

Most suitable water bodies for rearing and consequent hunting of wild ducks appear to be shallow ponds of 3 – 5 ha (system of ponds in cascade). Bigger trees - oak, willow - are useful for increasing the ability to fly and for safer nesting in often flooded areas. Shore vegetation like reed, reedmace, cane, sedge, shrubs, and forest stands are important for nesting and protecting against predators. Good protection is also provided by small islands. Ducks like to stay there in the time of throwing feathers. Sufficient food, free water surface and dry spots for sunbathing and cleaning of feathers are absolutely essential.

Swans (*Cygnus olor*), which are aggressive and try to force other birds away, present the competition for ducks.

Coots, especially when nesting, are similarly aggressive.

Black-headed gulls are very aggressive and cannot stand any intruders in their habitat. However, they seem to get used to the presence of ducks near their nesting colonies. If there were not enough space for their own nest, they would destroy nests of ducks. Gulls are useful for other birds, because their loud calling alerts others and they can drive the intruder away. No wonder that ducks feel safe near their colonies.

On the other hand, following species are dangerous for ducks: fox, martin, polecat, weasel, mink, nutria, rat, otter, eagle, harrier, goshawk, crow, jay and grass snake.

4.2.4 Veterinary care

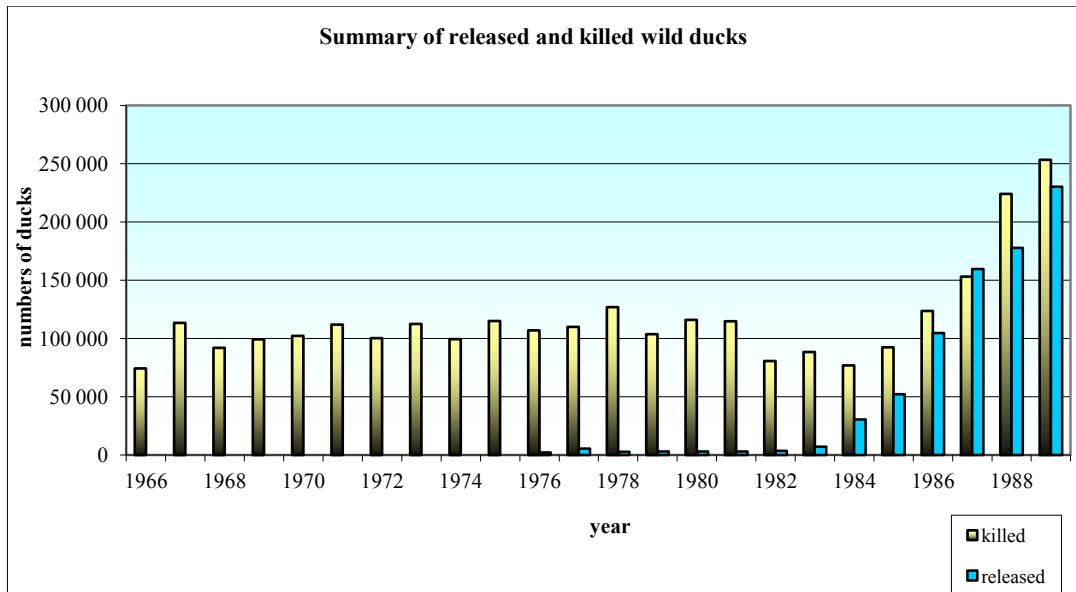
First measure before the beginning of building the facilities for rearing is to place the pens facing sunny south, and to protect them from winds coming from the west and the north. This helps to kill germs.

Second important factor is running water. In still waters the risk of spreading of infection is higher than in running waters.

Vital is also continuous veterinary care, to remove dead birds in order to provide clean aviaries for rearing flocks, clean boxes for ducklings, clean feeders and drinkers. In order to prevent massive death losses birds should be vaccinated and individuals showing any symptoms of a disease should be removed. It also helps to put disinfection mats in front of entry to the eggs and ducklings.

Before introducing of large-scale breeding, diseases of waterfowl were known only from foreign literature, or it was question of only few individuals. In those rearing facilities new or little known diseases have appeared. The most common and serious are botulism, salmonellosis and viral hepatitis.

The percentage of killed ducks from the numbers of released ducks reaches the double of the percentage of pheasants. Thus, hunting is very attractive for both hunters and paying guests.



4.3 Intensive rearing of pheasants

Current state of the environment of pheasants (but also of ducks, partridge and of other species of feather game) has changed so much that the possibility of natural reproduction decreased both in free hunting areas and in pheasantries. At the same time, demand for higher numbers of killed pheasants increased for commercial, representative, and sporting reasons. Important is also production of quality venison.

To satisfy the demand, intensive rearing was introduced with its advantages and disadvantages. An advantage is beyond doubt production of necessary numbers of eggs, chickens and mature birds.

Disadvantages are high costs for artificial rearing, domestication followed by low percentage of killed birds, need for protection of game during rearing and in time of releasing into free nature, high skilled and responsible staff, and necessary changes of the environment, in which birds are released.

If the habitat of the game does not improve – as a long-term process – we will have to rear pheasants artificially in the future.

Advantages and disadvantages of current methods of artificial rearing follow. Hunters divide the artificial rearing of pheasants in the same way as of ducks:

- wild or natural rearing
- semi-wild or influenced rearing
- tame rearing or rearing in aviaries

Changes of habitat of pheasants

The suitability of the habitat for releasing and keeping chickens is given by sufficient sunshine, dry soil, access to water, cover, possibilities for perching, for orientation, little disturbance and sufficient food.

Thus, on places of release it is necessary to:

- cut in stripes cold grass stands
- spread suitably feed troughs and fill them up
- provide enough drinkers

- prevent trespassing
- provide enough catching facilities

4.4 Intensive rearing of brown hare

Brown hares inhabit lowlands and downs (500 – 550 m. above sea level). They are bound to habitats with juicy food. However, they were observed in the Vysoké Tatry Mountains in altitude of 1500 m above sea level, in the Alps even in altitude of 2880 m above sea level. Above the upper forest boundary they are only exceptional.

The population density of hares fluctuates from year to year. The reasons for this are many internal and external impacts as follows, which may precondition each other:

- climate and weather condition
- predators (hunting ban of birds of prey and restricted hunting of beasts of prey)
- little numbers of social groups capable of reproduction
- agricultural management of vast areas, use of chemicals and mechanisation
- famine after cereal harvest; monocultures
- burning of fat in the spring = poisoning with chemicals stored in the fat
- water shortage
- susceptibility for parasites – coccidiosis

One of the first attempts to establish artificial rearing took place in Sweden in 1857. It came to an end shortly, like other similar attempts. France is a pioneer country concerning the rearing of hares. There are many farms engaged in rearing. Denmark is also well known. In the Czech Republic, the first attempt took place in 1960; however, successful was the rearing established in 1980. In 1983, a charity called the Association of Breeders of Hares in Bohemia and Moravia (Asociace chovatelů zajíců v Čechách a na Moravě) was registered with the Ministry of Interior. This association tries to breed hares of sufficient quality in order to release them in other hunting areas and to refresh the population in free nature.

On whole, the rearing of hares in the Czech Republic is in its beginning and it is rare. Nevertheless, the knowledge gained in researches helps to understand many secrets of the biology of hares and could be the base for returning hares again into free nature.

Methods of rearing hares:

- a) rearing in the way of game preserves
- b) rearing on large fenced areas
- c) rearing on smaller fenced areas
- d) rearing in hutches (the most common way)

Advantages of rearing in hutches:

- hutches are isolated from the soil (soil contains parasites)
- perforated floor = dropping fall through = maximal hygiene
- state of health of individuals and groups can be observed easily
- dead animals are easy to find
- cause of death can be established immediately
- strict selection and easy change of pairs

Disadvantages of rearing in hutches:

- time consumption and requirement for staff
- full time job for the gamekeeper, part time job for the vet
- servicing daily the hutches and surroundings
- statistic records

Technical parameters of the rearing station and choosing the place

- choosing a suitable place; fencing of the area
- rearing in hutches
- facilities for catching of predators
- providing the rearing base
- sufficient quality food and water
- health prevention
- optimal equipment
- a reliable person for full time job

A sunny and dry place should be chosen. The size of the area depends on the numbers of hutches. The whole area is fenced and the fence should be approx. 2 m high.

Hutches should be built so that every animal has its own corner and young game could climb to a place with no access of adults. When young hares sexually mature, adult hares are aggressive. Hutches should be oriented towards east or southeast.

Hares are caught in areas where no diseases transferable to humans occurred. Caught game is examined by vets and after quarantine admitted to the rearing.

Hares are fed with granulated mixtures and with quality hay. As supplementary food, forage and fleshy food is provided.

Very important element in the habitat of hares is water. Normally, one hare consumes daily on average 0,5 l of water. During mating time, tending offspring or during forage shortage it consumes up to 1 l per day.

Sex ratio

Experiments with mating options were made: polygamy, monogamy, polyandry even regulated mating. For rearing, monogamy is the most suitable option. Sex ratio 1 : 1 remains also when releasing into free nature.

Period of keeping of the reproductive pairs

The period, for which the reproductive pair is kept, differs. The successful pair is judged upon death losses, numbers, weight and state of health of offspring in the second and third year. The pair can be kept for several years.

Releasing hares into free nature

- choosing the right locality with a stable population
- transfer with help of small fenced areas
- change from granules to forage
- treating with medicaments for coccidiosis
- 2 samples of droppings examined and no parasite found = releasing into free nature
- releasing at the age of 2 – 3 months; in groups
- instinctive behaviour = no domestication
- getting used to local population

- still returning to drinkers and feeders with granules = possibility for treatment
- moving in circles of average 300 – 600 m

Marking of hares

- for records and scientific purposes
- tattooing in the ears = not good, because it is hard to read
- aluminium standard markers = damage, lost
- cutting part of the ear = inhumane, but optimal for observing in free nature

4.5 Intensive rearing of other game species

4.5.1 Wild rabbit

Artificial rearing of wild rabbit is not common in the Czech Republic. There are only few volunteers rearing rabbits in small numbers at home and trying to re-introduce them back into nature. Their experience shows that rabbits do quite well in captivity, however, to keep the released population in areas they used to inhabit, is not successful. Nowadays, rearing rabbits is not successful.

Rabbits come originally from Spain and North Africa. Royalty and monks introduced rabbits to Central Europe. Seamen introduced them to coastal countries and in some of them rabbits destroyed crops and were the reason for famine. In 1952, a French farmer infected rabbits with the myxomatosis virus, because they were destroying his vineyards. The disease spread fast through the whole Europe and destroyed whole rabbit populations. Since then, myxomatosis appears from time to time. There are rabbits immune against this disease in Australia and in Great Britain.

Rearing of wild rabbits:

- imported animals, which are immune against myxomatosis
- only purebred animals
- rearing in hutches or in prepared burrows
- consistent hygiene and veterinary care
- choosing and preparing the locality for releasing
- consistent control after releasing and protection against predators and humans
- providing supplementary food
- water

In the Czech Republic experiments were made in the past and nowadays, following game species are locally bred:

- partridge
- Reeves's pheasant
- capercaillie
- black grouse

4.5.2 Bean goose

Rearing geese is without any complications, but releasing goslings into free nature is almost impossible, because they are too tame.

Similar is the situation of other birds. There were no experiments undertaken or they failed, because the birds could not get accustomed to our environment (rock partridge, wild turkey).

5 HUNTING CYNOLGY

Ages ago, pre-historic hunters were accompanied by dogs. At first, packs of various numbers of dogs helped to find the game, force it out of cover, and, mainly, to hold it in one place, providing hunters with enough time to approach the animal and to kill it with primitive weapons. The origin of the dog remains a mystery. It is still unknown, whether the dog descends from some extinct canine predator or directly from wild dog, or from wolf or jackal.

The seven main groups of hunting dogs originate from the historic crossbreeding of members of the individual dog groups according to their character. These current groups possess the following inborn traits:

- pointing dogs – point the found game; they are divided into continental and British and Irish pointers;
- tufters – do not point the game, at best stop briefly to signal it; they are energetic and bark when following the animal;
- retriever;
- hounds – bark when chasing the game out of cover and driving it to the hunter;
- bloodhounds – specialize in tracking wounded deer;
- dachshunds – work in burrows;
- terriers – versatile dogs.

5.1 Description of dogs

5.1.1 Pointing dogs

Pointing dogs are the largest group of hunting dogs. They were commonly used for hunting in times before guns were introduced. They are divided in two big groups: continental and British and Irish pointing dogs. There are three forms of continental pointing dogs: short-haired, longhaired and wirehaired. Shorthaired and wirehaired dogs have their tails docked, longhaired, only moderately if at all.

There are two types of British and Irish pointing dogs: shorthaired (Pointer) and longhaired (setters). The tail is never docked.

Pointing dogs are used for all sorts of hunting jobs as searching and pointing the game in the field, chasing game out of thicket and reed, retrieving on the ground or from water, tracking wounded animals and killing predators. One can describe them as versatile. Their versatility is not just the result of training but, also of inborn traits. However, continental pointing dogs are versatile while British and Irish dogs tend to be specialised.

Shorthaired continental pointing dogs



German Shorthaired Pointing Dog



Shorthaired Weimaraner Pointing Dog



Hungarian Shorthaired Pointing Dog (Vizsla)

Longhaired Continental Pointing Dogs



lander



Long-
haired
German
Pointing
Dog
Large
Munster-
lander
Small
Munster-



Longhaired Weimaraner Pointing Dog



Brittany Spaniel

Wirehaired Continental Pointing Dogs



Bohemian Wirehaired Pointing Griffon



German Wirehaired Pointing Dog

Shorthaired British Pointing Dogs



English Pointer

Longhaired British and Irish Pointing Dogs



English Setter



Irish Red Setter



Gordon Setter

5.1.2 Tufters

Tufters are middle-sized or small hunting dogs of excellent hunting properties. They are intelligent, learn quickly, although the training might be difficult because of their stubborn nature. They are energetic and bark when following game, and are trained to search for game within the shooting range of a shotgun. They do not point game; at best they stop briefly to signal it. They can be trained for universal purposes, suitable for all sorts of hunting areas, and are very good in water and at tracking wounded animals. The group includes Spaniel breeds from England and one continental tufter – German Spaniel.



English Cocker Spaniel



English Springer Spaniel



Welsh Springer Spaniel



Irish Water Spaniel



German Spaniel

5.1.3 Retrievers

They very good at retrieving game and their work in water is excellent.



Labrador Retriever



Golden Retriever



Flat Coated Retriever

5.1.4 Hounds

Hounds are one of the oldest groups of hunting dogs. They were commonly used for hunting in times before guns were invented. They drove small game into nets and held big game at bay, giving hunters a chance to approach the animal and kill it.

In difficult, inaccessible, mountain terrains, they search for game, bark when chasing it and drive it to the hunters. They can work individually, but they work usually in pairs, trios or in packs. Their orientation skills are excellent and can follow track of one particular animal (pig, fox, hare) without losing it for other tracks.



Alpine Dachsbracke



Beagle



Slovakian Hound



Basset hound



Karelian Bear Dog



Russian-European Laika

5.1.5 Bloodhounds

Bloodhounds are specialists among the hunting dogs currently bred in the Czech Republic. They can successfully track wounded red and fallow deer even with blood missing. Their extremely fine nose can recognize accurately the scent of individual animals.

The training is long and requires consistency and persistency, especially when the dog is learning to follow cold tracks of unwounded animals.

Nowadays, we use mainly German bloodhounds. The recently imported English bloodhound is used rarely for hunting purposes.



Hanoverian Scenthound



Bavarian Mountain Scenthound

5.1.6 Dachshunds

Dachshunds are used for jobs in burrows as they work more calmly than terriers. They are also used for tracking wounded animals and chasing game out of cover, because their nose is excellent. They often like water and can retrieve shot game from there.

Dachshunds are divided according to their hair into smooth-haired, long-haired, and wire-haired; and according to the volume of their chest in standard (volume more than 35 cm, weight max. 9kg), miniature (up to 35 cm), and rabbit dachshunds (up to 30 cm). Standard dachshunds heavier than 9 kg cannot be evaluated better than “very good”.



Smooth-haired Dachshund



Long-haired Dachshund



Wire-haired Dachshund

5.1.7 Terriers

Terriers have all types of hair: smooth-haired, long-haired, and wire-haired. Dogs of height at withers below 40 cm are used in burrows, for chasing game, tracking wounded animals and for water jobs. Dogs higher than 40 cm are used mainly for chasing and finding game.



Fox Terrier Smooth



Fox Terrier Wire



Welsh Terrier



German Hunt Terrier



Czech Terrier



American Staffordshire Terrier



English Bull Terrier



Border Terrier



Cairn Terrier



Jack Russell Terrier



Parson Russell Terrier

5.2 Care for hunting dogs

Hunting dogs can be placed outdoors in kennels consisting of doghouses of appropriate size and of the area in front that is big enough for the dogs. The size of the house should be on the one hand big enough for the dog to be able to stand and lie down comfortably, but, on the other hand small enough for the dog to warm it up by the warmth produced by its body.

The kennel is to be kept clean, excrements should be removed daily and disinfection should be carried out from time to time. A sufficient amount of fresh water should be always provided.

Hunting dogs should never be chained. If not possible for the dog to be placed outdoors, it should have an appropriate place in the house. If the dog is to be kept indoors, the owner must regularly walk the dog to give it enough exercise.

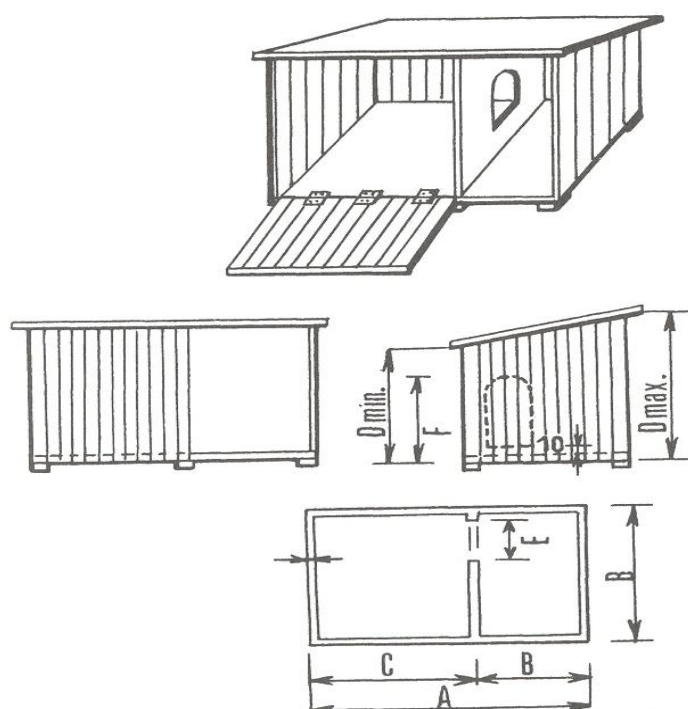


Fig.: Constructoin of dog kannel

5.2.1 Health care

The owner of the hunting dog must provide sufficient health care and keep the dog clean. Basic care comprises daily brushing with a hard brush and, if necessary, use of iron comb (for longhaired and wirehaired dogs). Brushing removes dust, dandruff, filth and parasites, and supports blood circulation.

The dog is to be bathed only occasionally and in warm water with soap, special dog shampoos and disinfection.

Eyes are checked carefully and cleaned with eye drops and then dried with cotton wool. Excessive earwax is removed with cotton wool on a piece of wood. Small wounds can be treated in the common way at home; in case of injury veterinary care should be sought.

5.2.2 Dog's nutrition

During the first three weeks, food is fully provided by the bitch – if the birth was without complications. During the second or third week puppies should be treated with antihelmintics. There may be some complications if the bitch does not produce enough milk. In this case, the breeder should start to provide extra food. The most suitable seems to be surrogate milk that is available on the market. In the fourth week, the breeder has to start providing additional food and has to decide whether to use traditional food or food for puppies available on the

market. At this age, the bitch still plays a substantial role in the nutrition of puppies. In the fifth to seventh weeks, puppies get used to hard type of food in the form of both traditional food and granules. The bitch loses its role as the food provider. When selling the puppies, the breeder should give information about the way puppies had been fed. The new owner has to select his own way. The majority of dog owners prefer granules, which are available in a wide range on the market and contain enough vitamins and minerals in the right proportion. Vets do not recommend combining granules with traditional home made food. It may cause indigestion. The daily ration of granules is easier to set as it is recommended by the producer according to the dog's breed, weight and age.

5.2.3 Hunting dog's diseases

The basic sign of a healthy dog is good food intake, shiny, smooth hair and body weight appropriate to individual standards and age. Average temperature of a healthy dog measured per rectum is 38,4°C to 38,7°C.

Any changes in the dog's natural daily reactions may indicate a disease, and it is important to consult a vet.

The most common diseases are:

- allergic conjunctivitis (pink eye) – caused by foreign objects or by diseases, e.g. distemper,
- infection of the ear canal – dogs shake their heads and rub them against various objects,
- tapeworm (cestoda)– flat worms few millimetres to several meters long,
- round worms (ascaris) – round in cross section, 8 – 18 cm long,
- flea, louse, tick – ectoparasites living in the hair,
- parvovirus – infectious, organism is dehydrated by diarrhoea and vomiting,
- canine distemper - infection accompanied by high fever, caused by virus; prevented by vaccination,
- rabies – caused by virus, usually fatal; incubation period for dogs 3 – 6 weeks, for other animals up to 2 months, for people up to a year or even longer; in dogs prevented by regular vaccination.

5.2.4 Vaccination

To achieve immunity in dogs, vaccination helps to create enough antibodies. However, there are certain vaccination rules that have to be observed:

- only completely healthy dogs after prior examination may be vaccinated,
- dogs have to be in good condition, puppies are vaccinated not earlier than 10 days after treatment with antihelmintics,
- after vaccination, dogs must not strain and get cold,
- about the type and suitability of the vaccine is decided by a vet,
- dogs may be vaccinated with a suitable vaccine for the first time at the age of 6 – 7 weeks,
- one vaccine is usually for more diseases and is applied according to the age of dogs; vaccines cover diseases such as canine distemper, infectious hepatitis, parvovirus, leptospirosis, rabies, and coronavirusis,
- every vaccination is marked in the vaccination certificate,
- after complete vaccination, revaccination takes place usually after one year, depending on the vaccine used.

5.3 Training of hunting dogs

The basic precondition for the successful training of a dog is the right understanding and ability to react to different impulses.

It is important to use training tools and to use them correctly. Stroking or giving treats shows our approval. Lenient repressive means include the folding collar, lead or long string.

Cleanliness: at the age of 10 to 12 weeks, the puppy is assigned to a certain place in the room and the trainer takes it there to walk it.

Obedience: the training starts at the age of 12 weeks; common obedience commands are “come” or “stay”. Next step is to recall the dog from an object of its interest e.g. a bone. With higher demands on the training of various disciplines the commands become more sophisticated. The Testing Rules for examining the dog’s performance, which are laid down for individual groups of dogs, involve 15 to 30 practical disciplines.

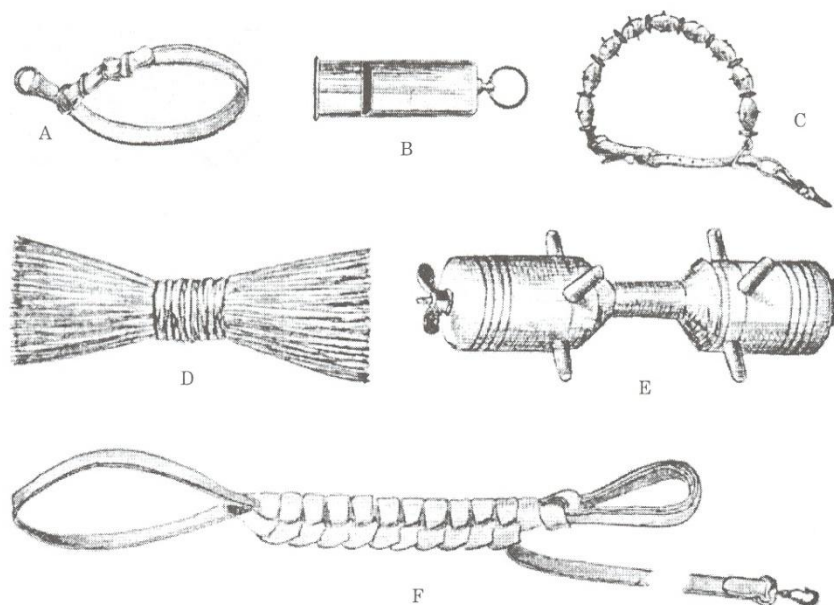


Fig.: Training needs A – dog collar, B – dog whistle, C – barbed collar, D, E – training dummies, F – long leash

5.4 Hunting cynology in Czech Republic

The use of hunting dogs in the Czech Republic has a very long tradition and at present also strict rules. The hunting Act and the corresponding regulations state that only hunting-usable dogs can be used for hunting. It is also determined how many gun dogs must be used in a given hunting grounds and of which qualification. There are different requirements in respect of forest hunting grounds, in respect of predominantly water hunting grounds, in respect of pheasantries or in respect of deer grounds. The term hunting-usable dog identifies a dog which has passed the corresponding working trial. The corresponding working trial then qualifies the dog to field work, forest work, water work, prowling work or as an earth dog. The trials are further divided according to breeds (trials for pointers, scenthounds, terriers,

dachshunds, retrievers, bracke and chasing dogs) and according to the work type (e.g., earth-work trials, scenting trials, forest work trials, versatile dog trials). From the point of view of breeding of dogs it is important that there is a requirement in the hunting Act stating that only a dog with pedigree, being of an FCI-recognized breed, can participate in the gun dog trials.

5.4.1 Hunting dog tests

ČMMJ is authorized by the Ministry of Agriculture to organize hunting dog tests and this right can be passed on ČMMJ district or local branches and Kennel Clubs that are collective ČMMJ members. The tests are to be organized according to the Testing Rules for Examination of Dogs' Performance. During the examination inborn properties and hunting performance of dogs are tested.

Apart from tests, ČMMJ and Kennel Clubs organize also cups and competitions. These events give opportunity to dogs with excellent performance to participate also in international competition and to receive Reserve National or Reserve International Working Champion.

The Richard Knoll Cup – for pointing dogs,
The Karel Podhajský Cup – for pointing dogs,
The Milena Šterbová Cup – for tufters.

5.4.2 Rules for the use of hunting dogs

The use of hunting dogs in hunting areas is provided for by the Game Management Act No. 449/2001 Sb. and specified by decree No. 244/2002 Sb.

Further instruction on the use of hunting dogs:

In the hunting ground hunting dogs are used, which have passed tests from these exercises:

- a) locating, tracking and fetching small game that has been killed, shot or injured in another manner,
- b) locating and trailing hoofed game that has been killed, shot or injured in another manner,
- c) den hunting.

For the purposes of this decree it is supposed that:

- a) **locating** – searching for and finding live small and hoofed game in the hunting ground in all natural conditions,
- b) **tracking** – trailing stricken small game directly after having been shot or injured in some other manner and retrieving them or retrieving the game animal killed by shooting or some other method of killing, all in natural conditions,
- c) **fetching** – bringing dead, shot or injured in some other manner small game all in natural conditions,
- d) **trailing** – following hoofed game that has been shot or injured in some other manner and retrieving them or retrieving the game animal killed by shooting or some other method of killing, all in natural conditions,
- e) **going to ground** – hunting game under ground,
- f) **hoofed game** – fallow deer, red deer, white tailed deer, chamois, bezoar goat, mouflon, wild boar, Dybowsky sika deer, Japanese sika deer, roe deer, and even elk if it is permitted to be hunted according to special regulation,

g) **small game** – brown hare, common pheasant, mallard.

The number of dogs set for individual types of hunting grounds

For a hunting ground, that has a set quality state, minimum state and standardised state of small game the number of dogs on it is set at:

a) in hunting grounds up to 1000 ha

1. 1 dog with the hunt tests for locating small game, tracking small game and fetching small game that has been shot, wounded or injured in some other manner or killed and
2. 1 dog with the hunt test for den hunting,

b) up to 3000 ha

1. 2 dogs with the hunt tests for locating small game, tracking small game and fetching small game that has been shot, wounded or injured in some other manner or killed and
2. 1 dog with the hunt test for going to ground,

c) from 3000 ha

1. 3 dogs with the hunt tests for locating small game, tracking small game and fetching small game that has been shot, wounded or injured in some other manner or killed and
2. 2 dogs with the hunt test for den hunting.

For a hunting ground that has a set quality state, minimum state and standardised state of hoofed game sets the number of dogs on it to be:

a) in hunting grounds up to 1000 ha

1. 1 dog with the hunt tests for locating hoofed game and trailing hoofed game that has been shot, wounded or injured in some other manner or killed and
2. 1 dog with the hunt test for den hunting,

b) up to 3000 ha

1. 2 dogs with the hunt tests for locating hoofed game and trailing hoofed game that has been shot, wounded or injured in some other manner or killed and
2. 1 dog with the hunt test for den hunting,

c) from 3000 ha

1. 3 dogs with the hunt tests for locating hoofed game and trailing small game that has been shot, wounded or injured in some other manner or killed and
2. 2 dogs with the hunt test for den hunting.

In the event that the hunting ground has a set quality state, minimum state and standardised state for both small and hoofed game the number of dogs with the going to ground test is set out to be:

a) in a hunting ground up to 3000 ha 1 dog,

b) in a hunting ground more than 3000 ha 2 dogs.

In the event that the hunting ground does not have a set quality class, minimum state and standardised state for either small or hoofed game, it sets the number of dogs for all hunting ground sizes to be:

a) 1 dog with the hunt tests for locating, tracking and fetching small game that has been shot, wounded or injured in some other manner or killed,

b) 1 dog with the hunt tests for locating, and trailing hoofed game that has been shot, wounded or injured in some other manner or killed and

c) 1 dog with the hunt test for going to ground.

For a game of the number of dogs is set at:

a) 1 dog with the hunt tests for locating, and trailing hoofed game that has been shot, wounded or injured in some other manner or killed and

b) 1 dog with the hunt test for den hunting.

The number of hunting dogs for collective hunting

During collective hunting it is set that for the first three hunters and for each subsequent ten there be one hunting dog with the hunt test for the game species that is being hunted.

5.4.3 Dog exterior

The dog's appearance is an important part of the hunting dogs evaluation. The evaluation is based on the individual breed standards. What is a standard? It is the ideal description of the breed that has been drafted by the country of the dog's origin (e.g. for Bohemian Wirehaired Pointing Griffon - the Czech Republic). This description is submitted for approval to the Federation Cynologique Internationale (F.C.I.) in Belgium. First it has to be approved by the Standard Commission of the FCI and then by the General Assembly. To establish a new breed requires a lot of time and experience of its creators in order to meet all FCI provisions for establishing a new breed. The evaluation of the individual is based on how close its exterior is to the ideal description in the standard. The evaluation takes place at dog shows.

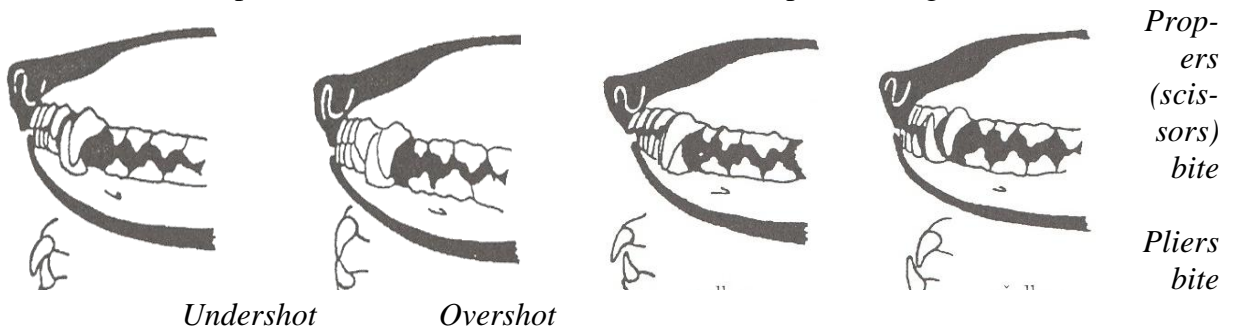


Fig.: Types of dog bites

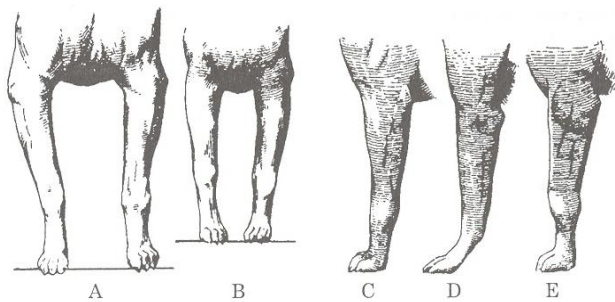


Fig.: Types of poises of dogs' forelegs. A – twisted elbows, B – narrow poise, C – normal poise, D – long paw, E – deformed forearm

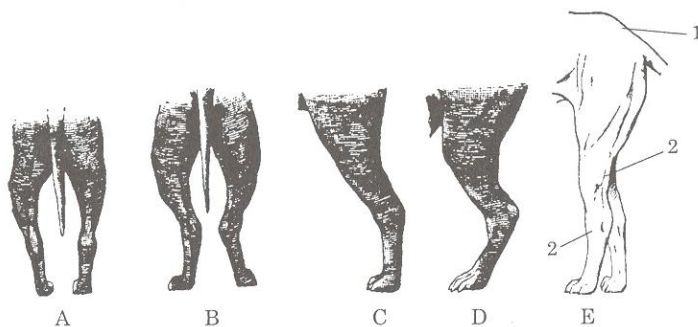


Fig.: Types of poises of dogs' hind legs. A – barrel poise, B – cow's poise, C – normal poise, D – long paw, E – (1-bevel back, 2-steep legs)

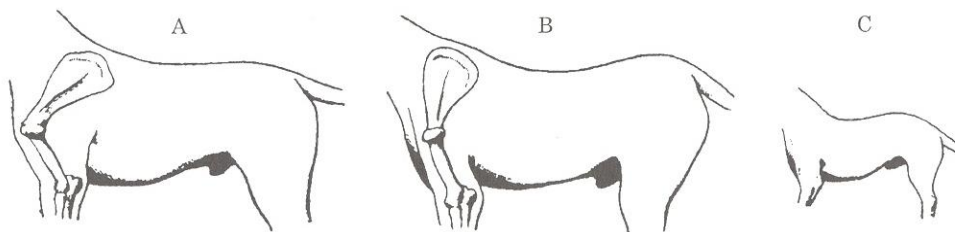
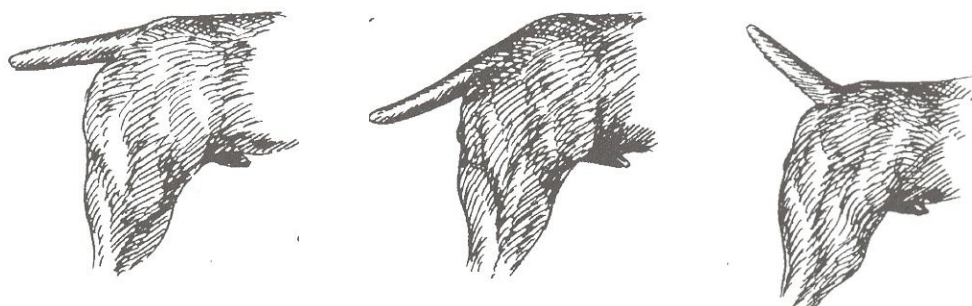


Fig.: Types of dogs' backs. A – normal back, B – steep back, C – cat back



A – long-haired
B – wire-haired
C – smooth-haired
Fig.: Types of dogs' tails.



A – normal grown tail
B – bevel back
C – short back
Fig.: Types of dogs' backs

5.4.4 Dog breeding

The requirements for being recognized as suitable for breeding are set by the specific Kennel Club. At the moment, there are about 27 Kennel Clubs in the Czech Republic, associating breeders, owners and those interested in the specific dog breed - Bohemian Wirehaired Pointing Griffon Kennel Club (Klub chovatelů českých fousků), Dachshund Kennel Club (Klub chovatelů jezevčků), Retriever Club (Retriever klub), Czech Pointer and Setter Club (Český pointer a setter klub), etc. There are two basic criteria for the dog to be allowed to take part in reproduction: receiving exterior evaluation and passing the dog's performance tests. Each breed may be subject to some special medical requirements as hips examination, eye ground examination, heart muscle examination, etc.

Breeding is regulated by breeding advisors responsible for individual breeds or by lists of dogs suitable for breeding published annually by the Kennel Clubs. The owner of the bitch, observing the rules and criteria given by the individual Kennel Clubs, can then choose from this list the male. After having met all requirements, bitches and dogs become possible parents of the next population. Bitches are allowed to give birth only once per calendar year and

dogs are allowed to mate only with one bitch per 24 hours. Bitches are in heat – are capable of mating – usually twice a year. They come to heat for the first time at the age of 6 months and the heat lasts approx. 21 days. The ideal time for mating is day 10 to 12. If the bitch becomes pregnant, she will give birth in 60 – 63 days. Putting puppies down – apart from those with inborn defects – is forbidden by the Prevention of Cruelty to Animals Act. However, it allows certain regulation within the breed. So, with regard to the health of the bitch, our Kennel Clubs restrict the number of puppies registered with the Book of Breeds to 7 – 8 puppies per one litter.

5.4.5 The Book of Breeds

Puppies of parents which meet all breeding requirements are registered in the Book of Breeds under the following conditions:

Breeders (at the time of mating the owner of the bitch) are obliged to register the name of the breeding stations, which is actually the “puppy’s surname”. The name of the station is an obligatory part of the puppies’ names. The first name of all puppies of the first litter starts with the letter A, of the second litter with B, and so on. The deadline for the Application for registering the litter in the Book of Breeds is five days after birth. For hunting dogs, it is the Book of Breeds of the Czech-Moravian Cynology Association (Českomoravská kynologická jednota (ČMKJ)). Each puppy is then assigned a registration number, which is also the number tattooed either on the ears or the groin. At the age of 6 – 7 weeks, puppies are tattooed by vets or by other assigned person. The person in charge of tattooing has to endorse the back of the application, breeders then return the application to the Book of Breeds, which issues the certificate of pedigree. Legal regulations for books of breeds require that the certificates contain at least 3 generations of ancestors. Certificates of pedigree of hunting dogs contain 4 generations of ancestors. The front page is the actual pedigree and the back page is for records from dog shows, test results, evaluations, records made by veterinary surgeons, and registration by Kennel Clubs. The certificate of pedigree is an official document and any forging is prosecuted.

5.4.6 Organization of cynology

Czecho-Moravian Hunting Union (ČMMJ)

Jungmannova 25, 115 25 Praha 1

ČMMJ is authorized by the Ministry of Agriculture to organize hunting dogs’ performance examinations. It also organizes prestigious events like The Richard Knoll Cup and The Karel Podhájský Cup.

Czecho-Moravian Cynology Association (Českomoravská kynologická jednota (ČMKJ))

Jungmannova 25, 115 25 Praha 1

ČMKJ is authorized by the ČMKU to be in charge of the Book of Breeds of hunting dogs, in charge of Kennel Clubs and to organize local, national, and international dog shows.

Czech-Moravian Cynology Union (Českomoravská kynologická unie (ČMKU))

U Pergamenky 3, 170 00 Praha 7

ČMKU is in charge of cynology, guarantees the breeding, and represents the Czech Republic in FCI and abroad. It sponsors international events organized by FCI in the Czech Republic.

The ČMKU secretariat deals with applications for the name of breeding station, awards the title of Czech Junior Champion, Czech Champion, International Beauty Champion, and with applications for export of dogs. It is in charge of the list of referees and candidates for judges of exteriors of all dog breeds

6 HUNTING AND HUNTING SKILLS

This chapter provides answers to the following questions: which game species are allowed to be killed, which hunting method should be used, when is the season, where are hunters allowed to hunt, under which circumstances and which rules must be observed?

In the Czech Republic, game is considered to be a renewable natural resource, which consists of populations of wild living animals. The Hunting Act No. 449/2001Sb. contains the list of animals which are considered as game. The Act divides game in two groups:

game species, which must not be killed as provided for by international treaties, i.e. game species, which are under specific protection provided for by special regulations, if no exceptional permission has been issued according to these regulations, game species, which can be managed by means of hunting.

Hunting rights shall be taken to mean a complex of rights and duties to protect, to keep purposefully and to hunt the game, to appropriate shot or found dead game, its development stages and cast antlers, and to use hunting grounds for these purposes to the necessary extent.

Hunting rights can be exercised only in recognized hunting areas.

6.1 Open seasons and legal provisions for hunting

Game shall be killed only within the open season. This season is laid down for each game species by Decree No. 245/2002 Sb.

6.2 Hunting methods

Hunting methods must respect all rules and principles for hunting, nature protection and prevention of cruelty to animals. Hunting methods not allowed in the Czech Republic are listed in the Hunting Act.

6.3 Provisions for exercising hunting rights

Whoever hunts the game must carry a hunting licence, hunting permit and certificate of compulsory insurance; for hunting with firearms, the person must have a firearms licence and firearms certificate, and for hunting with hunting birds of prey, the hunter must carry the bird's registration card. These certificates shall be produced at request by the person who hunts the game to the police body, state organ of game management, game manager or game-keeper guard of the respective hunting area.

For persons taking part in group hunting, a list of participants in such hunt (collective hunting permit) may be used instead of the hunting permit.

Hunting permits are issued and signed by the user of the hunting area. They contain identification data about the person and the hunting area, the type of permit, and a list of game species, sex, age and numbers the person concerned is allowed to hunt.

Hunting licences are issued by the state organ of game management in the district in which the applicant has his/her permanent residence. Hunting licences to foreigners and Czech citizens – non-residents shall be issued by the state organ of game management in the district in which they are staying.

Conditions and requirements for issuing hunting licences are laid down by the Hunting Act.

Insurance

Anybody who hunts game must be insured for their liability for damage resulting from this activity, caused by injury to health or killing of other persons. Details of the insurance are laid down by the Hunting Act.

Firearms licences authorize the person to render in possession, to carry and to use firearms and ammunition. Firearms licences of group C – for hunting purposes – are issued by the police to persons, who:

- a) are resident in the territory of the Czech Republic,
- b) are older than 18 years respectively 16 years,
- c) have the legal capacity,
- d) are medically fit,
- e) are qualified – have passed exam of professional skills,
- f) are honest,
- g) are reliable
- h) have valid hunting licences.

Firearms certificates – each gun used for hunting purposes must be registered with the police department. The registration is certified by the Firearms Certificates issued by the local police department.

6.4 Methods of controlling the number of killed game

Each body of shot or found utilisable hoofed game shall be marked with an irremovable seal immediately after shooting, finding or after searching is carried out. Details for using seals are laid down by Hunting Act 449/2001 Sb. and by Decree No. 244/2002 Sb.

Conduct when on hunt

Rules and principles of conduct when on hunt are embedded in the Rules for Hunters (see the appropriate chapter).

6.5 Methods of Hunting – hunting of hoofed game

6.5.1 Individual hunting

a) **Still hunt** – hunting method when hunters look for a suitable place, where they wait for game to appear. Hunters usually wait near thick stands which game leaves are returns to, on the edges of meadows and fields, clear-cuts, wallows, and on places of the rut and lekking.

They use facilities such as high seats and towers. The advantages of these facilities lies in the fact that due to the high position game cannot smell the hunter, they provide a better view, and shooting is safer and more accurate.

During still hunting there is enough time to judge upon the suitability for breeding. For the game, it is the least disturbing method of hunting.

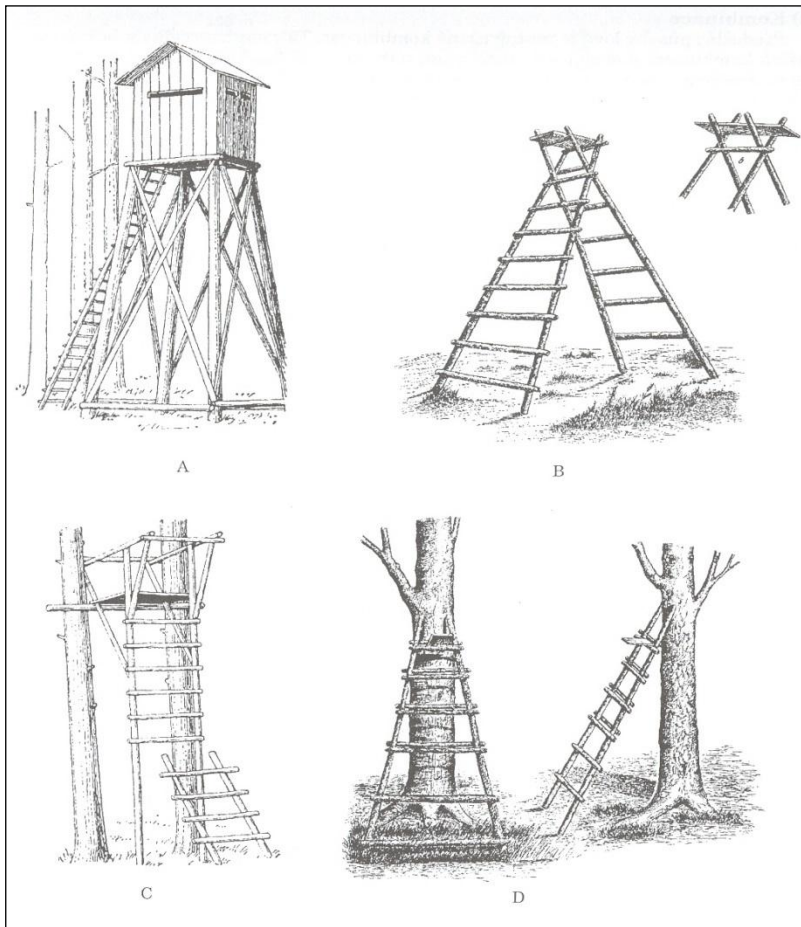


Fig.: A – closed high seat, B, C, D – types of opened high seats

b) Stalking – is a very common method of hunting hoofed game. The hunter moves carefully and quietly through the hunting area, looking for game to approach it and kill it. This method requires the greatest knowledge of the life of the game, of its habits and trails. Hunters stalk in the direction opposite to the wind, in open landscape or they use built and maintained hunting paths.

c) Calling game – is done while stalking or waiting and is used for the hunting of red and roe deer during their rut.

d) Tracing tracks in new snow – this method is used for hunting wild boar. The animals are tracked in the new snow to the place of their rest.

6.5.2 Group hunting – at least 3 hunters present

a) Silent beat – usually only a small number of shooters and beaters take part in the hunt (e.g. 5 + 2). The game, which has been scared by a lonely beater, leaves cover using their usual paths, while hunters stand nearby. The success depends on the knowledge of these paths and the quiet progress of the hunt.

b) Drive hunt – beaters drive game out of cover and hunters stand usually around the drive.

c) Beat – dogs are used instead of beaters to drive game out of cover. The beat is used in inaccessible terrains for hunting wild boar.

Catching game is used to obtain life game. Hunters usually catch animals in enclosures built in places where game is used to find food inside and outside of the enclosure during the time of famine. The fence prevents game both from escaping and from injuries. Food is placed inside and doors are controlled from a tower standing near the enclosure. Caught game is then forced into transport boxes. The size and structure of the boxes must be consistent with the game species. Antlers of males are cut off before the transport.

Another method is to use stunning projectiles (narcotic projectiles). Once hit, game falls in a deep sleep. The projectile injects the narcotic into the blood circulation; it must not injure the animal.

6.6 Methods of hunting – hunting of small game

6.6.1 Shooting

Small game is hunted usually by groups of hunters during the group hunt (at least 3 hunters and 1 hunting dog with exam). The Hunting Act lays down the game species which can be hunted individually.

Different terrain requires different ways of hunting. Each method has different types, which are used according to the specific conditions of the area.

The types of group hunting are distinguished according to whether there are hunters and beaters moving in the drive together (ad 1) or whether hunters stand still and beaters or dogs drive game in their direction (ad 2).

a) Drive

a) **Common drive** – hunters and beaters alternatively walk in one row and walk together in the drive. The leader of the hunt is in the middle, group leaders at the end of the row. This type is suitable for open and tabular terrain. Hunters shoot forward and backwards. Game shot backward is retrieved by a dog or by a beater, who must return quickly back to the row. The safety of all participants depends on how straight the row is.

b) **Walking-up drive** – hunters and beaters walk in the drive in a row; there also hunters walking on the edges of the row.

c) **Bohemian drive** - hunters and beaters walk in the drive in a row; a row of hunters also walking on the edges of the row. At the end of the drive, these hunters close up the drive. This type is used when hunting on long slopes.

d) **Circular drive** – the drive is closed up in an approximate circle. Hunters and beaters are standing along the circle. When signalled they all start walking to the centre, then for safety reason (at distance of 250 – 300 m) a signal is given to hunters to stop walking and to shoot only outside of the circle. Beaters carry on walking to the centre until the signal of the end is given. This type is used when hunting in areas which are mainly fields.

e) **Searching** – hunters and beaters walk in the drive and the dogs – pointing dogs and tufters – search for game.

b) Waiting

a) **Drive hunt** – see above.

b) **Hunting on passage** – only hunters and hunting dogs which have passed exams are present. Hunters wait for game flying to or from places of rest or food (duck, geese).

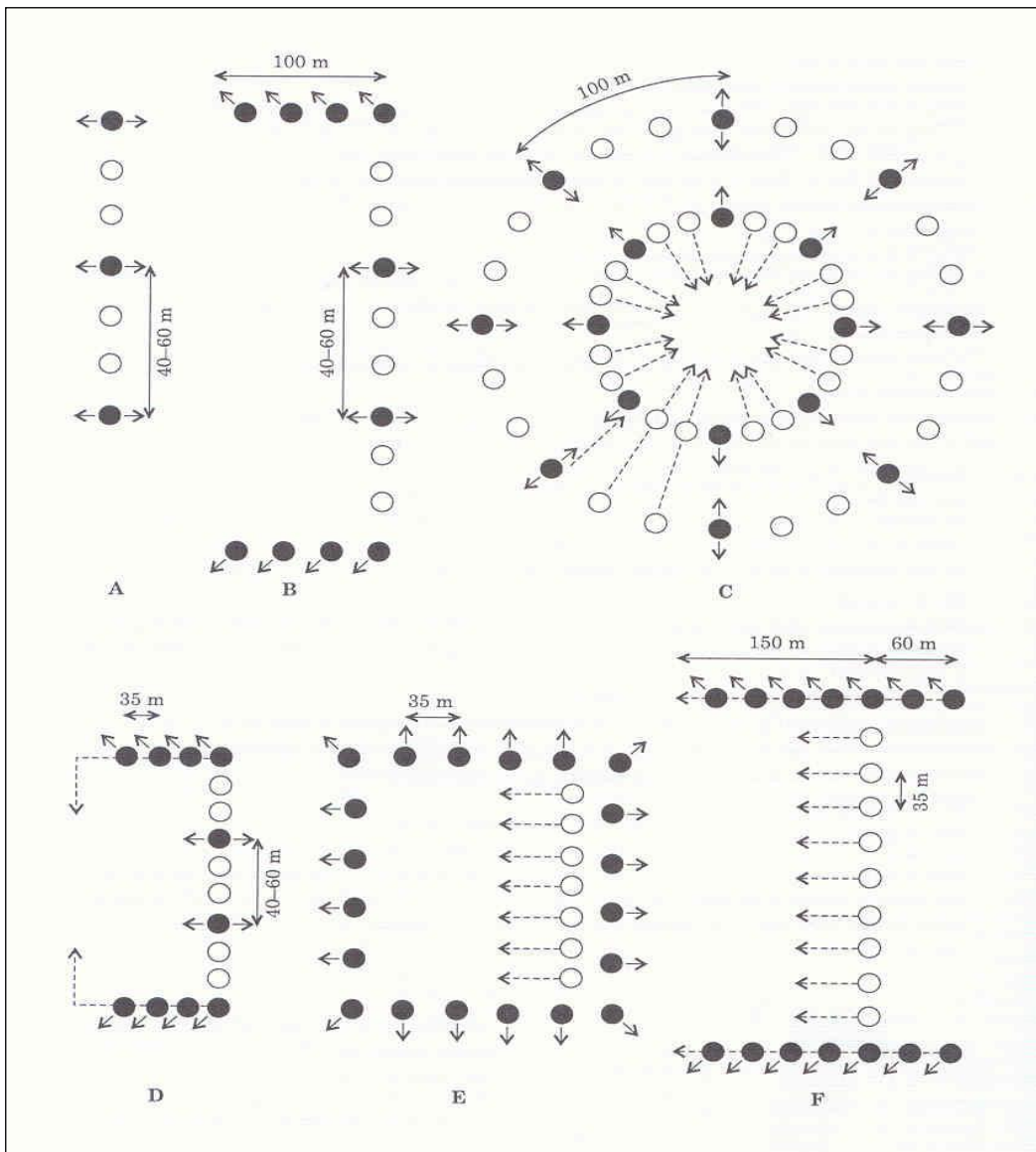


Fig. : Schemes of types of hunts on small game: A – common drive, B – walking-up, C – circular drive, D – drive with closed up edges, E – closed-up drive, F – row with wings

6.6.2 Catching

Catching applies usually to hares and pheasants. There is a whole variety of devices catching game safely without any injuries. Similarly as for predators, devices killing the caught animal (e.g. steel traps) are forbidden.

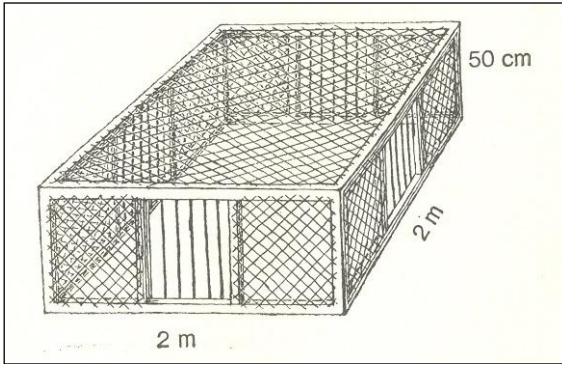


Fig.: Pheasant trap

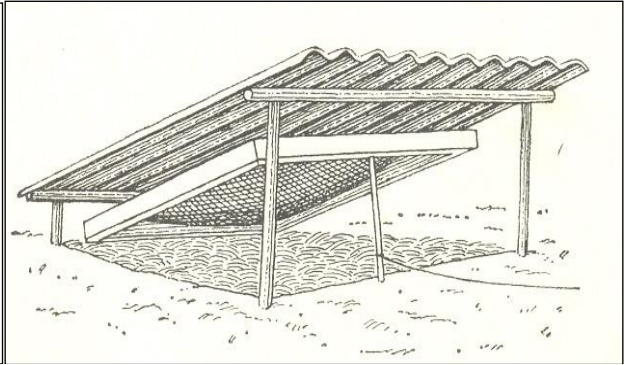


Fig.: Calp-net

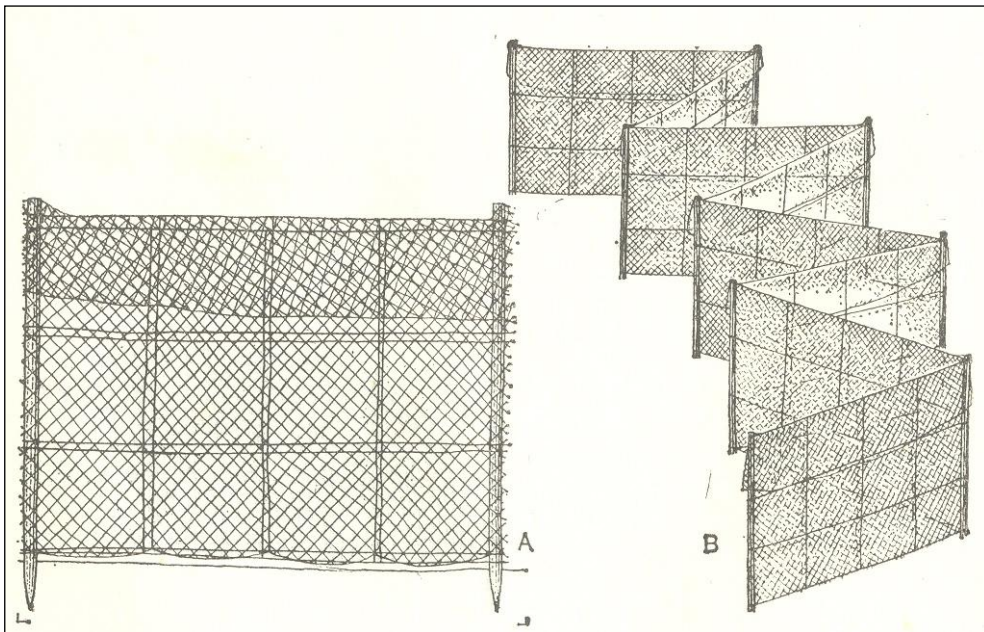


Fig.: A, B – Hare snares

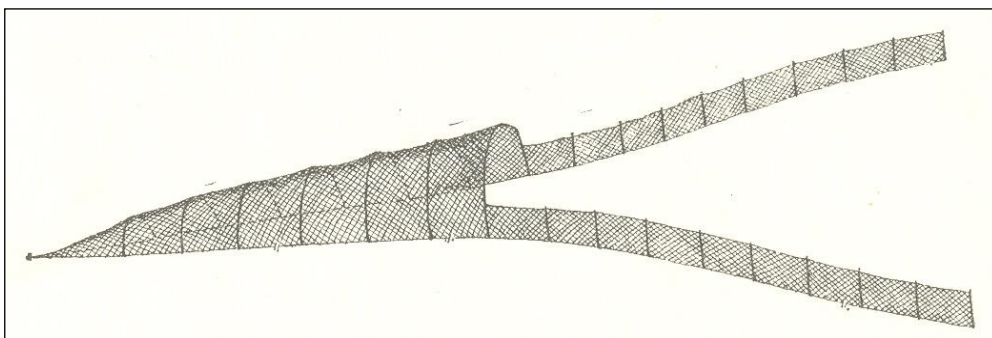


Fig.: Tunnel pheasant net

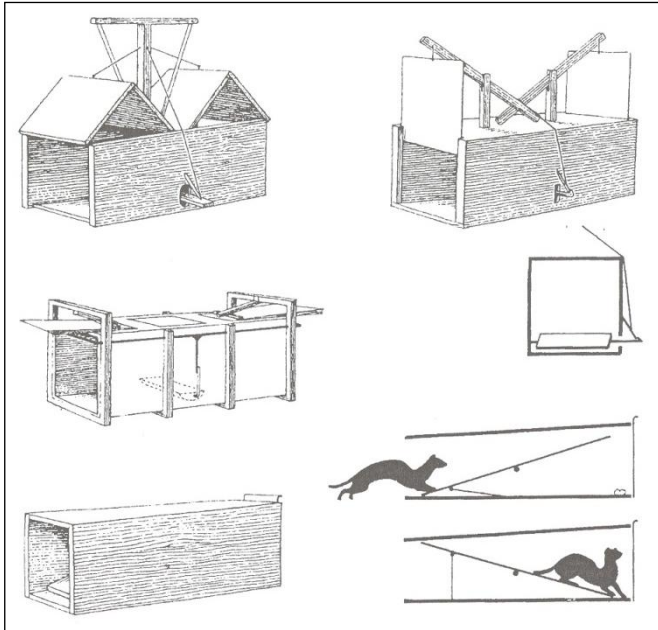


Fig.: Types of the box traps

6.7 Special hunting methods

Special hunting methods include hunting with birds of prey – falconry – and hunting with dogs specialized for working under the terrain – earth hunting.

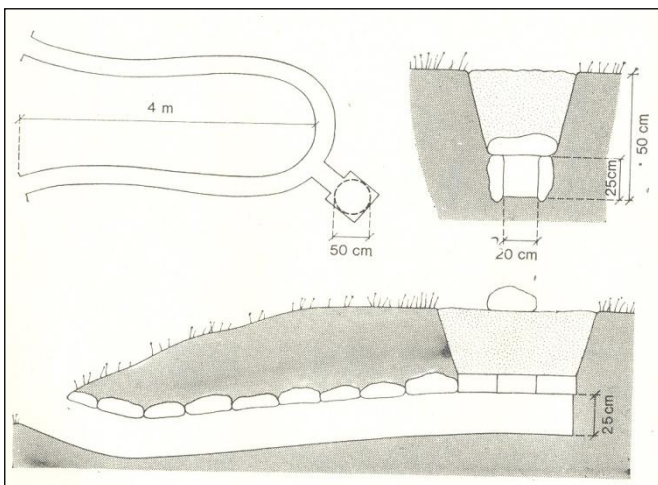


Fig.: Constuction of the artificial earth

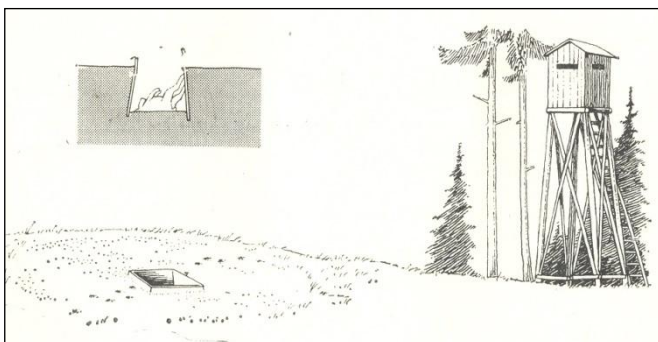


Fig.: Closed high seat with attracting place for beast of prey

7 ESTIMATING THE AGE OF LIVING AND KILLED ANIMALS

The increasing prestige of hunting and game keeping in the Czech Republic presumes extensive professional knowledge. To manage the game properly hunters have to be able to estimate the age of both living and killed game – a way to check the estimated age of living game. We still cannot determine the exact age; therefore we always talk about estimating the age.

7.1 Estimating the age of living game

Estimating the age of living game is a very difficult task requiring experience, good knowledge of biology and ethology of game and mainly long-term practice. It is also more important to estimate the age of living game than of the killed, because hunters need to know the approximate age before the shot.

When estimating the age, we take into account a set of factors, like the place and time of observation, behaviour of game, being in company of other animals and finally the whole appearance, which is the result of physical condition, sex, colour, extent to which the coat is changed, shape and gait of head, neck, body and legs, shape and colour of face markings, and size and structure of trophy.

7.1.1 General principles of estimating age of living hoofed game

a) Behaviour – the youngest and the young are the most careless due to lack of bad experience – they leave the cover for open spaces without much hesitation. On contrary, the oldest animals almost do not show up in open pastureland and stay close to vast and bushy forest stands or similar places. The only exception is the rut, when the old can be observed in completely unusual places.

b) Time of the day – young game leave cover early; the older the game, the more careful and the later it comes out of the bush. The oldest come at late in the evening and leave early morning.

c) Intraspecific relation – offspring keep close to their mothers; this link is loosened of maturing and it lasts depending on the game species one, two or three years.

d) General appearance

Physical condition – it is mainly the size and the weight that is to be considered along with the sex. The age usually corresponds directly with the individual components of the whole physical condition. Once physically mature, the period of optimal condition starts and changes slowly during the ageing of the organism. This rule has many exceptions due to individual differences, biological variety and state of health, which influence directly the physical condition of the animal.

Colour and degree of changing coats – offspring are protected by their colour of the coat, which is specific for each game species. Once changed into the coat of adults, the colour does not usually depend on the age. It is the process of changing the coat (in spring and in autumn) that is most significant. The youngest are the first and the fastest to change their coat, followed by middle-aged animals with the oldest changing last – moulting is influenced by the state of health and physical condition.

Shape of the head, neck, body and arrangement of legs - the head of the young is small and narrow with a childish face. The head of the middle-aged game is becoming longer and more massive till the full maturity is reached. Some species change also the markings on their face. The neck is more massive and muscular, the withers emerge and the lumbar spine is sagged. The chest is more muscular and the centre of the mass moves forward. The oldest change only their face. The neck seems to be even more massive and heavier and is in one line with the back. The emerging withers are apparent. The lumbar spine hangs and the hips of females are visible.

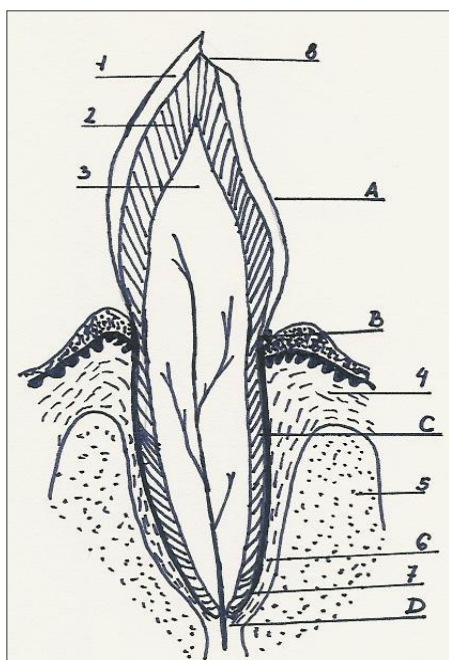
Shape, size and form of antlers and horns – there is no general rule for all species to tell the age according to the trophy, the criteria will therefore be introduced later in text, when dealing with the particular species.

When estimating the age of the game, hunters should try to obtain as much information as possible in order to correlate and interpret them correctly. Only then will the estimate be very close to the real age.

7.1.2 Estimating of the age of living small game

The features for estimating age are specific for different game species and are dealt with further on.

7.2 Estimating the age of killed hoofed game



The common ways to estimate the age of killed hoofed game is by wear of teeth, the angle of incisors in the jaw, the gradual abrasion of the chewing surface of molars, the sedimentation of excess cementum in the alveoli of incisors or in the outer molar interspace, the calcification of the commissure of sphenoid bones and the skull or by the general appearance of antlers and horns, the size and colour of the canines, etc. This estimate is also subjective and there are many exceptions.

To understand the basic methods of estimating age, a certain knowledge of tooth anatomy is necessary.

The tooth composition is shown in Fig.

Fig.: Macroscopic structure and composition: A – crown, B – tooth neck (cervix), C – root, D – root canal, 1 – enamel, 2 – dentin, 3 – pulp chamber, 4 – gum, 5 – dental socket, 6 – periodontal membrane, 7 – cementum, 8 – chewing surface.

7.3 Methods used for estimating the age of killed game

a) Teeth development and shedding deciduous teeth for permanent

The extent to which deciduous teeth are replaced by permanent teeth provides an reliable clue for estimating the age of killed game.

b) Incisors wear-off (Fig.)

The function of incisors contributes greatly to their wear-off. Crowns abrade continuously and become shorter. This changes both the ratio of the length of tooth necks to the crowns and the angle between the axis of the incisors and the axis of the lower jaw. Due to continuously shorter crowns, incisors stand more orthogonal to the palate, in order to be in contact with the upper palate. These changes of the position of the incisors were described at red deer by Bieger (1941). According to Bieger, at the age of 3 – 4 years the crowns of the middle incisors are substantially longer than the necks. The angle between the axis of the middle incisor and the base of the lower jaw is approx. 45° (Fig.). At the age of 5 – 6 years the angle is approx. 50° and the wear-off is apparent also on the second pair of incisors. At the age of 7 – 8 years the angle is approx. 53° and is permanently increasing, so at the age of 14 – 16 years the angle is approx. 65° .

Eidmann's method also establishes the age of red deer and will be described later. It is to be pointed out that to get the real age of the animal 2 years have to be added to the number of layers of secondary dentin.

One of the last methods for establishing the age of killed game is counting the growth rings of cementum in the cross sections of the roots of middle incisors. This method was proved in our environment by Hell (1971) and will be dealt with in detail later on (Mitchell's method).

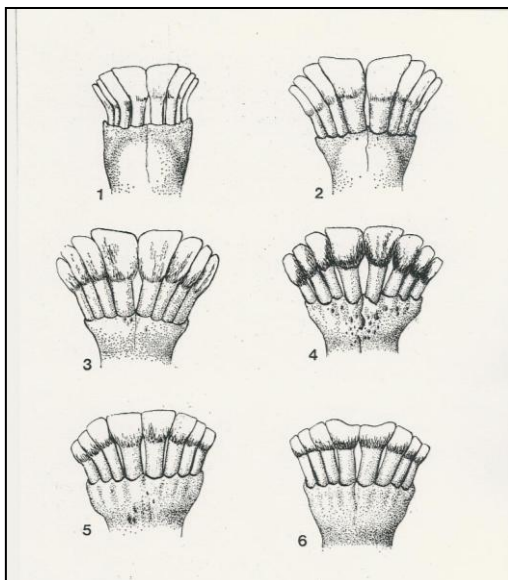


Fig.: The ratio of crowns and tooth necks of red deer incisors: 1 – incisors at he age of 3 – 4 years, 2 – incisors at the age of 5 – 6 years, 3 – at the age of 7 – 8 years, 4 – at the age of 9 – 10 years, 5 – at the age of 11 – 13 years, 6 – at the age of 16 years.

c) Estimating the age according to molars

Estimating the age according to molars is the most common method used. Rieck composed a chart containing age-dependent changes of the enamel and the strip of dentin on the surface of the second and third molar and of the half-moon surface and dentin of the chewing edge of the fourth and sixth molars (the method is trying to describe the changes of chewing surfaces on molars).

Budenz (1965) concentrated on the sixth molar, which consists of three parts. The third (last) part of this molar – the last tooth column – has a different structure; it is weaker, less developed, and with a minor function. Budenz proved that this tooth wear-off follows certain patterns and is in direct proportion to the age (Fig.).

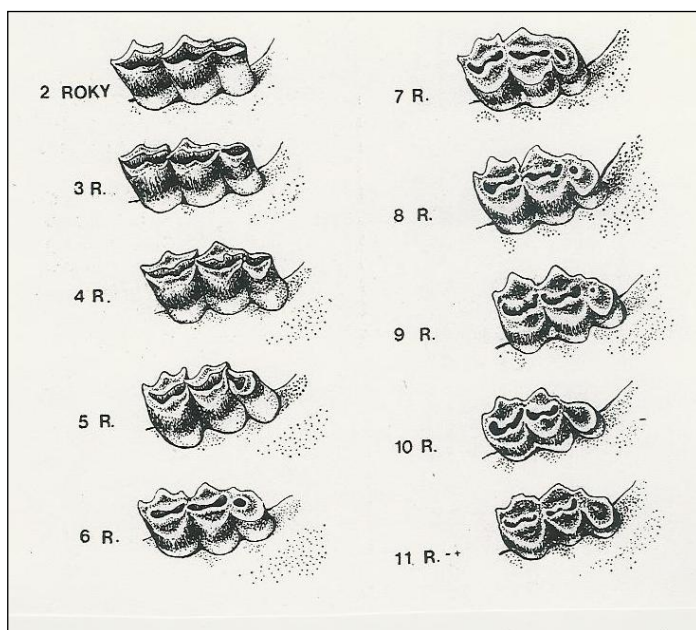


Fig.: Budenz' method: changes of third column of third molar (M3).

d) Estimating the age according to the pedicles and seals

The pedicles of the youngest game are fairly high, at the age of 3 years sometimes higher than 5 cm. The length of pedicles is more suitable, because the width is given by the genetic disposition and environmental conditions. Pedicles shorten with the annual shedding of antlers by 1 – 2 mm. With the increasing age the angle of the axis of pedicles changes due to the widening of the skull. The process of shortening and thickening provides possibility for estimating the age group only (young and old animal).

The seal is the lower part (surface) of the horn that connects the antlers with the pedicle and is revealed only after shedding antlers. This surface of young deer is convex, of middle age deer even, and of old animals concave, as if shedding is taking out part of the antler.

e) Estimating the age according to the commissure of sphenoid bones

This method is one of the auxiliary and informative methods. The front and the back sphenoid bone are connected by gristles. After boiling the head, gristles disappear and a slit is left. The back commissure of sphenoid bones and the skull of red deer calcifies approx. at the age of 2 years (the time when changing of teeth finishes). Both commissures of sphenoid bones that are placed closer to the skull calcify during maturity – at the age of 8 – 9 years (Schumacher, 1939).

This method distinguishes only between a young and a mature individual.

f) Eidmann's method

In 1932, the German scientist Eidmann discovered that in the pulp chamber of the incisors of red deer secondary dentin is deposited in the form of regular annual layers. The crowns of permanent incisors are abraded and their height decreases; the pulp chamber can be opened. The opening is prevented by the secondary dentin layers. Secondary dentin deposits in light and dark layers due to the different composition of summer and winter food. These

layers are most visible in the first incisors (I1) with pulp chamber big enough. The pulp chamber is cut vertically or horizontally up to the middle of the tooth and the surface then smoothed as fine as possible. To count the layers, an enhancement of 8 to 10 x and a suitable angle of incoming light is necessary. Light layers follow dark layers. Each dark layer represents one year. Eidmann always added three years to the number of annual layers, in order to get the actual age. Riedl carried on with Eidmann's method and introduced vertical cuts of incisors (secondary dentin layers are thicker and more apparent). He altered, among others, also the number of years added to dentin layers. He believed only 2 years were to be added, and his opinion is generally respected (Fig.).

Eidmann's method serves for examining and laboratory purposes and gives fairly precise results.

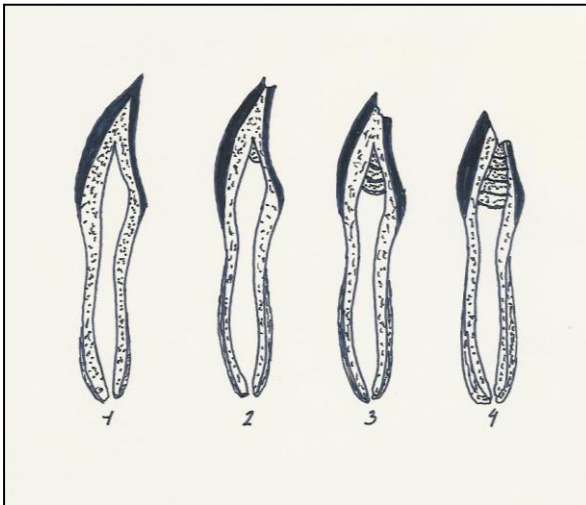


Fig.: Eidmann's method: vertical cuts of first incisor (I1) of red deer. 1 – approx. age of 2 years, 2 – approx. age of 3 years, 3 – approx. age of 5 years, 4 – approx. age of 7 years.

g) Mitchell's method

In 1963, Mitchell discovered that spare cementum is deposited between the roots of the first molars. It was discovered that the cementum layers in form of annual rings deposits under all molars. Cementum layers push teeth out of the dental socket, to balance the difference caused by the wear-off of crowns (Fig.).

Estimating the age according to Mitchell's method is more demanding than Eidmann's method. However, with Mitchell's method the age of red deer can be established with an accuracy of only 6 months. This method serves checking and laboratory purposes.

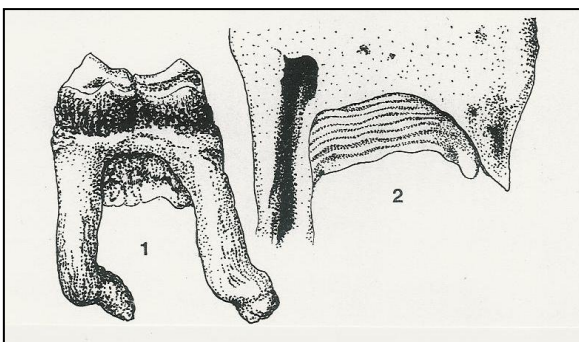


Fig.: Mitchell's method: 1- deposit secondary cementum between the molar roots, 2 – enhanced vertical cut of a molar at the age of approx. 10 years

h) Common and annual rings

The age of mouflon and chamois is estimated by annual rings on the horns.

Layers of the horn increase in the direction of the tip. Horns are thickest there. The tip is full. During the growth of the horns, common rings of different size are created. The biggest common rings are created in the first 3 years. Due to seasonal lack of food, annual rings are created by weak layers of the horn around the whole perimeter.

The age of both living and killed game can be estimated precisely by annual rings. Of course there are exceptions and deviations; however, it is one of the most precise methods.

7.3.1 Red deer

a) Estimating the age of living game

The previous part contains most common features for estimating the age of game, which are the same for more species. The majority of described methods are for hoofed game, mainly for deer. Specific features for individual game species contains following text.

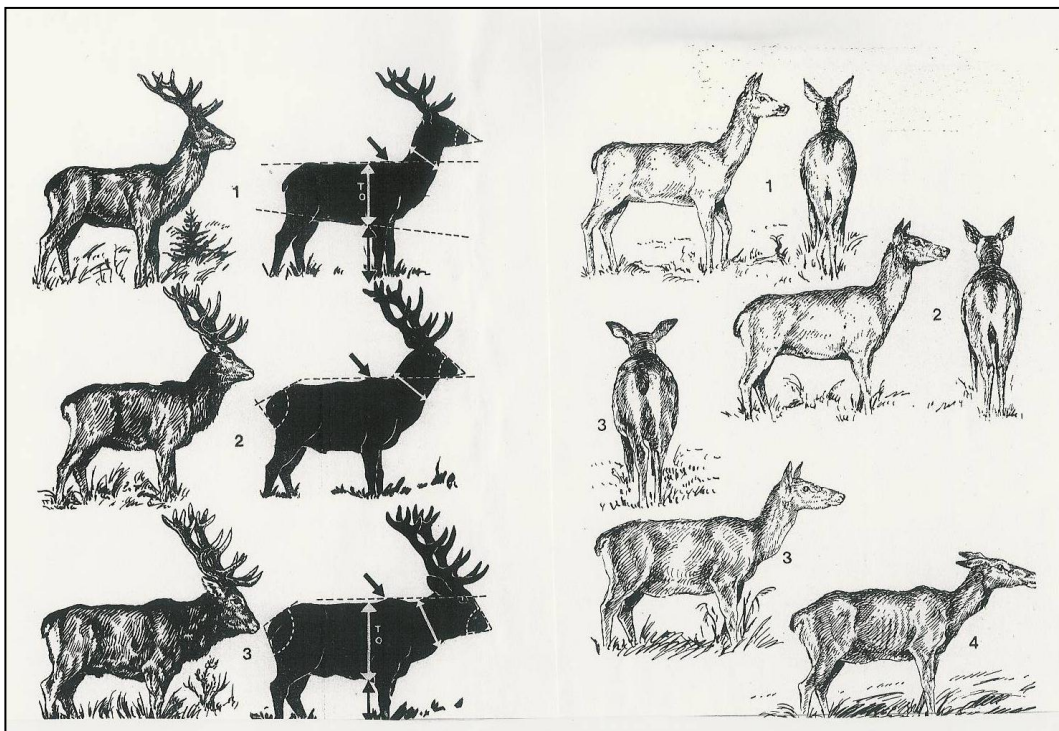


Fig.: Appearance of red deer: male (stag): 1 – young male, 2 – middle aged male, 3 – old male; female (doe): 1 – female at the age of 2 years, 2 – middle aged female, 3 – old female, 4 – over matured female suitable for removal from breeding.

b) Estimating the age of killed game



Fig.: Estimating the age of red deer according to the wear-of of molars

7.3.2 Fallow deer

To estimating the age of fallow deer, the rules from previous part apply. However, the teeth development has to be taken into account, as it differs from the development of red deer.

Teeth development

Newborn calves have 6 deciduous incisors in the front part of the lower jaw and 2 canines next to them. Canines of deer species have the same shape and function as incisors. In the lower jaw, deciduous molars consist of three parts. From May to July – at the age of 24 months – permanent molars finish their growth (three-part premolar is replaced by two-part one).

There are 32 permanent teeth (0.0.3.3./3.1.3.3.). The teeth development makes it possible to estimate very precisely the age of killed animals up to 30 months.

7.3.3 Roe deer

a) Estimating the age of living game

The basic feature for estimating age is the physical condition, the way of holding head and neck, colour of head and face, process of spring and autumn changing of coats, growing

and fraying of antlers, and the whole appearance. The least reliable feature is the shape and size of the trophy.

Physical condition

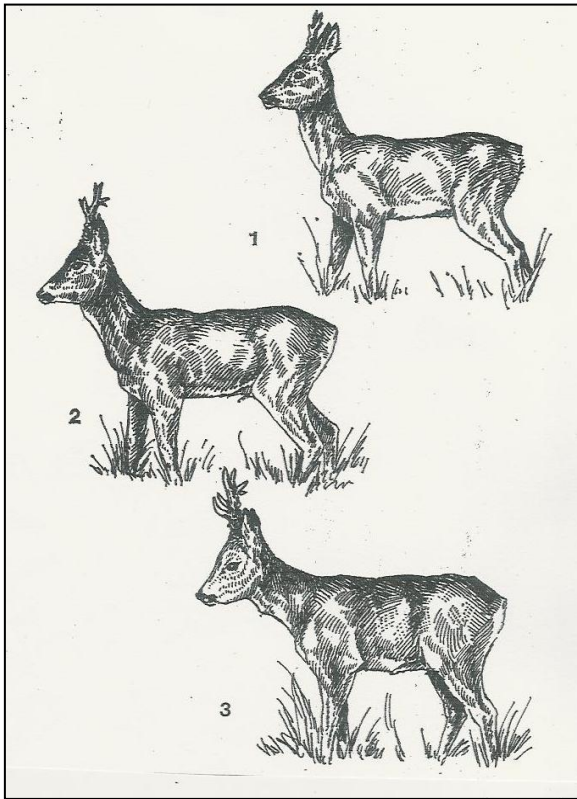


Fig.: Estimating the age of roe deer males according the appearance: 1 – young male (2 – 3 years), 2 – middle aged male (age 4 – 5 years), 3 – old male (more than 5 years).

Colour of face

The age is estimated by face markings (Vorberg's method). This method can be applied only when estimating the age of males in summer coat. The face of a one-year-old male is almost the same colour as that of fawns in summer coat. The tone is of one colour and rather dark.

The face of a two-year-old male has more colours; a characteristic feature is a white spot of triangle shape that is placed above the black nose. With increasing age, the "nose spot" spreads to the eyes, is less apparent, and its white colour is replaced by grey. The "nose spot" of old males is grey, reaches up to the eyes, spreads out and dies away in the colour of the face. The "forehead spot" is made lighter by grey hair, therefore it almost blends with the "nose spot" (Fig.).

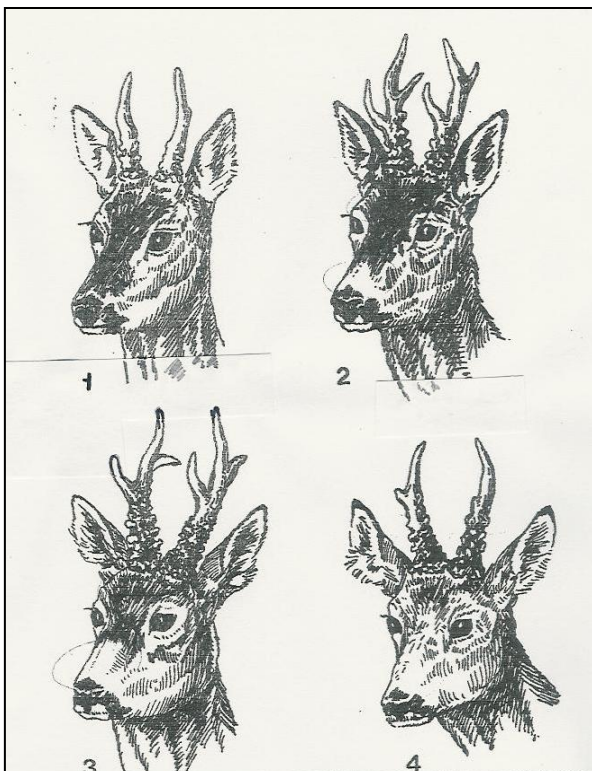


Fig.: Estimating age of males according to the "nose spot": 1 – male at the age of 1, with no nose spot, 2 – males at the age of 3 – 4 years, with the nose spot in the lower part of face, 3 – males at age of 4 – 5 years, with nose spot reaching the middle of

the face, 4 – males older than 6 years blends with the light colour of the head.

Growing of antlers and fraying

The old males are the first ones to grow and to fray antlers (beginning of April), middle aged male frays in the middle of April, two-year-old male in the middle of May and one-year-old male at the end of May or at the beginning of July (usually in June).

Antlers

Antlers are the least reliable feature for estimating the age of males. This feature is to be evaluated together with some others more important features. Antlers of a one-year-old may be of few centimetres long up to six-point antlers longer than ears. Therefore, antlers for their huge variability, do not provide any accurate characteristics.

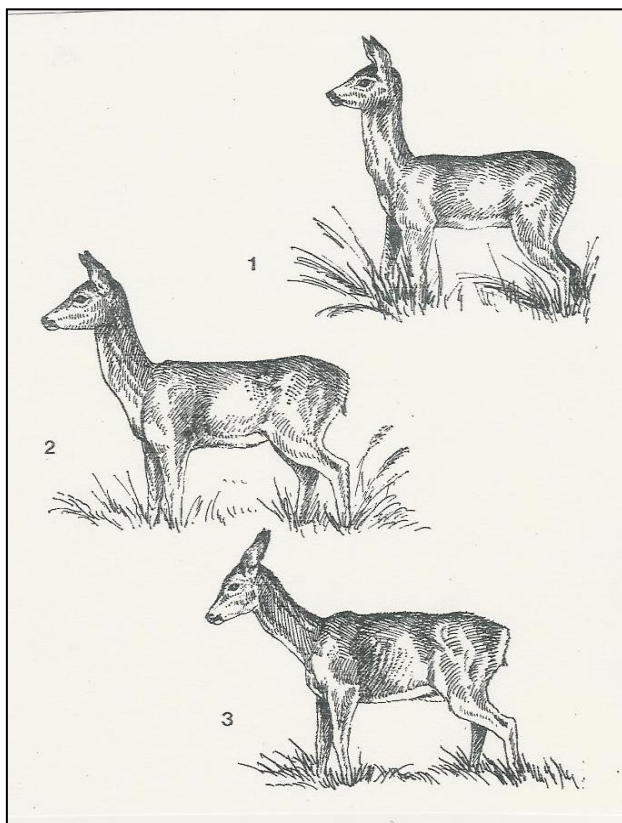


Fig.: Estimating the age of females according to the appearance: 1 – young doe at the age of 2 years, 2 – middle-aged doe, 3 – old doe.

b) Estimating the age of killed game

Teeth development and replacement of deciduous teeth by permanent

Newborn fawns (from the middle of May till the middle of June) have their deciduous teeth (0.0.3./3.1.3.), so they have 20 teeth – 6 incisors, 2 canines and 12 molars. Permanent teeth have the following pattern 0.0.3.3./3.1.3.3.. Sometimes the canines (only one or both) appear also in the upper jaw. Roe deer has permanent teeth at the age of 13 months. The third deciduous molar consist of three parts, the permanent only of two. The fourth, fifth and sixth molar are only permanent. The fourth molar grows at the age of 4 months, the fifth at 6 months, and the sixth at 12 – 13 months (Fig.).

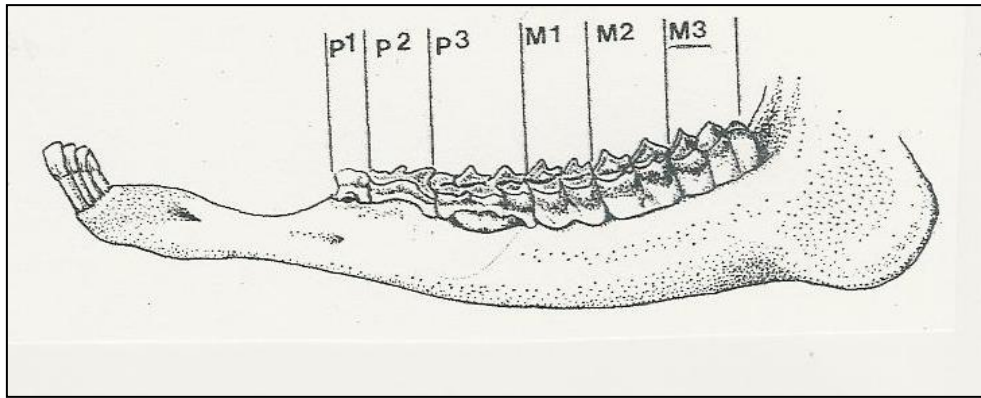


Fig.: The left half of the lower jaw of roe deer at the age of 1 year. The important feature is the third premolar P3, which consists of three parts.

Teeth wear-off

Once the deciduous teeth are replaced by the permanent ones, the wear-off is the only feature for estimating age. Minor wear-off is visible on the second molar, more apparent on the first molar, which is the oldest tooth of permanent teeth.

At first glance, all molars and premolars of two-year-old roe deer are of the same colour. The stream of dentin is clearly visible in all teeth, especially the third and fourth molars of three-year-old roe deer. Substantial teeth wear-off is typical for four-year-old animals. A diagonal strip of cementum in the front half of the third molar connects both longitudinal strips, so there is one long dark spot. The strip of cementum in the third molar of a five-year-old animal is still not closed in its front part, however, an increase in the ratio of the tooth surface to enamel is apparent. The teeth of a six-year-old roe deer manifest large wear-off. The strip of cementum in the front part of the third molar is closed. The longitudinal line in the back part of the molar is no longer connected with the tooth edge. The diagonal hollow with the worn-off column, which halves the molar, is clearly visible. At the age of 7 years, there are only two small islands on the second molar, as the rest of the inner lines. At the age of 8 year, almost all lines of the second molar are gone, only after the last one there is a small island left in its back part. The enamel of the fourth molar is substantially worn-off, the height of crowns is decreased by 3 mm.

In real life, it is obvious that there are many deviations, both local and individual.

The incisors also change with increasing age. They wear off, the crowns shorten and they stand more orthogonal to the palate.

These changes depend more on the type of food than on age.

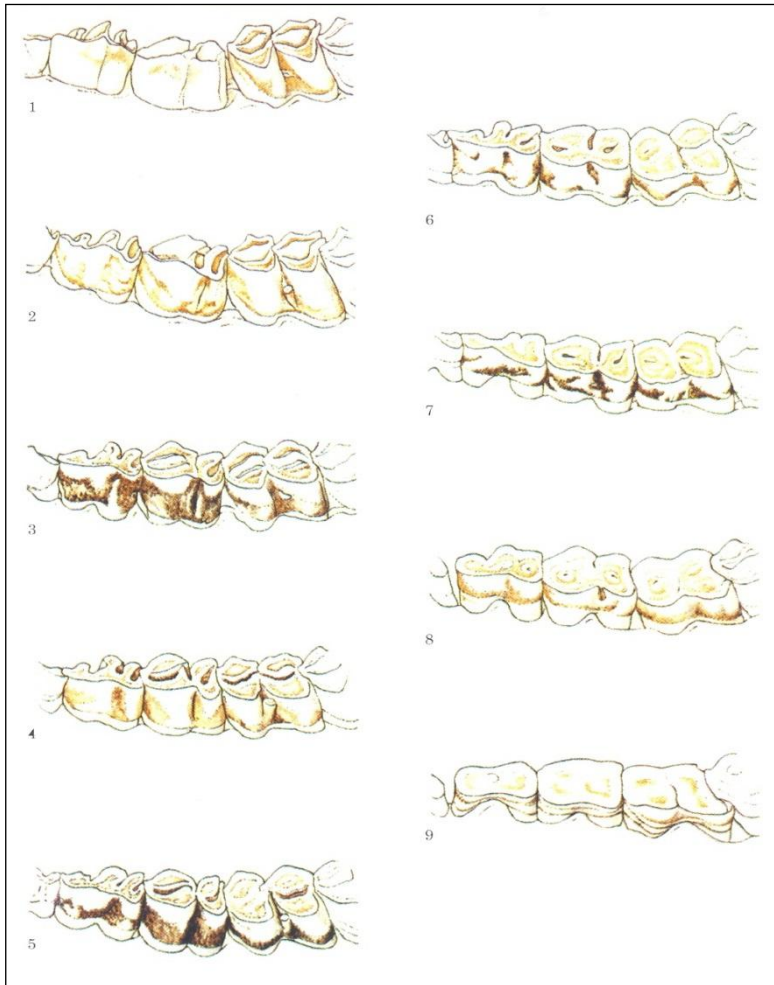


Fig.: Estimating the age of roe deer according to the wear-of of molars

Estimating the age according to the ossification of thyroid cartilage

Estimating the age according to the ossification of thyroid cartilage is also possible. The cartilage is under the skin and forms good visible and tangible Adam's apple. Schumacher found that the ossification of the cartilage starts at the age of 3 months (Fig.).

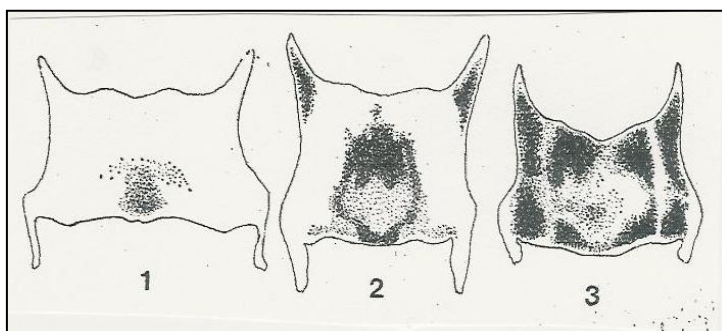


Fig.: Estimating the age according to the ossification of thyroid cartilage: 1 – cartilage of one-year-old roe deer is of 90 % gristle, 2 – cartilage of the middle aged animal is of 40 – 50% gristle, 3 – cartilage of old deer is of 10% gristle.

Estimating the age according the commissure of sphenoid bones

The state of commissures of sphenoid bones and the skull provides an opportunity for estimating the age. Commissure of sphenoid bone and the skull should be taken into consideration up to the age of one year. Ossification of the second commissure, the commissure of both parts of sphenoid bones, takes place at the age of 5 years.

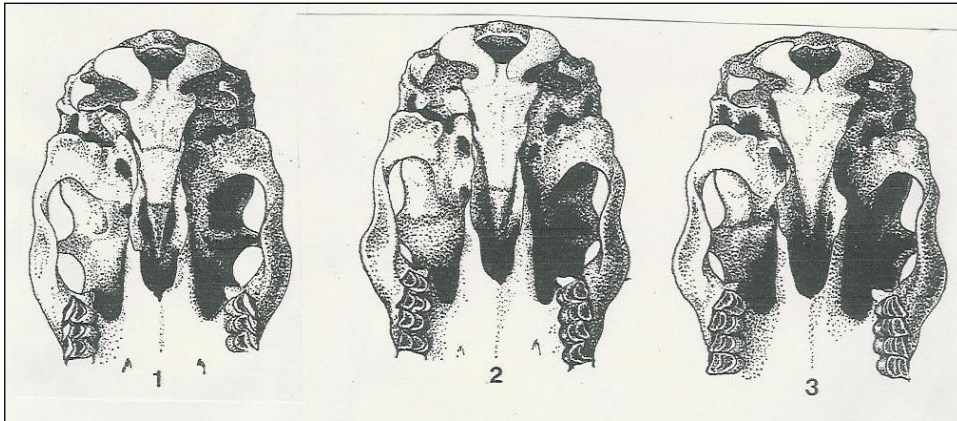


Fig.: Estimating the age according the commissure of sphenoid bones

Ossification of septum

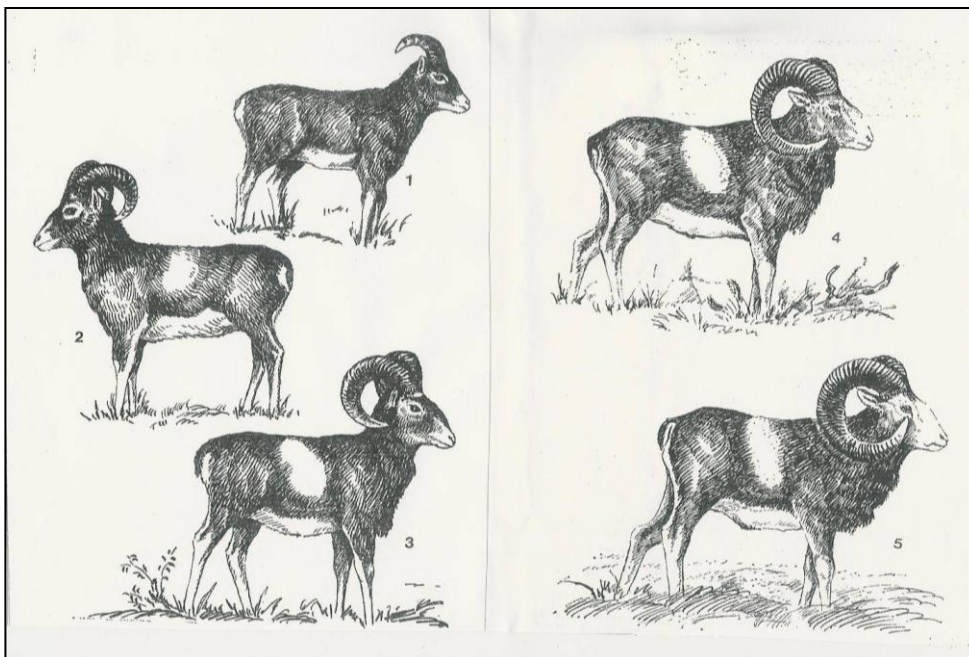
Rajnik (1978) published the method of estimating age of killed roe deer according to the extent of ossification of septum, which is placed in the nasal cavity under the nasal bone. This method is not used in the Czech Republic, due to the damage caused to the trophy. It is used in Hungary and is of good accuracy.

7.3.4 Mouflon

One could conclude that continuously growing horn of mouflon give an easy clue for estimating the age and to further discuss any other criteria is pointless. Game management deals also with females, which - apart from few exceptions - do not have horns.

a) Estimating age of living game

Estimating age according to the physical condition



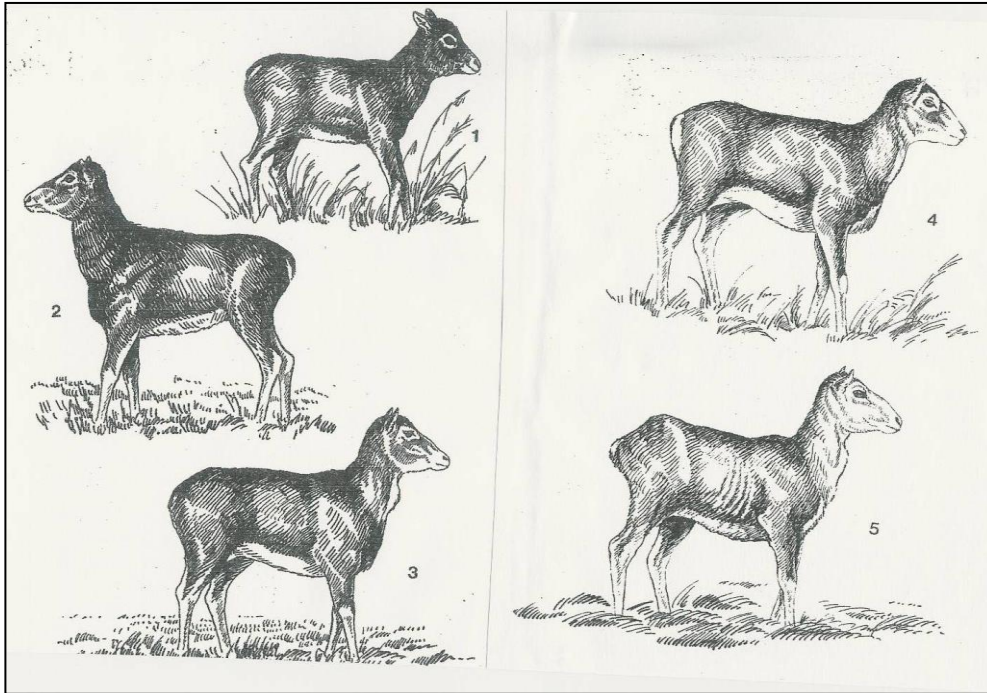


Fig.: Estimating the age of females according to the appearance: 1 – one-year-old female, 2 – age of 2 – 4 years, 3 – age of 5 – 6 years, 4 – age of 7 – 8 years, 5 – more than 10 years old female (over matured).

Estimating the age according to the growth of horns

Horns are produced by the skin and grow continuously. Females do not usually have horns. The frontal bone of males (on which the horn bone sits) starts growing after 10 days. At the age of 1 month, there are small bosses on the forehead, at the age of 3 months, the base of the horn is visible, and at the age of 1 year, horns are 15 cm or longer. Every year horns grow from the base. In the first 3 years, the increment is the longest, following increments are shorter and shorter, up to the age of 9 years, when the increment does not even compensate the wear off at the horn tips. Due to the lack of food during winter and exhaustion, horns stop growing. This results in the forming of annual rings, especially visible on both the front and back part of the horn. These annual rings provide a good clue for establishing the age of males if rings on both horns are counted. This is so far the most accurate method for estimating the age of mouflons.

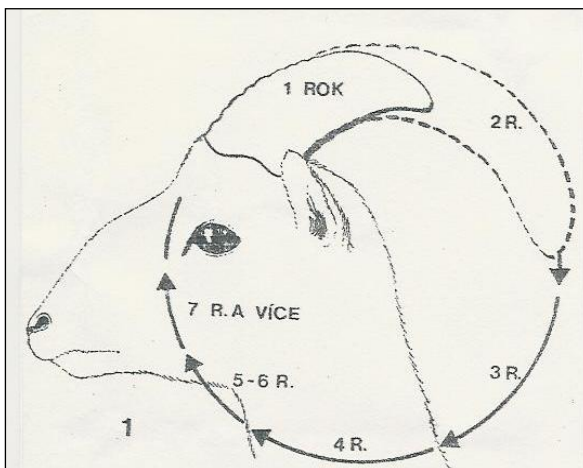


Fig.: Estimating the age according to the length of horns.

Estimating the age according to the colour of hair

The older the animal, the greyer the head is. The process of greying of the head – of the mask – provides clues for estimating the age (Rock, 1942, Uekermann and al.,1964).

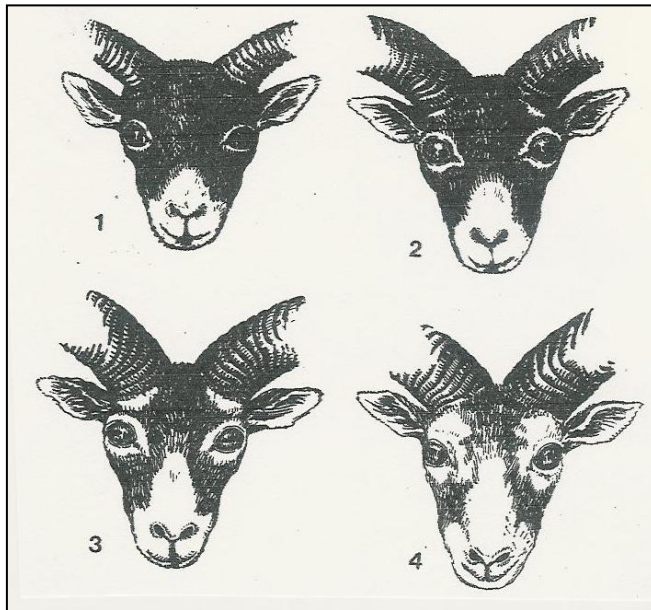


Fig.: Estimating the age according to the length of horns and the growing process of horns including the indication of suitability for further breeding.

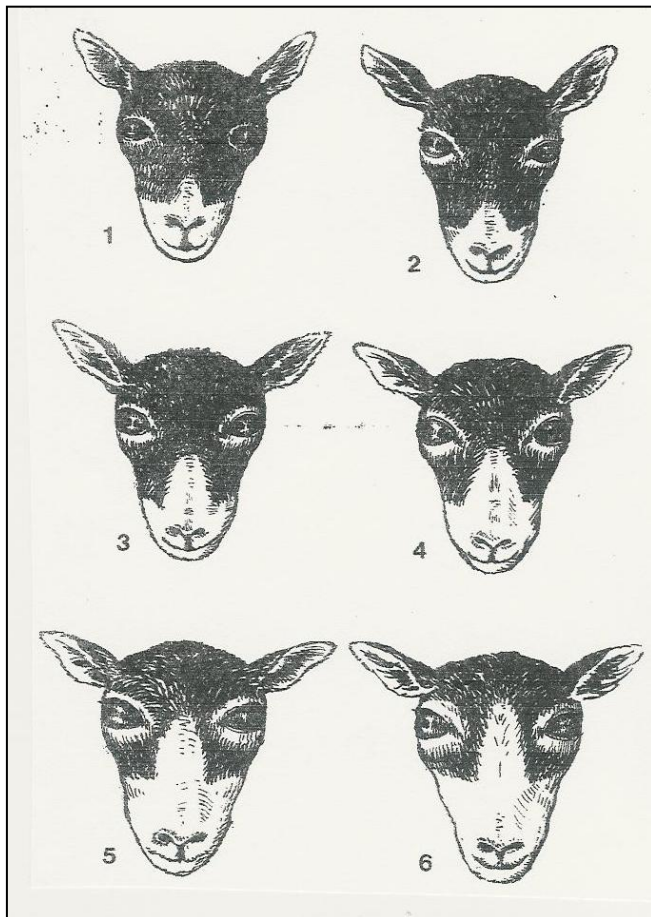


Fig.: Estimating the age of females according to the facial mask: 1 – one-year old female, 2 – age of 2 – 3 years, 3 – age of 4 – 5 years, 4 – age of 6 – 7 years, 5 – age of 8 – 9 years, 6 – more than 10 years.

Estimating the age according to the behaviour

Offspring and one-year-old animals are extremely skittish and careless when alone. This is even more apparent when observed within a herd. Old animals are more careful, with the exception of mating time. They behave and appear in very calm.

Estimating the age according to the relationships within the herd

Mouflon, especially young mouflon game, spend most of the year in a herd. Only old males prefer to live on their own, thus they are difficult to be seen and shot. This is also due to the fact that they do not feed on pasture during the day, like herds of females or young males.

b) Estimating the age of killed game

Estimating the age according to the teeth development

Not enough attention is given to estimating the age, because the age of males can be easily established by the annual rings on their horns. Permanent teeth (0.0.3.3./3.1.3.3.) are completely developed relatively late – after the age of 4 years. Up to 5 months, all deciduous teeth and first permanent molars (M1) are developed. Up to 1 year, all permanent molars start coming out. In the second stage, deciduous incisors (smaller and narrower) are replaced by permanent ones (bigger and thicker) (Keck,1965). In the third stage (after 5 years) the age cannot be estimated by means of the teeth.

7.3.5 Chamois

Both sexes of chamois have horns. Tips of horns of males point down, tips of females backwards. When looking en face, horns of males form a narrow letter V, horns of females divert in the upper third sideways.

a) Estimating age of living game

Estimating the age according to the growth of horns

Horns are produced by the skin and grow continuously. The bone bosses start to grow on the forehead of offspring in their first week. In the second year, the bosses are clearly visible. The longest part grows in the second year (7 – 10,5 cm), in the third year, the increment is only 5 cm, in the fourth year only 2 cm, and from the sixth year on it is only a few millimetres per year. They grow from the base from March till October and the increments are marked – as same as for mouflon – by annual rings. The number of these rings corresponds with the age.

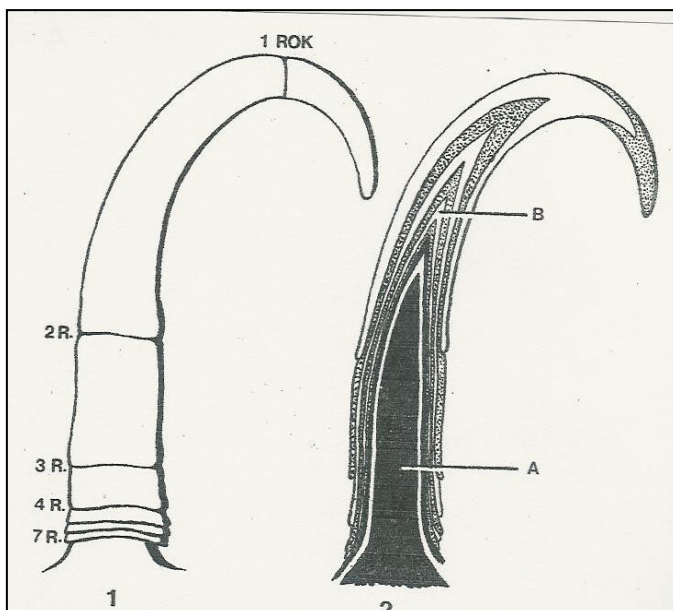


Fig.: Estimating the age of chamois according to annual rings on horns.

Estimating the age according to the “chamois beard”

The “chamois beard” are the long hairs on the back, which change once a year. They are longest after the fourth year and continue to grow up to the age of 8 – 9 years (20 cm or longer), when they start shortening.

Estimating the age of killed game

The age of killed chamois can be established accurately by means of annual rings on the horns. Therefore, estimating according to teeth development is of only marginal significance. Chamois have their permanent teeth at the age of 4 years (0.0.3.3./3.1.3.3.).

7.3.6 Wild boar

a) Estimating age of living game

Estimating the age of living game according to the physical condition

Estimating the age of living wild boars is more demanding than the age of other hoofed game, mainly due to the lack of distinct features of sexual dimorphism. The body build also does not give any clue as to the age. Estimating is made more difficult by the fact that wild boar are usually observed in darkness. In reality, the age is still commonly estimated by the size of the body. Similar to weight, the size fluctuates as well and it can be used only as a rough guideline. The colour of the pig gives absolutely no clue about the age.

Estimating the age according to the behaviour within the group

Piglets always stay in family groups, even when not led by a female. Hoggets stay together in a group till autumn, or they accompany their mother with her new offspring. Developed male hoggets separate from the group. Males older than 3 years are always loners.

b) Estimating the age of killed game

Estimating the age of killed game – according to the teeth development

Wild boar teeth are substantially different from the teeth of other hoofed game. The teeth of boars have neither big and flat chewing surfaces typical for herbivores, nor sharp edges of carnivores. Boars belong to omnivores and have massive molars with a wide chewing surface and sharp dental papillae.

Piglets have 28 deciduous teeth (3.1.3./3.1.3.) that are gradually replaced by 44 permanent teeth (3.1.4.3./3.1.4.3.).

The first permanent teeth start growing at the age of 5 months. The last molar (P3) protrudes at 24 months (there may be some deviations). According to these changes, age up to 2 years can be established fairly accurately.

Many authors tried to establish the age of older animals using various methods. The method, that is most often referred to is Bieger’s method of establishing the age of male by the length of the worn off surface on the lower tusks (incisors). It provides only approximate results and is used only as a supplementary method.

Dub’s method – estimating the age according to the cheek boss, placed at the beginning of the malar arch above the last molar (M3). With the advancement of the age, the skull grows, thus teeth shift slightly forward, but the position of the cheek boss, also called Dub’s

thorn, remains the same. The age can then be estimated by the position of the joint of the left and right boss according to the last molar.

In 1975, Hell estimated the age according to the number of annual rings in the cementum – a method already proved for other cloven-hoofed animals. The results of this method are very good, but can be carried out only in a laboratory.

The most accurate method so far is the method first published by Peyper in 1930 and improved by Brandt in 1961. The method presupposes that the wider the lower tusks are the smaller the ratio between the diameter of the root and the edge of worn off surface. The index of lower tusks equals $I = \text{diameter of the root of the lower tusk} / \text{diameter of the lower tusk measured at the edge of worn off surface}$ (indexes at the age of 3 – 4 = 1,35; at the age of 7 – 8 years = 1,06; older than 10 years = 1,00). The index for the upper tusk can be used as a supplementary method (Fig.).

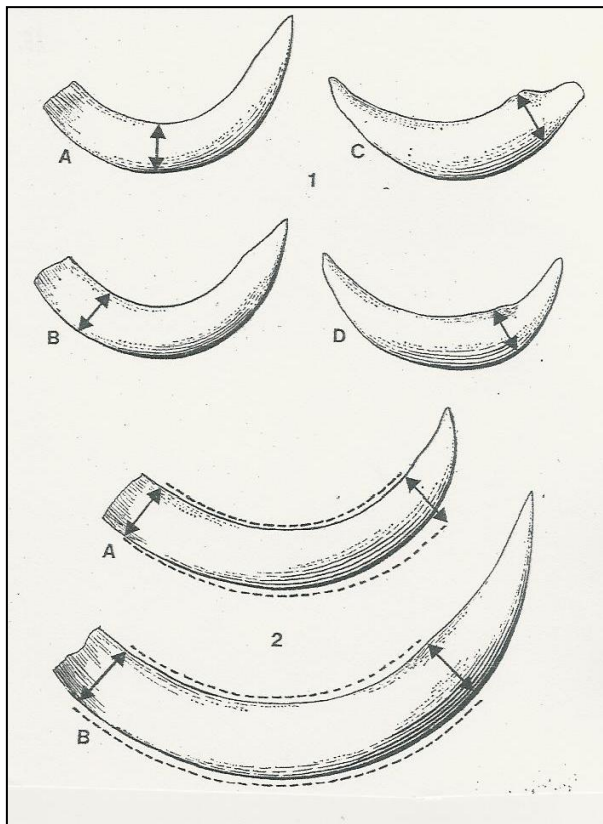


Fig.: Estimating the age of wild boar according to the incisors (tusks): 1 – female A – two-year-old, B – three-year-old, C, D – older than 4 years; 2 – tusks of male A – three-year-old, B - eight-year-old. Arrows indicate places of measurement for the calculation.

The age of females is estimated also by tusks. The roots of the tusks are narrower with higher age, thus old females have an opening at the end of the root canal approx. 1 mm wide. At the age of two, the biggest diameter of tusks is down at the root, at the age of 3 – 4 years it is near the worn off surface and the end of the root is considerably narrower.

7.3.7 Brown hare

Establishing the exact age of hares is very difficult. Young hares are hares up to the age of 1 year and mature hares are all hares older than that.

a) Estimating age of living game

Size and weight

Hares can be fully grown up at 4 or 5 months (Szederjei, Studinka, 1958, Velek, Semizorová, 1977).

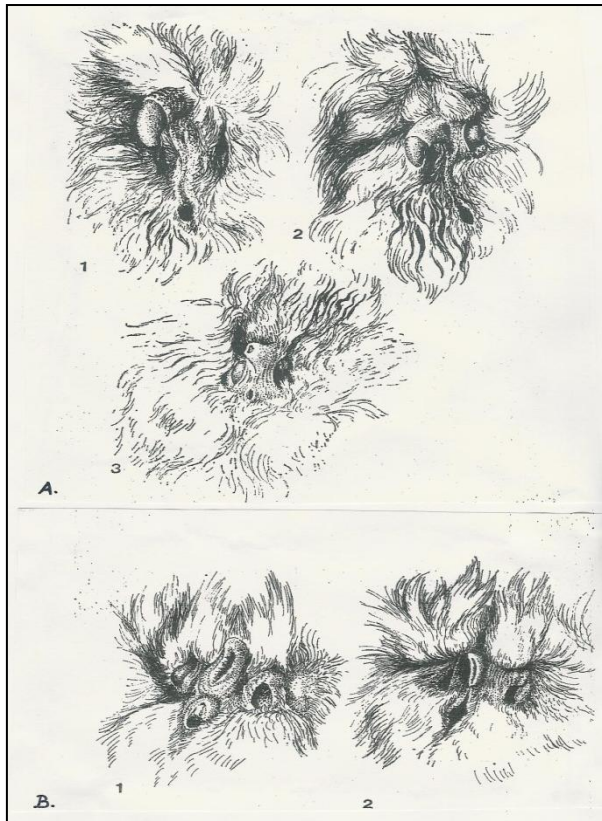
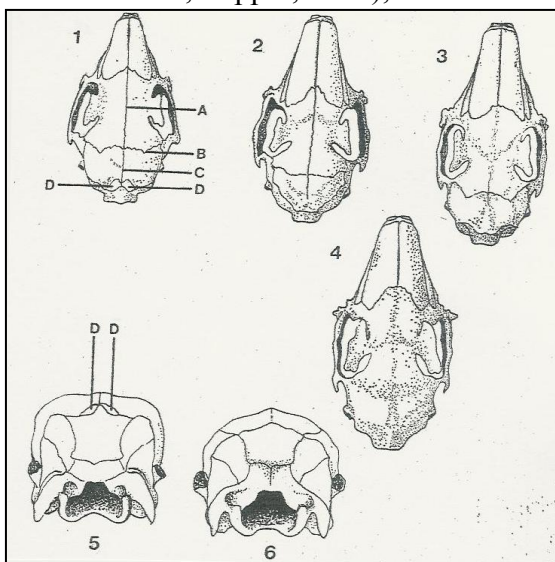


Fig.: A – sexual organs of male: 1 – penis of mature hare is fully developed, 2 – penis of young hare is less developed, 3 – undeveloped penis of very young hare, B – sexual organs of female: 1 – clitoris fully developed and cloacal opening enlarged of mature female, 2 – sexual organs of young female are less developed.

b) Estimating the age of killed game

Ossification and growth of bones

Estimating the age according to the ossification of distal epiphysis of bones in the elbow is more accurate (Boback, 1957). On the lower (distal) end of the elbow bone of young hares there is an apparent boss, which gets smaller as the bone grows in length, and approx. at the age of 1 year it disappears completely. The presence of the boss is established by feeling the leg. A certain clue is provided also by the development of sexual organs (Velek, Semizorová, Popper, 1967),



It is possible to estimate the age according to the ossification of the skull and the cranial sutures (Caboň – Raczynské, 1964), (Fig.) and according to ossification of pelvis sutures (Bujalska, 1964), (Fig.).

Fig.: Gradual ossification of the skull (according to Caboň – Raczynské): 1. and 5. very

young hares (A – frontal suture, B – cranial suture, C – saggital suture, D – sincipital bone),
2.

and 6. young hares, 3 – mature hares, 4 – old hares.

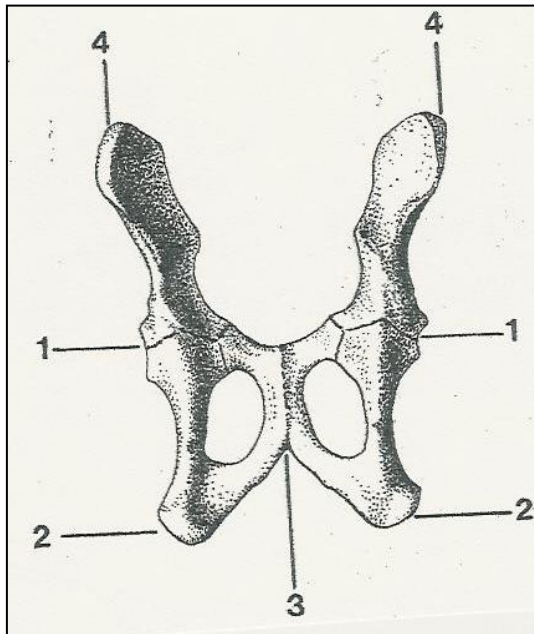


Fig.: Estimating the age according to the ossification of pelvis: 1. commissures between hip bone (ilium), pin bone (ischium) and share-bone pubis), 2. boss of pin bone (pubis), 3. symphysis pubis, wings of hip bone.

Estimating the age according to the weight of dried lenses

This method is considered to be the most accurate and was developed by many authors (e.g. Andersen, Jensen, 1972, Mann, 1962, Riedl, 1962, etc.) The method is based on changing weight of the lenses with the increasing age of the hare.

7.3.8 Common pheasant

Pheasant are divided into two age groups: this year's birds and older. The age of this year's pheasant can be estimated fairly accurate from the stage of chicken according to the feathers. Figal (1958) composed a scale of age according to the growth of wings (Fig.).

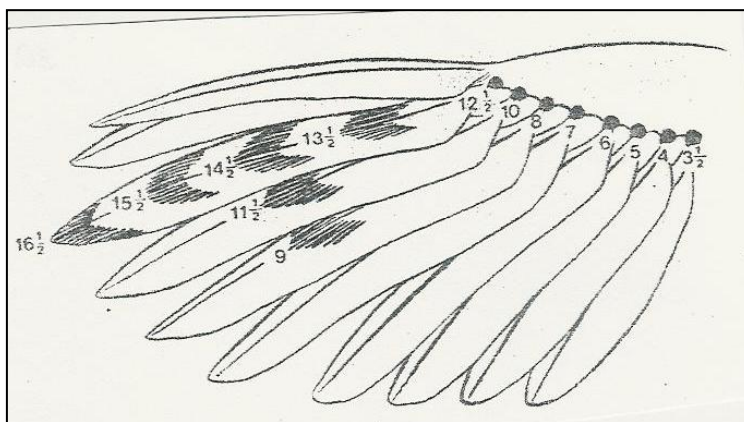


Fig.: Estimating the age of pheasant chickens according to the growth of wings. Numbers of individual feathers are the age in weeks.

Another method estimating the age of both sexes distinguishes pheasant up to 8 – 9 months and older according to the length of the bursa Fabricii (Robertson, 1958). Up to 9

months, the bursa Fabricii is 11 – 33 mm long, from 9 months onwards it gradually disappears.

Quite demanding is the method described by Sutter (1971), which estimates the age up to 1 year and older according to the markings on feathers of the elbow (Fig.).

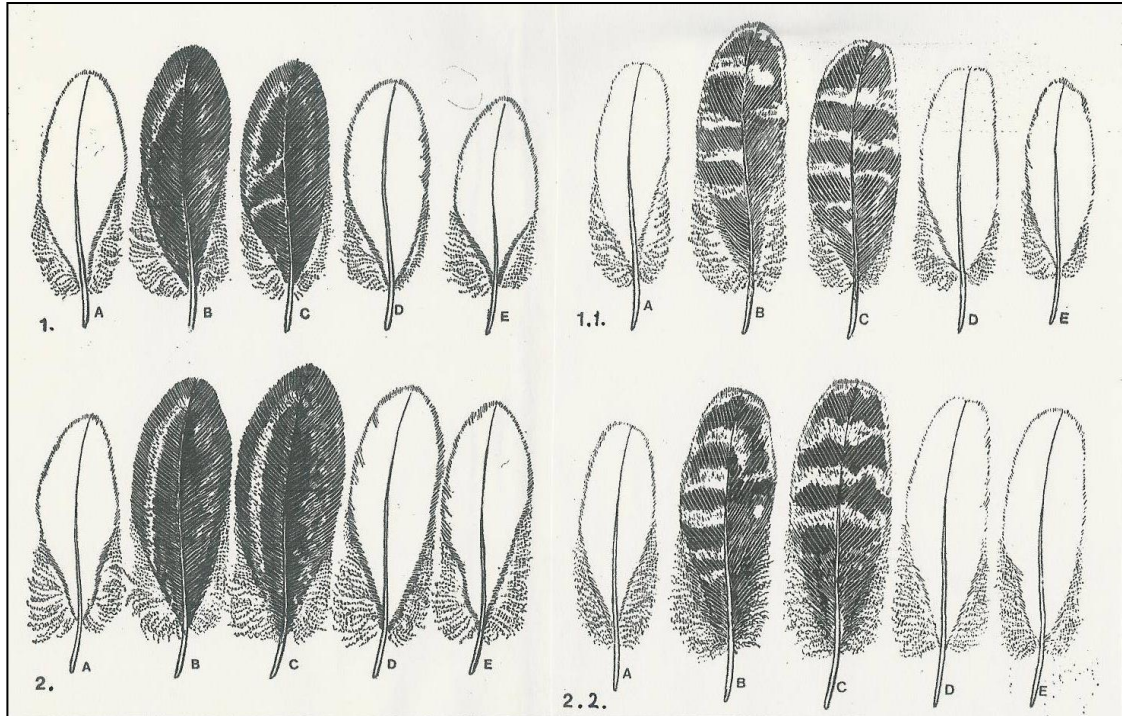


Fig.: The ratio of the size of 5 different outer wing feathers and the markings of second and third feather: 1 – young male, 2 – mature male, 1.1. – young female, 2.2. – mature female.

7.3.9 Partridge

There are some methods for establishing the age of partridge. Estimating the age according to the colour of legs – this year's birds have yellow legs, all bird older than 1 year have grey or blue-grey legs; according to the colour of the beak – young birds have a black beak, older have a grey beak. This year's partridge can be distinguished according to the marking on the head (Fig.). On the other hand, the sex of partridge can be safely distinguished only according to the markings of the small and middle feather of the wing (Fig. 59).

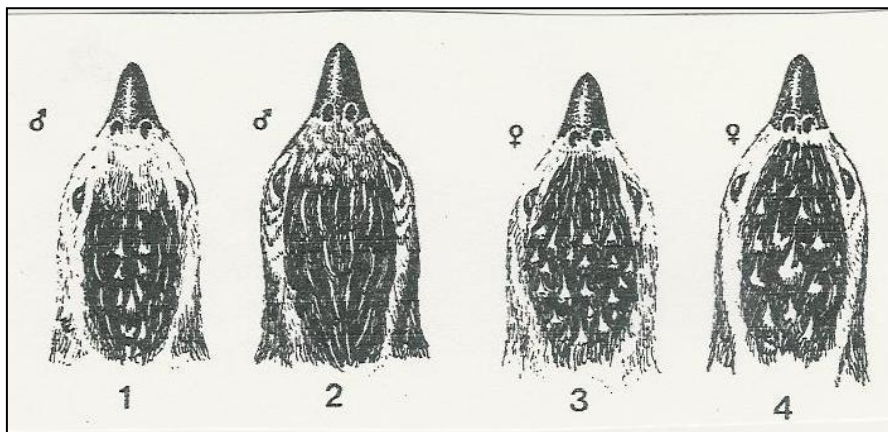


Fig.: The difference between the size of head of young and mature partridge: 1 and 3 – one-year-old bird, 2 and 4 – older bird.

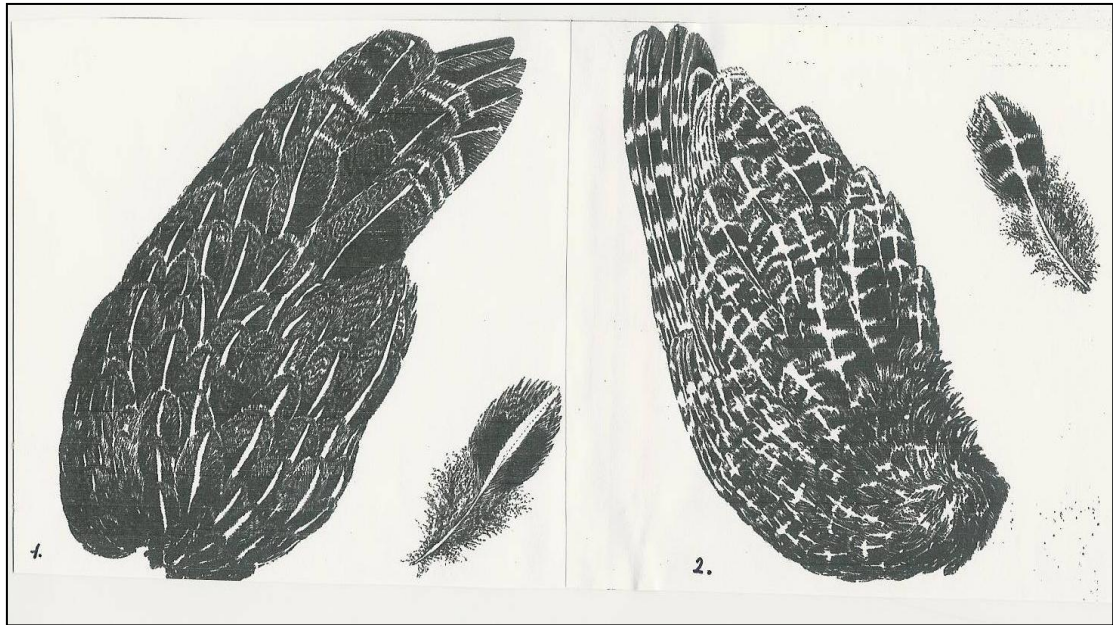


Fig.: Distinguishing the sex according to the different markings of wing feathers: 1 – male, 2 – female.

The most accurate method to estimate the age is according to the colour and markings of wing feathers (Fig.).

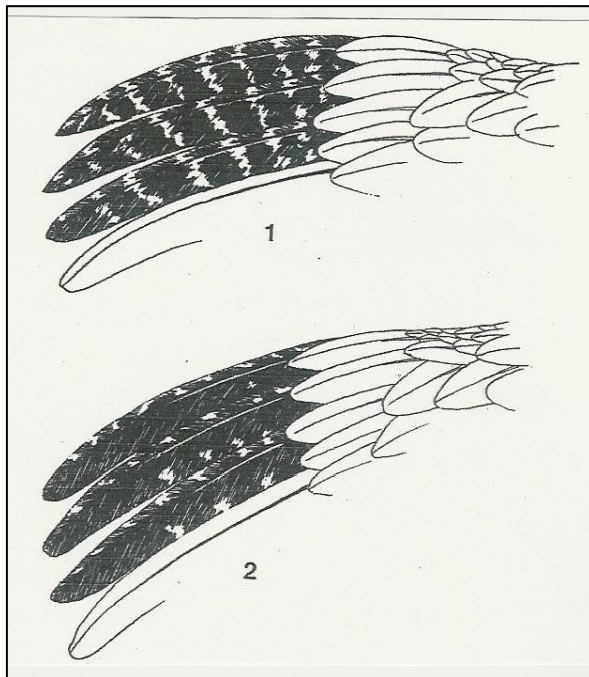


Fig.: Estimating the age according to the development of the wings: 1 – young bird, the outline feathers are sharp, 2 – mature bird, outline feathers are rounded at the end.

7.3.10 Ducks

Distinguishing the species, sex and estimating the age is very complicated in reality. Thus, only some common features for estimating the age of ducks are given.

Young birds have middle feathers quite narrow and the vanes create more less a sharp tip. They are present also in the winter due to the shedding of feathers in the autumn. On the other hand, the middle feathers of ducks older than 1 year are wider, the vane remains straight and the tips are rounded or almost square (Fig.).

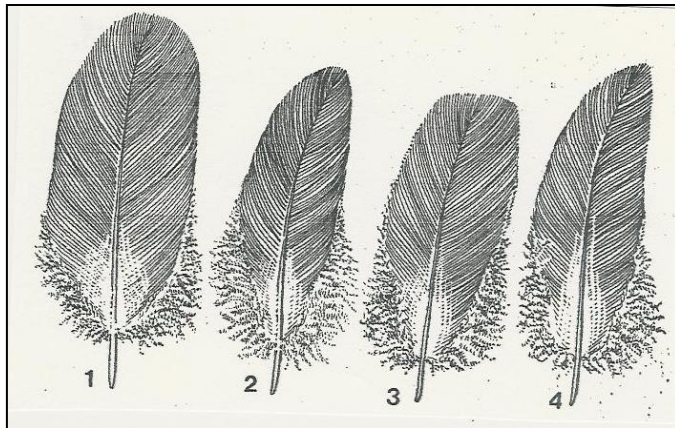


Fig.: Estimating the age according to the inner middle feathers: 1 – mature male, 2 – young male, 3 – mature female, 4 – young female.

The development of the tail feathers provides also a good clue. However, this method is restricted by the time and can be used only until the throwing of feathers in the autumn; feathers are then replaced by new ones (Fig.).

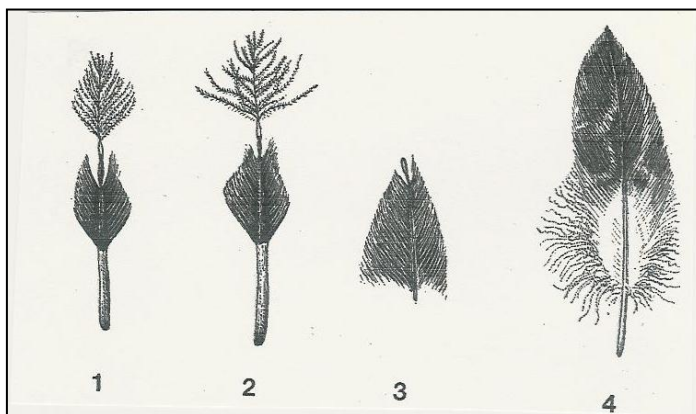


Fig. Estimating the age of ducks according to the development of the tail feathers: 1, 2, 3 – young ducks, 4 – mature ducks.

7.3.11 Geese

Both males and females are of the same colour; males are bigger and heavier than females. Male geese belong to the few birds that develop a sexual organ for mating (penis), which exits the cloaca while mating. This enables to distinguish both sexes and to estimate the age according to the size of penis and clitoris (quite well developed) (Fig.).

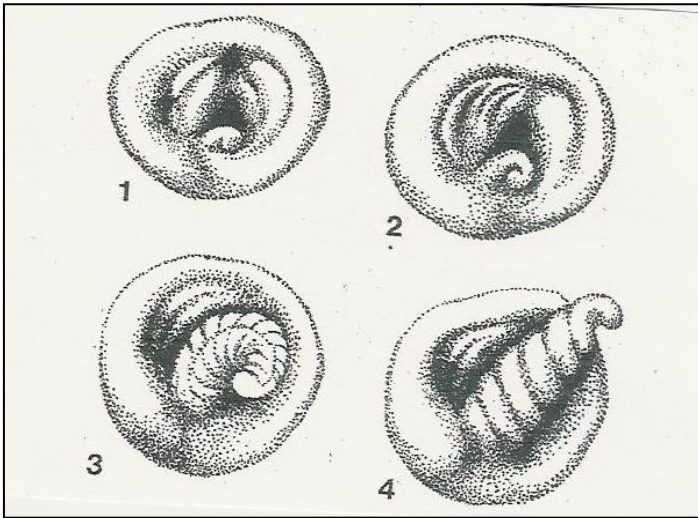


Fig.: Estimating the age of geese according to the cloaca and sexual organs: 1 – young female, 2 – mature female, 3 – young male, 4 – mature male.

8 SHOOTING

Czech hunting is based on killing game with hunting firearms. Other weapons (bow, crossbow) are not allowed. Only a small amount of game is being caught. The result of the hunt depends on the quality of the gun and hunters should kill the chosen animal without unnecessary suffering and losses on venison. This can be achieved only with appropriate equipment and skills.

Today, mainly rifles and shotguns are used. Automatic weapons (firing more shots for one pull of the trigger) are forbidden and magazines of semi-automatic weapons (reloading after the shot) are allowed to contain a maximum of two cartridges. According to regulations in effect, hunting of all hoofed game is allowed only with rifles with the impact energy of 1000 J for roe deer and 1500 J for other hoofed game. Only wild pigs under the age of two years - piglets and hogget's – are allowed to be killed with shotgun bullets during group hunt.

Other game species – small game and predators – are allowed to be killed either with rifles or with shotguns. The following species are allowed to be killed only with shotguns (pellets) and only during group hunt: brown hare, common pheasant, mallard, coot, grey leg goose, white-fronted goose, bean goose and guinea fowl.

8.1 The most common types of hunting guns

After 1989, there was a breakthrough in Czech legislation regulating the possibility of buying weapons, thus products of all world brands appeared on the market. This was soon reflected in the equipment of hunters, however; hunters remain conservative and usually prefer classic hunting guns of traditional design, with wooden butts.

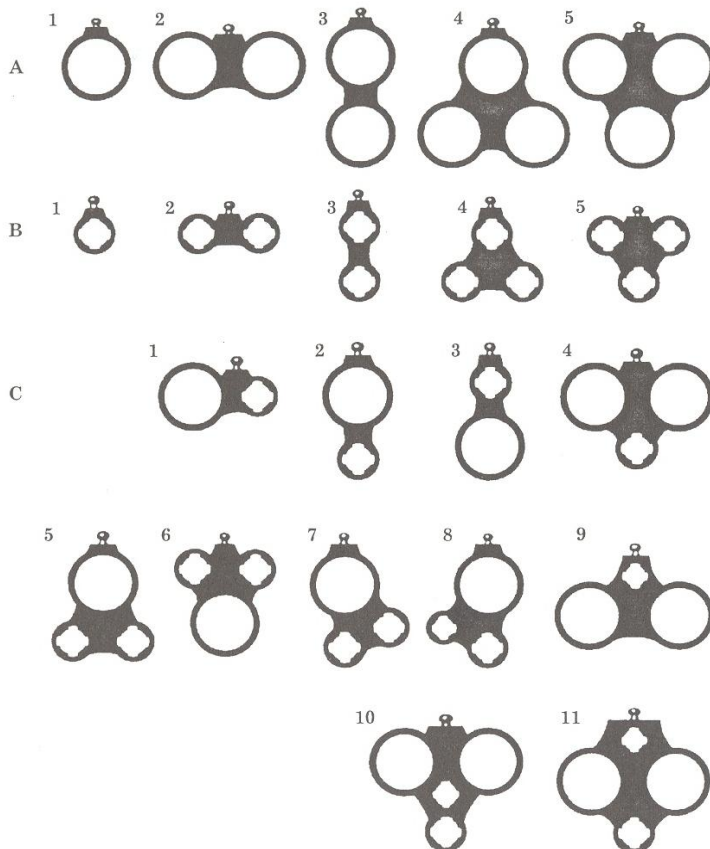


Fig.: Terminology of the hunting guns: A – shotguns; 1 – single shotgun, 2 – double shotgun, 3 – over-under shotgun, 4, 5 – shotgun drillings. B – rifle guns; 1 – single rifle, 2 – double rifle, 3 – over-under rifle, 4, 5 – rifled drillings. C – combined guns; 1 – site by site rifle-shotgun, 2, 3 – over under shotgun-rifles, 4 – drilling, 5, 6 – over under drillings, 7, 8 – bockdrillings, 9 – drilling with small bore rifle, 10, 11 – vierlings.

8.1.1 Rifle

A rifle is a firearm designed to be fired from the shoulder, with a barrel that has a helical groove or pattern of grooves ("rifling") cut into the barrel walls. The raised areas of the rifling are called "lands," which make contact with the projectile (for small arms usage, called a bullet), imparting spin around an axis corresponding to the orientation of the weapon. When the projectile leaves the barrel, this spin lends gyroscopic stability to the projectile and prevents tumbling. This allows the use of aerodynamically-efficient pointed bullets and thus improves range and accuracy. The word "rifle" originally referred to the grooving, and a rifle was called a "rifled gun." Rifles are used in hunting, shooting sports and warfare.



Fig.: Parts of rifle; 1 – muzzle, 2 – barrel, 3 – forestock cap, 4 – forestock, 5 – detachable magazine, 6 – button of magazine, 7 – trigger guard, 8 – trigger, 9 – butt stock, 10 – grip cap, 11 – cheekpiece, 12 – toe butt, 13 – buttpad, 14 – stock, 15 – heel butt, 16 – nose butt, 17 – scope mounts, 18 – rear sight, 19 – front sight.

Typically, a bullet is propelled by the contained deflagration of an explosive compound (originally black powder, later cordite, and now nitrocellulose), although other means such as compressed air are used in air rifles, which are popular for vermin control, hunting small game, formal target shooting and casual shooting ("plinking").



Fig.: Repeating rifles; A – whole stock rifle, B – half stock rifle

Most common guns used by Czech hunters are rifles with cylindrical breech and combined breech loading firearms (one barrel for bullet, one for shotgun). Less common are semi-automatic rifles, rifles with Winchester breech and rifles with one or more barrels that can be broken. The majority of rifles are of domestic production (Česká zbrojovka, Zbrojovka Brno); however, the supply of foreign brands and of differentiated prices has been enormous in recent years (Sauer, Mauser, Remington, Tikka). Lately, the range of calibres has shifted from small calibre with high speed bullets (e.g. .223 Rem.) to effective calibres with excess of energy (e.g. 300 Win.Mag., 30 – 06 Sprg.). The reason is the legislative changes applying to use

and frequently published opinions about the suitability for hunting. Rifles nowadays usually have mainly scopes and some types are produced even without mechanic sights. For common hunting, scopes of 4x to 12x enhancement – often variable - are use

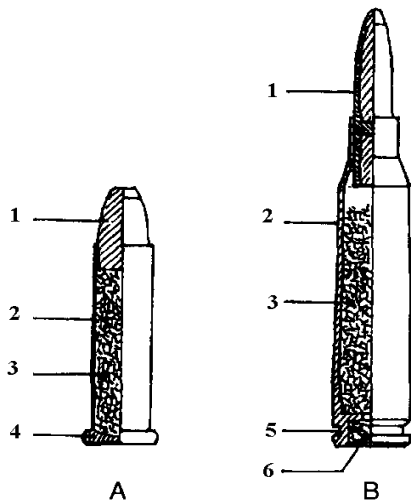


Fig.: A – rimfire rifle cartridge B - centerfire rifle cartridge with gun powder and soft point bullet; 1 – projectile (bullet), 2 – casing, 3 – powder, 4 – primer, 5 – groove, 6 – safety match

8.1.2 Shotgun

A shotgun (also known as a scattergun and peppergun) is a firearm that is usually designed to be fired from the shoulder, which uses the energy of a fixed shell to fire a number of small spherical pellets called shot, or a solid projectile called a slug. Shotguns come in a wide variety of sizes, ranging from 5.5 mm (.22 inch) bore up to 5 cm (2.0 in) bore, and in a range of firearm operating mechanisms, including breech loading, single-barreled, double or combination gun, pump-action, bolt-, and lever-action, semi-automatic, and even fully automatic variants.

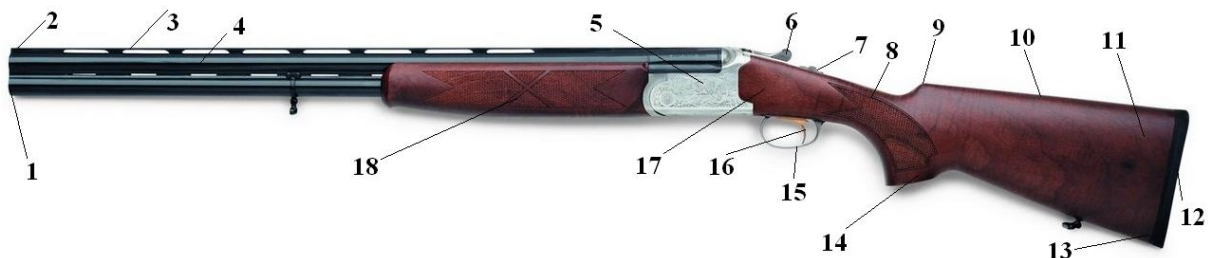


Fig.: Parts of shotgun; 1 – muzzle, 2 – front sight, 3 – rib, 4 – tubular magazine, 5 – safety, 6 – handle, 7 – fuse, 8 – butt stock, 9 – nose butt, 10 – heel butt, 11 – stock, 12 – buttpad, 13 – toe butt, 14 – grip cap, 15 – trigger guard, 16 – trigger, 17 - lock and conclusion, 18 - forstock.

A shotgun is generally a smoothbore firearm, which means that the inside of the barrel is not rifled. The most common calibre is 12 x 70 and, today, also 20 x 76. The originally preferred calibre 16 is on the decline.

The shot pellets from a shotgun spread upon leaving the barrel, and the power of the burning charge is divided among the pellets, which means that the energy of any one ball of shot is fairly low. In a hunting context, this makes shotguns useful primarily for hunting birds and other small game. Shotguns are also used for target shooting sports such as skeet, trap, and

sporting clays. These involve shooting clay disks, known as clay pigeons, thrown in various ways.

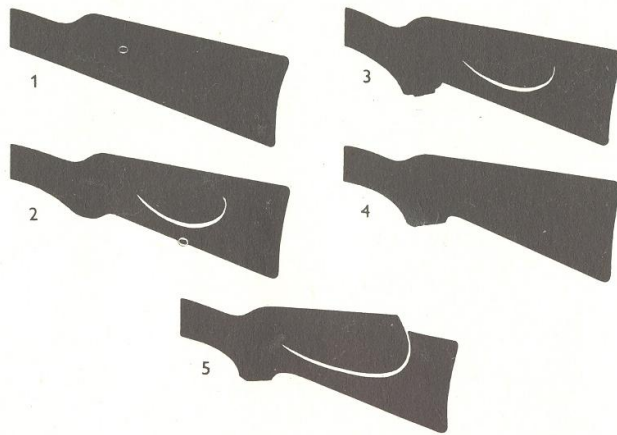


Fig.: Types of the gunstocks: 1 – straight hand (English) stock, 2 – French stock, 3 – full pistol grip (German) stock, 4 – American stock, 5 – Monte Carlo stock

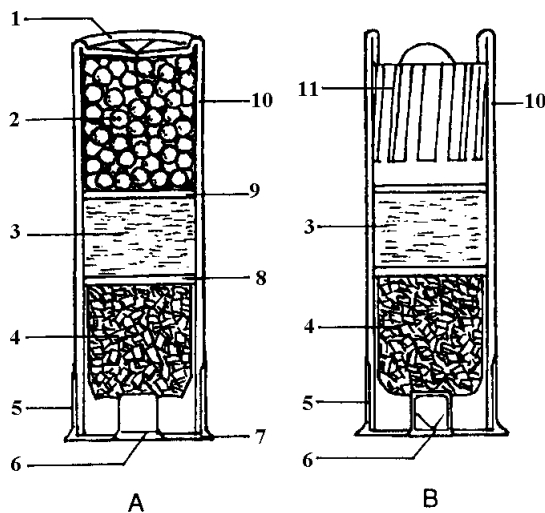


Fig.: A – Shot cartridge, B - cartridge with unified bullet for a shotgun; 1 – stopper, 2 – cold shots, 3 – felt-wad, 4 – gun powder, 5 – case head, 6 – safety match, 7 - bottom of the hubs, 8, 9 - capping strips, 10 - plastic cartridge, 11 - unified bullet (slug)

The safety rules for handling guns and shooting are an important part of professional knowledge. Hunting in natural conditions is often unpredictable and any mistake in the hunters' judgement endangers their environment. The most dangerous is the group hunting of game, which is shot while moving, with a lot of people being around. The Rules for Hunters contain the main principles and to know them is necessary to pass hunting examinations and examinations for gun licence. Hunters are reminded to observe them before the start of the hunt. However, every year several people are injured.

8.2 Ballistics

Getting a shell from a gun to a target should be pretty simple. There's really only two controls on most artillery pieces -- azimuth and elevation. And you've frequently got someone out near the target telling you how to correct, in case your aim is off.

So what makes it so hard to predict where the shell will land? There are a lot of factors to take into account:

- Interior Ballistics -- the gun and shell
 - Tube Wear
 - Propelling charge (temperature, moisture, uniformity)
 - Coppering -- shell residue left in the gun by firing at high-charge
 - Projectile weight variance
 - Manufacturer's tolerances
 - Ramming, for separately-loading ammunition (where the shell and propellant are jammed together just before firing)
 - Rotating band
- Exterior Ballistics -- after the shell has left the gun
 - Angle of elevation
 - Wind
 - Air density changes
 - Air temperature changes
 - Drift due to the spinning of the projectile
 - Rotation of the earth (especially for long shots)
 - Shell surface finish

All of these factors can lead to error. Some of the factors, such as aiming errors, cause a constant error to be applied to each shot. These errors are overcome by forward observer (FO) feedback: ("You're long... change the angle of fire."). Other factors are somewhat random and will cause each shot to deviate somewhat -- this is known as dispersion.

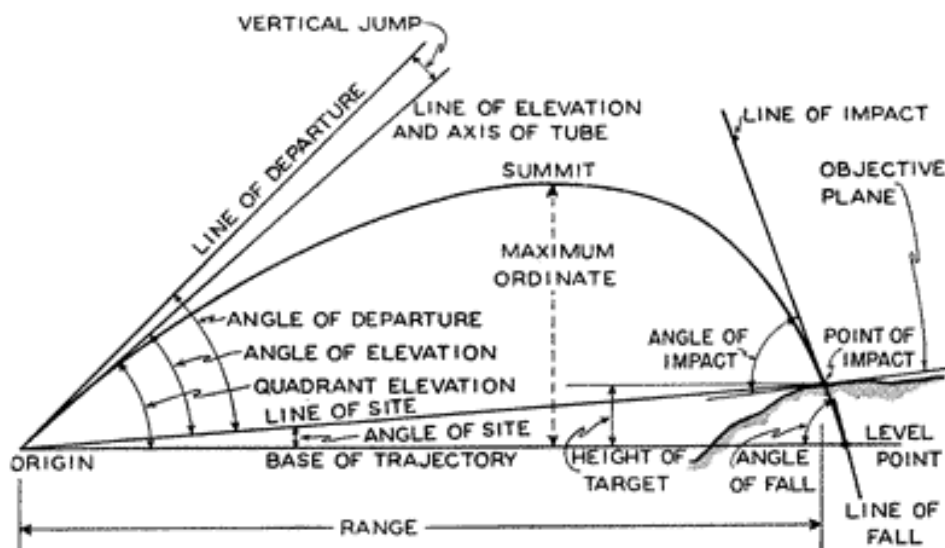


Fig.: Ballistics of the missile flight trajectory

9 GAME MANAGEMENT ACT NO. 449/2001

The act of the 27th November 2001 has 8 parts, which are:

- I. General provision
- II. Game keeping and breeding
- III. Hunting control and improvement of living conditions of game
 - chapter 1. Hunting control
 - chapter 2. Game-keeper guard
- IV. Creation and use of hunting areas
 - chapter 1. Proposal of hunting areas
 - chapter 2. Hunting guild
 - chapter 3. Recognition of the hunting area and its changes
 - chapter 4. Use of hunting areas
- V. Game management and hunting
 - chapter 1. Game manager
 - chapter 2. Game management plan
 - chapter 3. Permission of hunting in special cases
 - chapter 4. Seasons of hunting and its conditions
 - chapter 5. Banned hunting methods
 - chapter 6. Hunting permit, hunting licence and compulsory insurance
 - chapter 7. Game control and utilisation
- VI. Damage caused by the use of hunting area, by game and to game
- VII. State administration of game management
 - chapter 1. State organs of game management and their powers
 - chapter 2. Game management supervision
 - chapter 3. Support to game management and hunting associations
- VIII. Penalties
- IX. Transitory and final provisions
- X. Force

This law came into force on the 1st July 2002.

9.1 General provisions

This law shall lay down:

- management and preservation of wild game species in the territory of the Czech Republic,
- special keeping of game in captivity,
- import and export of live game,
- import and release of animals that currently do not live in the territory of the Czech Republic,
- creation and use of hunting areas,
- status and legal relations of hunting guild
- hunting control,
- use of hunting grounds and improvement of living conditions of game,
- regulation of game stocks, game hunting including game hunting on non-hunting grounds,
- hunting of animals that are not the game,
- compensation for damage caused by game and by hunting activities, and compensation for damage to game and game management facilities,
- control of shot game

- state administration of game management, supervision and penalties for a failure to perform duties or for a breach of duties,
- state support to the maintenance of the historical and cultural level and traditions of Czech game management.

But this law shall not be applied to individuals of the game species that are kept in certified farmed populations and that are taken as farm animals.

The basic definitions

the game management shall be taken to mean the activities carried out in the wild aiming at wild game as a part of the ecosystem and the activities of associations focused on the maintenance and development of hunting traditions and customs as a part of the Czech national cultural heritage,

the game shall be taken to mean renewable natural resources represented by populations of wild animal species listed in Tables.

Tab.: The game species that cannot be hunted in accordance with international treaties binding the Czech Republic and that are published in the Collection of Laws or in the Collection of International Treaties, or the game species that are specially protected animals pursuant to special legal rules and if the dispensation to hunt them was not granted pursuant to these rules, shall be taken to include:

czech	latin	english	seasons of hunting	estimated density (2012)	hunted game (2012)	originality
mammals						
bobř evropský	<i>Castor fiber</i>	European beaver	protect	3 917	-	autochthonous
kočka divoká	<i>Felis silvestris</i>	wildcat	protect	3	-	autochthonous
los evropský	<i>Alces alces</i>	moose	protect	38	-	autochthonous
medvěd hnědý	<i>Ursus arctos</i>	brown bear	protect	3	-	autochthonous
rys ostrovid	<i>Lynx lynx</i>	lynx	protect	286	-	autochthonous
vlk euroasijský	<i>Canis lupus</i>	wolf	protect	10	-	autochthonous
vydra říční	<i>Lutra lutra</i>	river otter	protect	6 240	-	autochthonous
birds						
čírka modrá	<i>Anas querquedula</i>	garganey	protect	5 452	-	autochthonous
čírka obecná	<i>Anas crecca</i>	teal	protect		-	autochthonous
havran polní	<i>Corvus frugilegus</i>	rook	protect	22 117	-	autochthonous
holub doupňák	<i>Columba oenas</i>	stock dove	protect	10 086	-	autochthonous
jeřábek lesní	<i>Bonasa bonasia</i>	hazel grouse	protect	2 928	-	autochthonous
jestřáb lesní	<i>Accipiter gentilis</i>	goshawk	protect	18 689	-	autochthonous
káně lesní	<i>Buteo buteo</i>	common buzzard	protect	74 598	-	autochthonous
káně rousná	<i>Buteo lagopus</i>	rough-legged buzzard	protect		-	autochthonous
kopřívka obecná	<i>Anas strepera</i>	gadwall	protect	3 190	-	autochthonous
kormorán velký	<i>Phalacrocorax carbo</i>	cormorant	protect	45 933	4 872	autochthonous
koroptev polní	<i>Perdix perdix</i>	partridge	protect	40 176	-	autochthonous
krahujec obecný	<i>Accipiter nisus</i>	sparrow-hawk	protect	19 876	-	autochthonous
krkavec velký	<i>Corvus corax</i>	raven	protect	46 011	-	autochthonous

křepelka polní	<i>Coturnix coturnix</i>	quail	protect	26 104	-	autochthonous
lžičák pestrý	<i>Anas clypeata</i>	shoveler	protect	975	-	autochthonous
moták pochop	<i>Circus aeruginosus</i>	marsh harrier	protect	13 784	-	autochthonous
poštolka obecná	<i>Falco tinnunculus</i>	kestrel	protect	40 618	-	autochthonous
racek chechtavý	<i>Larus ridibundus</i>	black-headed gull	protect	32 523	-	autochthonous
raroh velký	<i>Falco cherrug</i>	saker falcon	protect	74	-	autochthonous
sluka lesní	<i>Scolopax rusticola</i>	woodcock	protect	30 730	-	autochthonous
sojka obecná	<i>Garrulus glandarius</i>	European jay	protect	159 825	-	autochthonous
sokol stěhovavý	<i>Falco peregrinus</i>	peregrine falcon	protect	124	-	autochthonous
tetřev hlušeč	<i>Tetrao urogallus</i>	capercaillie	protect	76	-	autochthonous
tetřívěk obecný	<i>Lyrurus tetrix</i>	black grouse	protect	630	-	autochthonous
volavka popelavá	<i>Erdea cinerea</i>	grey heron	protect	31 839	129	autochthonous
výr velký	<i>Bubo bubo</i>	eagle owl	protect	7 425	-	autochthonous

Tab.: The game species that may be hunted:

mammals						
daněk skvrnitý	<i>Dama dama</i>	fallow deer	16. 8. - 31. 12.	27 745	14589	non-autochthonous
jelen evropský	<i>Cervus elaphus</i>	red deer	1. 8. - 15. 1.	29 885	21919	autochthonous
jeleneč běloocasý	<i>Odocoileus virginianus</i>	whitetail deer	1. 9. - 31. 12.	152	70	non-autochthonous
jezevec lesní	<i>Meles meles</i>	badger	1. 10. - 30. 11. *	26 710	3 048	autochthonous
kamzík horský	<i>Rupicapra rupicapra</i>	chamois	1. 10. - 30. 11.	322	15	non-autochthonous
koza bezoárová	<i>Capra aegagrus</i>	bezoar goat	1. 9. - 31. 12.	40	-	non-autochthonous
králík divoký	<i>Oryctolagus cuniculus</i>	wild rabbit	1. 11. - 31. 12. *	2 648	111	non-autochthonous
kuna lesní	<i>Martes martes</i>	pine marten	1. 11. - 28. 2. *	80 426	14 897	autochthonous
kuna skalní	<i>Martes foina</i>	beech marten	1. 11. - 28. 2. *			autochthonous
liška obecná	<i>Vulpes vulpes</i>	red fox	all year	65 815	75 296	autochthonous
muflon	<i>Ovis musimon</i>	mouflon	1. 8. - 31. 12.	21 274	9 094	non-autochthonous
ondatra pižmová	<i>Ondatra zibethica</i>	muskrat	1. 11. - 28. 2.	30 997	625	non-autochthonous
prase divoké	<i>Sus scrofa</i>	wild boar	male and female 1. 8. - 31. 12. * piglet and yearling all year	63 872	184 144	autochthonous
sika Dybowského	<i>Cervus nippon dybowskii</i>	Dybowski sika deer	16. 8. - 31. 12.	10 424	12 524	non-autochthonous
sika japonský	<i>Cervus nippon nippon</i>	Japanese sika deer	1. 8. - 15. 1.			non-autochthonous
srnec obecný	<i>Capreolus capreolus</i>	roe deer	male 16. 5. - 30. 9. female 1. 9. - 31. 12.	303 182	108 297	autochthonous
tchoř tmavý	<i>Mustela putorius</i>	European polecat	not determined	10 759	7	autochthonous
tchoř stepní	<i>Mustela eversmannii</i>	steppe polecat	not determined			non-autochthonous
zajíc polní	<i>Lepus europaeus</i>	brown hare	shooting 1. 11. - 31. 12. * capture 1. 1. - 31. 1. birds of prey 1. 9. - 31. 12.	267 642	55 794	autochthonous
Birds						
bažant královský	<i>Syrnaticus reevesii</i>	Reeves's pheasant	cock 16. 10. - 15. 3. hen 16. 10. - 31. 12.	444	299	non-autochthonous

bažant obecný	<i>Phasianus colchicus</i>	common pheasant	cock 26. 10. - 31. 12. in pheasantry 16. 10. - 31. 1. capture 1.1. - 31.3. capture in pheasantry 1. 2. - 31. 3. birds of prey 1. 9. - 31. 12.	208 441	517 257	non-autochthonous
hrdlička zahradní	<i>Streptopelia decaocto</i>	collared turtle dove	16. 10. - 15. 2.	138 179	3 936	autochthonous
holub hřivnáč	<i>Columba palumbus</i>	wood pigeon	1. 8. - 31. 10.	176 369	20 212	autochthonous
husa běločelá	<i>Anser albifrons</i>	white-fronted goose	16. 8. - 15. 1.	9 193	1 669	autochthonous
husa polní	<i>Anser fabalis</i>	bean goose	16. 8. - 15. 1.			autochthonous
husa velká	<i>Anser anser</i>	grey leg goose	16. 8. - 15. 1.			autochthonous
kachna divoká	<i>Anas platyrhynchos</i>	mallard	1. 9. - 30. 11.	121 403	268 751	autochthonous
krocán divoký	<i>Meleagris gallopavo</i>	wild turkey	cock 15. 3. - 15. 4. cock and hen 1. 10. - 31. 12.	151	137	non-autochthonous
lyska černá	<i>Fulica atra</i>	coot	1. 9. - 30. 11.	3 625	1 061	non-autochthonous
orebice horská	<i>Alectoris graeca</i>	rock partridge	16. 10. - 31. 12.	104	1 159	non-autochthonous
perlička obecná	<i>Numida meleagris</i>	guinea fowl	16. 10. - 31. 12.	52	120	non-autochthonous
polák chocholačka	<i>Aythya fuligula</i>	tufted duck	1. 9. - 30. 11.	3 118	997	autochthonous
polák velký	<i>Aythya ferina</i>	common pochard	1. 9. - 30. 11.			autochthonous
straka obecná	<i>Pica pica</i>	magpie	1. 7. - 28. 2.	97 141	14 317	autochthonous
špaček obecný	<i>Sturnus vulgaris</i>	starling	not hunt	410 025	74	autochthonous
vrána obecná	<i>Corvus corone</i>	hooded crow	1. 7. - 28. 2.	32 493	2 342	autochthonous
hunting of other animals not included in the Act No. 449/2001						
mýval severní	<i>Procyon lotor</i>	raccoon	-	-	414	non-autochthonous
psík mývalovitý	<i>Nyctereutes procyonoides</i>	raccoon dog	-	-	1 279	non-autochthonous
norek americký	<i>Mustela vison</i>	American mink	-	-	712	non-autochthonous
nutrie říční	<i>Myocastor coypus</i>	coypu	-	-	1 454	non-autochthonous
toulavý pes	<i>Canis lupus f. familiaris</i>	stray dog	-	-	1 043	-
toulavá kočka	<i>Felis silvestris f. catus</i>	stray cat	-	-	16 717	-

* addition to the Table, of hunting time:

In game preserves, game species – those for whom the game preserve has been established and minimum and prescribed game stock was set - can be killed for the whole year. In areas of breeding capercaillie, black grouse, hazel grouse and partridge, wild boar pine martin, stone martin and badger can be killed the whole year. In fenced vineyards, brown hare and wild rabbit can be killed the whole year. As fenced are considered facilities preventing the whole year the access of the above-mentioned game species to the area. On public and non-public domestic and international airports serving for transport or military purposes, all game species that could endanger the safety of air traffic may be killed for the whole year. Special provisions for killing other game species that could endanger the safety of air traffic remain intact.

On the same hunting ground, brown hare shall be hunted just once per year and common pheasant twice per year. This restriction shall not apply to hunting brown hare and common pheasant with birds of prey and hunting common pheasant in pheasantry. While group hunting “on the passage of bird” following species may be killed:

- a) white-fronted goose, bean goose and grey leg goose only three days per week – on Wednesdays, Saturdays and Sundays.
- b) mallard, coot, tufted duck and common pochard only two days per week – on Saturdays and Sundays.

non-hunting grounds shall be taken to mean lands within the boundaries of the currently built-up territory of a municipality, such as town and village squares, marketplaces, streets, yards, paths, playgrounds and parks if these are not agricultural or forest lands outside this territory, built-up sites, orchards, gardens and appropriately fenced nurseries, fenced grounds for the farmed game management, railway precincts, motorways, roads, airports with paved grounds, cemeteries and lands that were declared as non-hunting ones by a decision of the state organ of game management,

hunting grounds shall be taken to mean any other lands not referred above,

continuous hunting grounds shall be taken to mean such hunting grounds where it is possible to get from one ground to another without crossing over someone else's ground; the narrow land strips do not interrupt this continuity, but if they are situated in a lengthwise direction, they do not constitute the continuity between the grounds they connect; motorways, roads of motorway type, dams and airports with paved grounds are not considered as such strips,

hunting rights shall be taken to mean a complex of rights and duties to protect, to keep purposefully and to hunt the game, to appropriate shot or found dead game, its development stages and cast antlers, and to use hunting grounds for these purposes to a necessary extent,

the hunting area shall be taken to mean a complex of continuous hunting grounds of one or several owners defined by a decision of the state organ of game management where hunting rights may be exercised pursuant to this law,

the game preserve shall be taken to mean a type of hunting area with conditions for intensive game keeping; its perimeter shall be permanently and perfectly fenced or treated in another way that the kept game cannot leave the game preserve freely,

the pheasantry shall be taken to mean a part of the hunting area with conditions suitable for intensive keeping of pheasants; the method of evaluation of these conditions and the procedure of delimiting a part of hunting area as pheasantry shall be defined by a decree,

the quality class of hunting area shall be taken to mean the level of its carrying capacity; it shall be based on natural conditions in the hunting area, and it shall be laid down by the state organ of game management in cooperation with organs of the state administration of forests, agriculture and nature conservation whenever any change in the conditions of the carrying capacity of hunting area occurs,

the holder of hunting area shall be taken to mean the person for whom the hunting area is recognised by a decision of the state organ of game management,

the user of hunting area shall be taken to mean the holder of hunting area if he/she uses the hunting area himself/herself or the person who is leased the hunting area by the holder of the hunting area,

for the purposes of this law the artificial person that is established or founded to exercise **ownership rights** of the state and other property rights of the state on state-owned lands shall also be considered as the owner of hunting ground.

9.2 Game keeping and breeding

To preserve all game species in the wild the state organs of game management shall take necessary measures. Geographically autochthonous game species shall be taken care of and protected. Game keeping shall be taken to mean qualified interventions aimed at achievement of

some defined biological goals, maintenance of the equilibrium between hoofed game stocks and environment, maintenance of the natural quality of game genetic resources, targeted improvement of the breeding quality of game and regulation of game stocks to an optimum level.

The holder of hunting area, and in the case of its lease the leaseholder of hunting area (hereinafter the “user of hunting area”), shall provide for game keeping in the hunting area in the extent between the minimum and the prescribed game stock that is laid down by the decision of the state organ of game management on the recognition of hunting area. **The minimum game stock** shall be the stock when the existence of the species is not endangered and its population density guarantees biological reproduction of the species. **The prescribed game stock** shall be the maximally admissible spring stock that corresponds to the quality of the living environment of game and the carrying capacity of hunting area; within the quality class of hunting area it also indicates the required sex ratio and age structure of game and the coefficient of expected production.

Prescribed game stocks shall also be laid down for **the areas of game keeping** that are defined on the proposal of one or several holders of hunting areas by a decision of the state organ of game management. The area of game keeping shall be the continuous territory consisting of a complex of hunting areas with approximately identical suitable natural conditions for game and designed for the keeping of a definite species of hoofed game except roe deer, white-tailed deer and wild boar, or of its local population or subspecies or geographical race, potentially for scarce game species (capercaillie, black grouse, hazel grouse) or endangered game species. As for the hunting area designed for keeping the above-mentioned species of hoofed game, its total size shall be in the area of such game keeping. The creation of the area of game keeping shall not increase the environmental load of the territory in question.

The way of setting down minimum and prescribed game stocks, categorisation of hunting areas or their parts into quality classes shall be laid down by Decree No. 244/2002.

Restrictions imposed to preserve the game species

For the reason of public interest, the state organ of game management may restrict the usual way of hunting use in some hunting areas, to lay down its conditions and to issue instructions for game management in such hunting areas.

The live game and its development stages shall be imported and exported only with the permission of the state organ of game management, under the conditions laid down in this permission. For the import and release of geographically non-autochthonous animal species that are considered as game by the International Hunting Organisation (CIC) the preceding permission of the organ of nature conservation and state organ of game management shall be required and veterinary rules shall be observed. After such a permitted release of any species this species shall become the game pursuant to this law.

Bans imposed in order to preserve the game species

In order to preserve the game species the ban shall be imposed on

- a) the release into hunting areas of individuals of the game species that are kept in farm populations or of their young,
- b) the release into hunting areas of the game and animals that originate by crossing between the game species and the species of farm animals,
- c) the release into hunting areas of the game that is kept in captivity; a dispensation from this ban may be granted by the organ of state nature conservation,

- d) the introduction of other game species into the hunting area without preceding permission of the state organ of game management after the opinion of the organ of state nature conservation is expressed.

Exclusively the holder of hunting area may release the game into the hunting area; another person may do so with his/her permission only. The game shall be released only with the permission of the state organs of game management, forest management and nature conservation for the hunting area in question if it is not the game release after the grant of the dispensation in accordance with item c) or after the issuance of the permission in accordance with item d) or after the issuance of the permission to import the game, or from established intensive game stocks.

Trophy shows

To evaluate the quality of kept game and to control the hunted game the state organs of game management shall be authorised to decide on the organisation of trophy show every year in their territorial districts or for the area of game keeping, and to appoint the panel of assessors for this purpose. A hunting organisation may be charged to organise the trophy show. The users of hunting areas shall be informed about the trophy show and its organisation in a locally established manner. Trophies shall be taken to mean horns, antlers and roe-antlers of horned and antler-bearing game including the skull separated before the first cervical vertebra, weapons of wild boar, skull and skin of some beasts of prey.

For the evaluation of outstanding trophies (trophies exceeding the medal score values according to the method of International Hunting Organisation: red-deer stag 215 scores, Japanese sika deer 260 sc., Dybowski sika deer 400 sc., fallow deer 190 sc., roebuck 140 sc., white-tailed deer 300 sc., moufflon 225 sc., chamois 110 sc., tusker 125 sc.) and for the evaluation at national shows or shows with international participation the central state organ of game management shall appoint the central panel of assessors and shall charge a hunting organisation to keep records on outstanding trophies of the Czech Republic.

Tab.: Medal point limits for CIC trophies

Game	Trophy	Bronze Medal	Silver Medal	Gold Medal
Red deer	Antlers	170.00 - 189.99	190.00 - 209.99	210.00 - over
Jap. sika deer	Antlers	225.00 - 239.99	240.00 - 254.99	255.00 - over
Fallow deer	Antlers	160.00 - 169.99	170.00 - 179.99	180.00 - over
Roe deer	Roe-antlers	105.00 - 114.99	115.00 - 129.99	130.00 - over
Chamois	Horns	100.00 - 104.99	105.00 - 109.99	110.00 - over
Mouflon	Horns	185.00 - 194.99	195.00 - 204.99	205.00 - over
Wild boar	Tusks	110.00 - 114.99	115.00 - 119.99	120.00 - over
Bear	Skull	51.00 - 52.99	53.00 - 54.99	55.00 - over
Bear	Game coat	250.00 - 274.99	275.00 - 299.99	300.00 - over
Wolf	Skull	37.00 - 38.99	39.00 - 40.99	41.00 - over
Wolf	Game coat	100.00 - 109.99	110.00 - 119.99	120.00 - over
Fox	Skull	24.00 - 24.49	24.50 - 24.99	25.00 - over

Before an outstanding trophy is exported abroad, this trophy shall be assessed at least by one member of the central panel of assessors, an assessment plate shall be issued and the trophy

shall be documented photographically. The person exporting an outstanding trophy abroad shall submit the assessment plate to customs officers.

Game keeping in captivity

Game keeping in captivity shall be permitted only with the approval of the state organ of game management. With the application for approval the applicant shall submit the opinions of organs of veterinary services and organs for prevention of cruelty to animals concerning the proposed conditions of game keeping. The approval shall not be necessary if the game is kept in a zoo-garden established by the municipality or by the regional authority or if it is the keeping of hunting birds of prey. These activities shall not be considered as game keeping in captivity: controlled or partly controlled keeping of game birds for the purposes of restocking of hunting areas, care of wounded game carried out by the hunting area user for a necessary time, rescue keeping and stations of needful care of wounded animals established in accordance with the rules of nature conservation. The rescue keeping of specially protected animals and the care of wounded, not specially protected animals if they are the game may be carried out only in facilities approved by the state organ of game management. These animals may be released from these facilities into the hunting area only after the notice to the state organ of game management and with the approval of the hunting area holder and user.

For the temporary keeping of the fox in captivity for the training of hunting dogs the state organ of game management and the organ for prevention of cruelty to animals shall give their approval; they may lay down the conditions for these activities.

9.3 Hunting control and improvement of living conditions of game

9.3.1 Hunting kontrol

The hunting control shall be taken to mean the game protection from adverse environmental influences, infectious diseases, harmful human interventions and from freely running about domestic animals; protection of the living conditions of game, keeping peace and quiet in the hunting area and protection of game management facilities.

Anybody whose activity intervenes in the wild shall act in order to avoid the unnecessary endangerment or hurting of game and impairment of its living conditions.

Restrictions and bans in the interest of control

It shall be banned to rouse the game anyhow except the measures taken to prevent damage caused by the game and permitted hunting methods. It shall also be banned to disturb the game during nesting and bringing forth the young, and to carry out other activities negatively affecting the life of the game as wild animals in case that these are not management operations or activities during visits to hunting areas as the elements of the landscape.

It shall also be banned to damage or destroy salt licks, watering places, facilities for game feeding, watching and hunting and other game management facilities. They may be built and located after the previous approval of the hunting ground owner. If none of the owners of hunting grounds in the hunting area gives such an approval, the state organ of game management shall decide on the location of salt lick, watering place or facility for game feeding. It shall not affect the provisions of special legal rules.

At request of the hunting area user the state organ of game management may impose adequate restrictions or a ban to enter the hunting area or its parts, restriction of rides of draught horses and dogs and restriction of other sport or leisure activities, especially at the time of nesting, bringing forth and nursing of the young. The above-mentioned provisions shall not apply to economic activities of the owners or leaseholders of hunting grounds.

The state organ of game management shall cooperate with other organs of state administration which artificial and natural persons are obliged to notify of mass events organised in the wild, and it shall communicate to these organs the provisions about the protection of game and its living conditions.

Duties of the owners of domestic and farm animals and of ground owners

The owners of domestic animals including hobby animals and individuals of farmed game shall not let them run about in the hunting area beyond the control of their owner or handler.

In the course of farming on the grounds, their fencing for grazing, etc. the owners or leaseholders of these grounds shall prevent the game to be wounded or killed; it shall not affect the provisions of legal rules for the prevention of cruelty to animals. It shall not affect the provisions of special legal rules for game protection in the course of farming on the grounds.

To prevent the loss of game in the course of hunting ground management:

- **the owners or leaseholders of hunting grounds** shall notify in advance the hunting area user of the time and place of agricultural operations to be carried out during night hours, forage crop harvesting and application of chemical products for plant protection,
- **the operators of forage harvesters** shall use efficient clappers, and if possible they shall carry out harvest operations in such a way that the game will be pushed from the middle of the harvested plot towards its margins,
- **the operators of silage pits and clamps** shall take measures to prevent the undesirable access of the game.

Duties of the users of hunting areas

To protect the game the users of field hunting areas shall provide for the establishment of refuges and other suitable escape coverts for game, and the users of forest hunting areas shall provide for the establishment of small fields for game on the grounds where at their request they will be permitted in written to do so by the owner or by the user; the owner or the leaseholder of forest lands may permit this activity only if the rules concerning forests are observed.

Following the notification of the owners or leaseholders of hunting grounds the users of hunting areas shall take necessary measures to rescue the game.

At the time of emergency the users of hunting areas shall take feasible and adequate measures to rescue the game, especially in connection with inundations, floods, forest fires and extremely high snow cover.

The user of hunting area shall take care of cribs, feed troughs, salt licks and watering places, and shall feed the game appropriately at the time of famine. Numbers and capacities of these facilities shall be indicated in the plan of game management and in the annual statistical report on the hunting area.

If the state organ of game management finds out that the game suffers from starvation and if at the call of the state organ of game management the user of hunting area does not rectify the

situation immediately, this organ shall decide on game feeding at the user's cost. The appeal against this decision does not have a dilatory effect.

At least 7 days in advance the users of hunting areas shall announce the activities that may restrict the management of these grounds to the owners or leaseholders of hunting grounds who operate on these grounds and are not members of the hunting guild.

9.3.2 Game-keeper guard

Appointment of the game-keeper guard

The user of hunting area shall propose to the state organ of game management the appointment of one game-keeper guard per each inchoate 500 ha of the hunting area. The game-keeper guard shall be appointed by the state organ of game management for the term of ten years; a repeated appointment shall be possible.

The game-keeper guard may be a natural person who is older than 21 years, is resident in the territory of the Czech Republic, is honest, has the legal capacity, is physically and medically fit for the game-keeper guard's function, demonstrates the knowledge of the game-keeper guard's rights and duties in accordance with this law and the knowledge of related rules, swears this oath: "I swear that as the game-keeper guard I shall conscientiously perform the duties of hunting control, I shall observe legal rules and I shall not act in excess of my rights," has a valid hunting licence and valid firearms licence and is insured, approves in written of the appointment to the function.

Pursuant to this law that person shall not be taken as honest who is sentenced for an intentional crime or who is found guilty for an offence in the game management sector or who is imposed a fine pursuant to this law.

To assess the person's honesty the state organ of game management shall ask for a copy from the records of the Crime Register. The assessment of honesty shall not take into account the sentence obliteration pursuant to a special law.

(Before the appointment the state organ of game management shall check up the knowledge of the proposed person and shall take his/her oath. The appointment of the game-keeper guard shall be effectuated by passing over the service badge with national emblem and game-keeper guard's certificate in which the validity and the range of competence are indicated. The range of the game-keeper guard's competence shall be delimited by the hunting area(s).

The specimen of service badge with national emblem, specimen of game-keeper guard's certificate and details about the conditions for the discharge of game-keeper guard's function and their verification shall be laid down by a decree.

Cancellation of the game-keeper guard's appointment

The game-keeper guard's appointment shall terminate by:

- a) the expiration of the term for which the game-keeper guard's certificate is issued,
- b) the termination of the hunting area lease in the person who is appointed on the proposal of the leaseholder of this hunting area,
- c) by the game-keeper guard's death,

- d) the delivery of game-keeper guard's notification to the state organ of game management about the termination of the function discharge, or by
- e) the cancellation of the appointment by the state organ of game management.

The person whose appointment as the game-keeper guard terminates shall return without delay the service badge and certificate to the state organ of game management that appointed him/her as the game-keeper guard. In case the appointment terminates by the game-keeper guard's death, the duty in question shall be devolved to heirs or to another person who has the service badge and certificate at his/her disposal.

The game-keeper guard's authorisation

The game-keeper guard shall be authorised:

- to ask from the persons who are in the hunting area with firearm or another hunting ammunition to produce firearms licence, firearms certificate, hunting licence, hunting permits and compulsory insurance certificate or any other identification card showing the name, surname, date of birth and place of permanent residence or temporary accommodation,
- to stop and examine conveyances including transported luggage in the hunting area and on special-purpose roads in the hunting area if they are suspect of transporting or containing illegally acquired game, and for this purpose to ask to produce a document of the game acquisition,
- to detain the person who will be caught in the hunting area to carry out an illegal hunt or other activity banned by this law, or the person who will be caught in the hunting area with banned hunting ammunition or with firearm if it is not a person authorised to hold an arm in accordance with special legal rules also on hunting grounds, and to call without delay the Police of the Czech Republic (hereinafter the "police body"),
- to confiscate firearms or banned hunting ammunition, caught, shot or transported game, or hunting dogs and ferrets, from the persons listed under items b) and c) and to order them to leave the hunting area; to protocol the confiscation of these objects and to issue the certification of the object confiscation to the person from whom the object is confiscated and without delay to hand over the confiscated firearms or banned hunting ammunition to the police body; the persons listed in items a) to d) shall comply with the calls or acts implied in them or shall be obedient to them,
- to kill strolling dogs in the hunting area that beyond the control of their handler pursue the game at a distance larger than 200 m from the nearest real estate used for dwelling; if the house is located on the fenced land, the distance from the fence shall be considered. This authorisation shall not apply to shepherd and hunting dogs, to dogs for the blind, to medical, rescue and service dogs; to kill cats strolling in the hunting area at a distance larger than 200 m from the nearest real estate used for dwelling; if the house is located on the fenced land, the distance from the fence shall be considered,
- to kill the racoon, racoon dog, mink or coypu and other introduced, in the wild undesirable, animals species, the list of which shall be laid down by a decree,
- to kill wild-gone farm animals and running about tagged individuals of farmed game at a distance larger than 200 m from the non-hunting ground where the farmed game is kept, after previous notification to the competent local municipality,
- to ask for the assistance or cooperation of the police body or the body of Municipal Police if he/she cannot perform all his/her duties by his/her own forces and means,
- to impose and collect fines for offences in a ticket procedure in accordance with a special legal rule,
- to enter the grounds in the hunting area at the frequency necessary for the discharge of the function.

The game-keeper guard who kills a dog or a cat, a wild-gone farm animal or a tagged individual of farmed game shall notify of it without delay its owner if he/she is known, shall announce him/her the place of killing or shall accompany him/her to this place.

The examination of conveyances and luggage shall not pursue other goal than to reveal whether there is not any illegally acquired game in these conveyances and luggage.

The game-keeper guard's duties

During the discharge of the function the game-keeper guard shall:

- produce the game-keeper guard's certificate and wear the service badge,
- supervise the performance of duties connected with hunting control,
- notify without delay the user of hunting area or the organ that appointed him/her of the revealed faults, deficiencies and damage according to their character, or in urgent circumstances the police body or competent organs of state administration.

The game-keeper guard shall secure the game-keeper guard's certificate and service badge against their misuse, loss or alienation; he/she shall notify without delay of such potential events the organ that issues the certificate and the badge.

The state shall be liable for damage caused to the person that helps the game-keeper guard at his/her request or with his/her awareness. The state shall also be liable for damage caused by the person who helps the game-keeper guard. On behalf of the state, the compensation of damage shall be granted by the state organ of game management that appointed the game-keeper guard.

The knowledge of a game-keeper guard's rights and liabilities is proven in the form of a written examination, set and assessed by the state administration for hunting, from knowledge of the legal provisions regulating:

- a) a game-keeper guard's rights and liabilities according to the act, including the problematic of hunting permits, hunting licences, insurance, hunting grounds, game preserves, non-hunting areas, the hunting season for individual species and banned hunting methods
- b) defining the status and rights of a public servant from the standpoint of the penal law,
- c) criminal procedure from the standpoint of a game-keeper guard's interactions with the organs active in criminal proceedings and notification duties according to the code of criminal procedure,
- d) offence procedures, including on the spot fine procedure, and offences under the hunting section,
- e) proceedings on other legal offences according to the Act,
- f) the criminal act of poaching,
- g) the characteristics of laying out and using terrestrial communications with particular reference to special purpose and local communications,
- h) holding, carrying and transiting arms and ammunition, as well as their usage.

The written examination contains at least 20 questions from the areas above mentioned. Knowledge of a game-keeper guard's rights and liabilities is judged to be proven if at least 75 % of the questions are correctly judged. The written examination can be repeated no sooner than 1 month from the previous, unsuccessful written examination.

The game-keeper guard's service badge: Game-keeper guard's certificate:



9.4 Creation and use of hunting areas

9.4.1 Proposal of hunting areas

General principles of the hunting area creation

The game management may be carried out only within the recognised hunting area. The hunting area consists of continuous hunting grounds. For security or military reasons or for the owner's interest the state organ of game management shall declare as non-hunting grounds other grounds either at its own instigation or on the owner's proposal. If the reason for which the ground is declared as a non-hunting one becomes irrelevant, on the ground owner's proposal or at its own instigation and with the ground owner's approval the state organ of game management shall declare this ground as the hunting one. For the creation of hunting areas the boundaries of cadastral territories, territorial districts or regions shall not be taken into account. The boundaries of hunting areas should coincide, if possible, with natural boundaries discernible in the terrain (water-courses, paths, roads). Hunting grounds creating the hunting area shall extend without interruption. The grounds satisfying the term continuity cannot be allocated to one hunting area if they constitute a barrier to the game movement or a threat to the game, for instance motorways, roads of motorway type, dams and airports with paved grounds. The creation of hunting areas shall take into account their shape. Such a hunting area shall not be created and recognised, the shape of which is a narrow strip of land 500 m in width at its widest place even though it has the defined minimum size. This provision shall not apply to marginal parts of the hunting area (projections). Similarly, such a boundary shall be prevented that would be constituted by the divide of agricultural and forest lands. For this purpose, for the creation of hunting areas the boundaries of hunting areas shall be adjusted by an exchange of hunting grounds or their annexation. The minimum size of hunting area shall be 50 ha for the game preserve, and 500 ha for other hunting areas.

Recognition of the hunting area

An application for the recognition of the continuous hunting area shall be submitted by the owner of hunting grounds or by the preparatory committee of a hunting guild to the state organ of game management. If the application satisfies the conditions laid down this law, the state organ of game management shall take a decision on the recognition of the hunting area. Jointly with other owners of hunting grounds the owner of hunting grounds may establish a hunting guild that may submit an application for the recognition of the guild hunting area if

the conditions are satisfied. The applicant may ask to annex other continuous hunting grounds of other owners to the hunting grounds of minimum size, giving the reasons for this annexation. With the application for the recognition of the game preserve a study of the suitability of natural and other conditions for the intensive keeping of the given game species, a project of management and construction of necessary facilities, an opinion of organs of veterinary services and organs for the prevention of cruelty to animals shall be enclosed with the proposed management conditions. The same provision shall apply to the application for the recognition of the hunting area or its change if it is simultaneously or additionally applied for the establishment of a pheasantry in its perimeter. With the application for the recognition of the hunting area the applicant shall enclose the details about the owners of hunting grounds he/she compiles including the delineation of the hunting area boundaries on a map showing the precise discrimination of the boundaries of hunting areas and a proposal of planned game species and their minimum and prescribed stocks.

9.4.2 Hunting guild

Foundation of the hunting guild

The hunting guild shall be the artificial person founded pursuant to this law:

- a) whose members may be exclusively the owners or joint owners (hereinafter the “owner”) of continuous hunting grounds, the total size of which complies with the size laid down by this law for the creation of the guild hunting area, and
- b) that shall itself exercise hunting rights or shall lease the guild hunting area pursuant to this law.

The hunting guild shall not carry out any business activities on its own behalf, shall not participate in business activities of other persons and shall not establish any organisational units.

The name of the hunting guild shall compose of the words “hunting guild” and of the name of the municipality or ward or district (hereinafter “municipality”), in the territory of which most hunting grounds creating the guild hunting area are situated. If any hunting guild has the same name as another hunting guild in the same municipality, it shall attach an additional word to its name to distinguish both names clearly.

The application for the hunting guild registration along with the application for the recognition of the guild hunting area shall be submitted at least by two owners of hunting grounds who come of the age of 18 years (hereinafter the “preparatory committee”). The application shall be signed by the preparatory committee members, and their names and surnames, birth numbers and places of residence shall be included. It shall also be indicated who of the members is a representative authorised to act on their behalf. The signatures of the preparatory committee members shall be authenticated.

With the application for registration the preparatory committee or the hunting guild shall enclose in duplicate:

- a) the list of owners of hunting grounds who are the members of the hunting guild (hereinafter the “list of members”) including the names, surnames and places of residence,
- b) delineation of the hunting area on a map,
- c) approvals of the owners of hunting grounds to their membership in the hunting guild.
- d) With the application for the hunting guild registration the preparatory committee shall also enclose

- e) the minutes of the constitutive general meeting of the hunting guild where the hunting mayor or the hunting committee are elected and the Statutes are adopted in which the name and the address of the hunting guild, management principles and other essentials shall be given as laid down by this law,
- f) the Statutes of the hunting guild in duplicate.

At the moment of its opening the constitutive general meeting shall be chaired by the member of the preparatory committee who is authorised by the other members of this committee for this act until the chairman of the constitutive general meeting is elected. The minutes of the constitutive general meeting shall be signed by the hunting mayor elected by the general meeting and by the reporter.

The hunting guild shall keep the list of members where the number of votes of the particular members, the name and the address of the member if it is an artificial person, or the name and the place of residence of the natural person who is a member, are recorded.

Origination of the hunting guild

The application for registration shall be submitted to the competent state organ of game management. If the state organ of game management does not find any reason to turn down the registration, the hunting guild shall be registered and the representative of the preparatory committee shall be sent back one copy of the submitted Statutes and of the list of members with the indication of the date of registration. The state organ of game management shall include the hunting guild in the register of hunting guilds to the same date. The state organ of game management shall notify the Czech Statistical Office of the origination of the hunting guild, of its name and address within 7 days from the date of registration.

The state organ of game management shall turn down to include the hunting guild in the register and to recognise the guild hunting area if

- a) the total size of hunting grounds given in the list of members does not reach the size laid down by this law for the origination of the guild hunting area,
- b) the submitted Statutes do not comply with the conditions.

General meeting of the hunting guild:

- a) The competences of the general meeting shall be
- b) to elect and to recall the hunting mayor who is the chairman of the hunting committee at the same time, hunting vice-mayor and other members of the hunting committee,
- c) to adopt proposals of financial management and use of net proceeds presented by the hunting mayor or hunting committee,
- d) to decide on the way of using the guild hunting area including the conclusion, amendment or termination of the contract on the hunting area lease,
- e) to decide on an amendment to the Statutes,
- f) to decide on the admission of the owner of hunting grounds annexed to the hunting area for a member of the hunting guild,
- g) to decide on other issues if it is laid down by this law or if it is reserved by the general meeting.

The general meeting may delegate the competence to the hunting committee.

Transactions of the general meeting

The hunting mayor shall convoke the general meeting usually once a year. If the hunting mayor fails to act, the hunting vice-mayor may convoke the general meeting.

The hunting mayor shall advise all members of the hunting guild that the general meeting will be held, indicating the place, date, hour and agenda. The way of advising may be specified by the general meeting of the hunting guild.

Only the members of the hunting guild shall have the right to vote. The members of the hunting guild shall participate in decisions according to the size of the hunting grounds they own and that are a part of the guild hunting area. The member of the hunting guild shall have one vote per each, also inchoate hectare of the hunting ground he/she owns in the hunting area.

The general meeting shall constitute a quorum if the members or their representatives that have at least fifty percent of votes are present. If the sufficient number of votes is not present within one hour from the fixed beginning of the general meeting, the general meeting may validly proceed to transact business under any quorum.

The general meeting shall decide by the majority vote of the present members.

The minutes containing the course of transactions shall be taken on decisions of the general meeting. The minutes shall be signed by the hunting mayor and by the reporter elected by the general meeting.

Hunting mayor

The hunting mayor shall represent the hunting guild in public. The hunting mayor may conclude, amend or terminate the contract on the hunting area lease only with the previous approval of a competent organ of the hunting guild, otherwise his/her act is invalid.

The hunting mayor and his/her deputy shall be elected by the general meeting for 10 years by the procedure set down in the Statutes, from the members of the hunting guild or from the natural persons that will be proposed by any member of the hunting guild.

If the hunting mayor dies or abdicates, this function shall be discharged by the vice-mayor until the new hunting mayor is elected by the nearest general meeting.

The hunting mayor shall transact all affairs of the hunting guild in case they are not reserved for the agenda of the general meeting; he/she shall observe the instructions of the general meeting if they are in agreement with legal rules and Statutes.

The hunting vice-mayor shall act for the hunting mayor in his/her absence; he/she shall act and decide on all affairs the hunting mayor is charged with.

Hunting committee

If the number of members of the hunting guild is higher than 10, the hunting guild shall elect a hunting committee that shall consist of hunting mayor, hunting vice-mayor and minimally one member and maximally other 5 members of the hunting guild; the number of members shall be set down by the Statutes.

If it is not provided otherwise by the Statutes, the hunting committee shall constitute a quorum if the absolute majority of its members is present; to adopt a resolution the majority of

the present members shall approve it. In the case of the equality of votes the chairman's shall be a casting vote. The minutes containing the course of transactions shall be taken down about the transactions of the hunting committee.

Dissolution and cessation of the hunting guild

The hunting guild shall cease to exist on the date of the erasure of its name from the Register. The cessation of the hunting guild shall be preceded by its dissolution with liquidation. The hunting guild shall be dissolved:

- a) on the date of the cessation of the guild hunting area,
- b) by the expiration of the time for which it was founded,
- c) on the date set in the decision of the general meeting on the dissolution of the hunting guild, otherwise on the date when such a decision is taken; it shall be decided on dissolution in such a way that the contract on the hunting area lease shall not terminate sooner than on the date of dissolution if it was concluded,
- d) by splitting or merging with another hunting guild. The liquidation shall not be administered in this case.

The state organ of game management shall notify the Czech Statistical Office of the cessation of the hunting guild within 7 days from the erasure of its name from the Register.

Membership in the hunting guild

If the member of the hunting guild devolves his/her ownership right to the hunting grounds that are a part of the guild hunting area, his/her membership in the hunting guild shall expire; the transferee shall become a member of the hunting guild unless he/she notifies in written the hunting guild of his/her disapproval of the membership within 30 days from the date of the acquisition of his/her ownership right.

The membership in the hunting guild shall also expire if the administrative authority authorised to such an act pursuant to this law declares the grounds owned by the member of the hunting guild as non-hunting ones.

Hunting guild assets

The hunting guild shall be legally responsible for its liabilities by its all assets. The members of the hunting guild shall be legally responsible for the liabilities of the hunting guild.

The income of the hunting guild may be:

- a) receipts from the lease of the guild hunting area,
- b) gifts and inheritance,
- c) loans and credits and interests on deposits,
- d) other receipts if laid down by a special law.

The hunting guild shall keep accounts pursuant to a special law.

Register of hunting guilds

The Register of hunting guilds administered by the state organ of game management shall be a public list in which the set details about hunting guilds shall be entered or marked. A collection of documents containing the Statutes shall be its part.

These details shall be entered in the Register of hunting guilds:

- a) the name and address of the hunting guild, and the date and number of its registration,

- b) the cessation of the hunting guild, the date and legal ground of the erasure from the Register,
- c) the identification number of the hunting guild,
- d) names, surnames and addresses of permanent residences of the hunting mayor, hunting vice-mayor and other members of the hunting committee,
- e) the identification of hunting grounds constituting the hunting area by a verbal description of the hunting area boundary,
- f) the dissolution of the hunting guild,
- g) the institution of liquidation including the name, surname and address of the liquidator's permanent residence,
- h) the declaration of bankruptcy, the name, surname and address of the permanent residence of the bankruptcy administrator, turning down the proposal for bankruptcy declaration for the lack of assets and institution of the settlement procedure.

The identification number of the hunting guild shall be notified to the state organ of game management by the Czech Statistical Office.

9.4.3 Recognition of the hunting area and its ganges

Procedure of the hunting area recognition

That state organ of game management shall be competent to institute the procedure and to take decision on the recognition of the hunting area in the territorial district of which the hunting grounds of the proposed hunting area are situated. If the hunting grounds are situated in districts of several organs, that organ shall be competent in the district of which the majority of hunting grounds is situated.

The decision on the recognition of the hunting area shall indicate its name, its holder, the size of hunting grounds partitioned according to the types of plantings, boundary description, delimitation of the hunting area perimeter and the list and sizes of annexed hunting grounds giving their owners and reasons for annexation, quality classes of the hunting area for the particular game species proposed by the hunting area holder and their minimum and prescribed stocks.

Annexation

The hunting grounds that do not create the proper or the guild hunting area shall usually be annexed by the state organ of game management to the hunting area that has the longest joint boundary with these hunting grounds and if the game management code does not require their annexation in a different way.

Change and cessation of hunting areas

If it is required by the game management code, the state organ of game management may approve a change of the hunting area by an adjustment of its boundaries or by an exchange of hunting grounds (hereinafter "the hunting area change"). The hunting area change shall not take into account the boundaries of municipalities, districts or regions and the sizes of exchanged grounds need not be identical.

The application for the hunting area change shall be submitted jointly by the holders of the affected hunting areas to the state organ of game management into the territorial district of which the largest part of the affected hunting grounds reaches. If the owners of the affected hunting areas do not reach an agreement that they will submit the joint application for the

hunting area change, the application may be submitted by any of them. In the case of the guild hunting area, the application shall be submitted by the hunting guild.

The state organ of game management shall not approve the hunting area change if the total size of at least one of the affected hunting areas changed by more than 10 %.

On the proposal of hunting area holder, organ of nature conservation or state organ of forest management, in well-founded cases the state organ of game management may decide on the change of minimum or prescribed game stocks for the hunting area concerned.

The hunting area shall cease to exist:

- a) by the dissolution, merging or partitioning of the hunting area at request of its holders and after the new decisions on the hunting area recognition come into force,
- b) by the dissolution of the hunting guild,
- c) if the size of the hunting area decreases below the minimum size as a result of a change in the ownership right to hunting grounds, the hunting area shall cease to exist as on the 31st December of the year consequent on the year when the decrease occurs,
- d) if in the hunting area the state organ of game management declares more than 10% of grounds below the set minimum size as non-hunting ones, the hunting area shall cease to exist as on the 31st December of the year consequent on the year when the declaration is made,
- e) by the decision of the state organ of game management if the game preserve fencing is not functional and if the hunting area holder does not rectify the situation within the adequate time limit set by the state organ of game management.

9.4.4 Use of hunting areas

Decision of the holder of hunting area on its use

The holder of hunting area may use the hunting area himself/herself or he/she may lease it.

If the hunting guild uses the hunting area on its own account, it shall enable its members to participate in the hunting area use preferentially to other persons. The preference shall also be considered in the decision on the hunting area lease.

The hunting area may be leased exclusively to:

- a) the natural person of Czech nationality who has the valid Czech hunting licence,
- b) the hunting association founded in accordance with the rules of the association of citizens in order to lease the hunting area; at least three of its members shall satisfy the condition in item a),
- c) the Czech artificial person that is engaged in agricultural production or forest management on the grounds in these hunting areas or that has game management as the object of its activity and whose statutory organ or at least one of its members or its responsible representative satisfies the conditions laid down in item a).

The artificial persons that manage or administer the state property may lease the hunting area only after the selection procedure is carried out.

It shall not be possible to divide the hunting area into parts, and to permit anybody to carry out game management in these parts; neither shall it be possible to permit the game hunting for payment there if it is not paid shooting with stalking guide.

If the hunting area is leased to the hunting association, this hunting association shall give preference to the applications for membership submitted by the owners or leaseholders of hunting grounds of this hunting area.

Contract on the hunting area lease

The contract on the hunting area lease shall be concluded in written for ten years. The hunting area holder shall send one copy of this contract to the state organ of game management within 15 days from the date on which the contract is concluded.

The rent from the hunting area shall be fixed by agreement of the contracting parties if it is not provided otherwise by this law.

The contract on the hunting area lease shall terminate:

- a) by the expiration of the term,
- b) by the hunting area cessation,
- c) by the cessation or the death of the hunting area leaseholder,
- d) by agreement,
- e) by the notice of termination of the contract with an 18-month length of notice after the hunting area holder changes if the new hunting area holder uses it on his/her account,
- f) by the lessor's or leaseholder's denouncement for the breach of the lease contract conditions,
- g) by decision of the state organ of game management when the leaseholder's breach of the contract imposes a serious danger to the environment or leads to a reduction of game stocks in the hunting area below the set minimum stocks.

The hunting area holder shall notify in written the state organ of game management of the termination of the lease contract within 15 days from the date of their occurrence.

Records of the use of hunting areas

The state organ of game management shall keep records of hunting areas in the territorial district of its powers and records of their use on the basis of decisions or other acts and circumstances.

The records of the use of hunting areas shall comprise the records of game managers and game-keeper guards with their personal data, dates of their appointment, recall and issuance of certificates, and the records of hunting dogs used for the hunting area.

9.5 Game management and hunting

9.5.1 Game manager

The hunting area user shall propose to the state organ of game management the appointment of game manager. It shall be assumed for the discharge of this function that the proposed person:

- a) has the legal capacity,
- b) is older than 21 years,
- c) is honest; to prove his/her honesty he/she shall submit an abstract from the records of the Crime Register; the imposed fines for offences in the game management sector and the fines for the offences imposed pursuant to this law shall not be considered if two years have elapsed since when the decision on their imposition comes into force,

- d) is resident in the territory of the Czech Republic,
- e) has the valid hunting licence,
- f) has the valid firearms licence of group C,
- g) is insured, and
- h) passes an examination from game management at a university where game management is a subject of the curriculum, or successfully graduates from a secondary vocational school or a higher vocational school where game management is a course of study or a compulsory subject of the curriculum or passes a higher-level hunting examination or an examination for game managers; the certification of the examination issued by its organiser shall be a public instrument.

The user of the hunting area shall propose the appointment of the game manager within 15 days after the decision on the hunting area recognition comes into force, after the contract on the hunting area lease is concluded or after the decision on the recall or cessation of the function of the hitherto game manager comes into force, and after the delivery of the decision by which the appointment of the proposed person as the game manager is turned down.

In the discharge of his/her function the game manager shall be authorised:

- a) to elaborate, and to sign jointly with the representative of the hunting area user, documents concerning the game management, for instance a draft of the game management plan and statistical report of the hunting area situation,
- b) to represent the hunting area user during transactions concerning the game management,
- c) to control the shot game and its tags, to be informed in advance about searching for the wounded game that crossed the border from the adjacent hunting area,
- d) to ask persons hunting the game in the hunting area to produce the hunting licence and certificate of compulsory insurance; if he/she finds out that the hunting licence is not valid or if the certificate of compulsory insurance is not produced, to call on the hunter to leave the hunting area and to notify the state organ of game management of this case; the persons concerned shall produce the required documents or leave the hunting area,
- e) to kill strolling dogs and cats, other animals harmful to game management, wild-gone domestic animals and running about individuals of farmed game.
- f) to lead group hunting, to ask for certificates of hunting dogs, to stop group hunting if the conditions laid down for it are not satisfied or if the safety rules of the use of hunting arms are not observed.

In the discharge of his/her function the game manager shall:

- a) produce the game manager's certificate,
- b) perform the duties connected with game keeping and hunting,
- c) propose to the hunting area user measures for correct game management in the hunting area; be responsible to him/her for such management,
- d) keep records on management in the hunting area, especially on shot game, its sale and other dispositions of it, and shall prepare statistical reports for state organs of game management,
- e) register issued hunting permits, hunting dogs used in the hunting area (classified as dogs included in the minimum prescribed number for the hunting area and as other dogs), keep other prescribed records,
- f) organise collective searching for game using hunting dogs at the latest on the day following the day when the hunt terminated,

- g) exclude from the hunt shooters, beaters and other persons that are under the influence of alcohol or other toxics, persons younger than 15 years and the persons that seriously infringe the safety rules; the above-mentioned persons shall leave the place of the hunt,
- h) take and provide for the measures to protect game,
- i) notify without delay the hunting area user and the state organ of game management that appointed him/her of detected faults, deficiencies and damage according to their character,
- j) secure the game manager's certificate against misuse, loss and alienation; he/she shall notify without delay of such potential events the state organ of game management that issued the certificate.

The game manager shall be appointed and recalled by the state organ of game management on the hunting area user's proposal.

The specimen of the game manager's certificate, the passing of examinations for game managers, and which game management organisations and which schools where game management is a course of study or a compulsory subject of the curriculum may be charged to organise these examinations shall be laid down by a decree.

Game manager's certificate:



9.5.2 Game management plan

Elaboration of the plan

The hunting area user shall carry out the game census in the hunting area every year as to the date fixed by the state organ of game management and shall notify in written of the result the competent state organ of game management within 5 days. The hunting area holder and holders of adjacent hunting areas shall have the right to participate with their representatives in the census and to comment on its results to the state organ of game management. If any holder of hunting area does not agree with the census result and notifies of it in written the state organ of game management not later than within one week from the date on which the census is carried out, this organ shall order a new final census.

The hunting area user shall elaborate the plan of game management in the hunting area every year (hereinafter the "plan"). The elaboration of the plan shall be based on the assessment of the general condition of the ecosystem, result of comparison of control and comparative plots and degree of damage caused by the game to forest and agricultural stands in the past period,

game census results, set minimum and prescribed game stocks, sex ratios and coefficients of expected production and on the aims that are given in the application for the hunting area recognition. The part concerning the game management shall indicate planned stocking, construction of game management facilities, measures of the care of game and of the protection and improvement of living conditions for game. If the hunting area is located in the area of game keeping, the plan shall be based on conclusions and recommendations of the state organ of game management that defined the respective area of game keeping.

The hunting area user shall submit the plan to the hunting area holder to express his/her opinion. If the hunting area holder does not express his/her opinion within 15 days from the delivery of the plan, it shall be presumed that he/she agrees with it. If no agreement on the plan between the hunting area holder and the hunting area user is reached after the hunting area holder expresses his/her opinion, on the proposal of either of them the plan shall be set down by the state organ of game management by decision. The hunting area user shall send the approved or agreed-on plan to the state organ of game management.

The state organ of game management shall be authorised to control the fulfilment of plans. For this purpose, if not agreed otherwise, the hunting area user shall submit monthly written reports on the plan fulfilment, before the fifth day of the month consequent on the month when the hunt takes place.

In the hunting areas where the minimum and prescribed stocks are not set for any species of hoofed game, after the state organ of game management expresses its opinion the females and males of these game species to the age of 2 years may be shot in the fixed period of the hunt without any restrictions and without the plan elaboration and consideration.

The conditions, model and detailed instructions for the plan elaboration shall be laid down by a decree.

Amendments and fulfilment of the plan

Amendments of the plan shall be taken to mean separate decisions of the state organ of game management on the reduction in game stocks in the hunting area or on the abolishment of the keeping of a game species in the hunting area and on the permission of game shooting in the closed season. The game acquired by shooting on non-hunting grounds, by searching and found dead game shall be included in the fulfilment of the plan.

Hunting records and statistics

The hunting area user shall keep records on the hunting area and game management therein and shall submit reports to the state organ of game management for statistical purposes. The keeping of hunting records and statistics of the hunting area and game management therein shall be a part of the sector statistical reporting.

The appointed municipal authorities within delegated powers shall process statistical reports on game management for the hunting areas in their territorial scope of powers.

9.5.3 Permission of Hunting in special cases

Reduction in game stocks and abolishment of game keeping

If it is in the interest of the owner or leaseholder of hunting grounds or in the interest of agricultural or forest production, nature conservation or in the interest of game management to reduce the stocks of a game species, the state organ of game management shall permit or impose on the hunting area user the relevant adjustment of game stocks. If it is not possible to decrease damage caused by the game by technically adequate and economically acceptable methods, on the proposal of the owner or leaseholder of hunting ground or on the proposal of the organ of nature conservation or the state organ of forest management the state organ of game management shall impose the reduction in game stocks to a minimum level or shall abolish the keeping of the game causing damage.

Permission of hunting out of the hunting season

If there is a need to hunt for scientific purposes out of its hunting season any game species that is not preserved, the state organ of game management shall permit such hunting. If the applicant and the hunting area user do not reach an agreement, it may be decided on the method of hunting, compensations, etc. in the permission. The same procedure shall be applied to the permission of game capture, hunting of wounded game and hunting of game for the purposes of training and trials of hunting dogs and hunting birds of prey.

Permission of hunting on non-hunting grounds

If there arises a need of single reduction or of permanent reduction in the stocks of a game species or of other animal species (for instance wild-gone pigeons in towns) on non-hunting grounds, the state organ of game management shall permit their hunting on these grounds at the request of their owners or leaseholders or at its own instigation. Hunting may be permitted also out of the hunting season. The charged persons and persons designated by the respective user of hunting area shall be authorised to enter non-hunting grounds with the firearm, hunting dog or hunting bird of prey, after the previous approval of the owner or leaseholder of non-hunting grounds.

9.5.4 Seasons of hunting and its conditions

Hunting season and hunting conditions

Exclusively the game that is not preserved may be hunted in the fixed hunting season. If the organ of nature conservation decides on the hunting of animals that are not considered as game, such hunting may be carried out under set conditions by the person authorised pursuant to this law (the holder of hunting licence).

Hunting seasons for the particular game species and detailed hunting conditions shall be laid down by a decree.

Game searching

The hunting area user shall ensure trailing and searching for the game wounded by shooting or in another way that crosses the border to someone else's hunting area or to non-hunting grounds; he/she may use the hunting dog for this activity.

The persons searching for game shall be authorised to enter if necessary the grounds of someone else's hunting area and unfenced non-hunting grounds with the firearm and hunting dog, after the previous notice to the user or owner of someone else's hunting area or the leaseholder of non-hunting grounds who may participate in game searching and who shall enable to

carry out game searching. Searching on the fenced non-hunting ground shall be carried out exclusively after the approval of its owner or leaseholder.

The searched game shall belong to the user of the hunting area from which it crosses the border. Dead game that is found otherwise on non-hunting grounds shall belong to the user of the nearest hunting area who shall act in accordance with veterinary rules.

Use of hunting dogs and hunting birds of prey

The hunting area user shall keep hunting dogs and use them in the hunting area. The hunting dog shall be taken to mean the dog of the hunting breed certified by the International Cynological Federation (FCI), with pedigree, which passed the respective field trial. The certification of the trial issued by its organiser shall be a public instrument.

The hunting bird of prey shall be taken to mean the bird of prey kept for falconry; it need not be the game species. The use of hunting birds of prey shall be permitted by the state organ of game management. The holding and keeping of the hunting bird of prey shall be possible exclusively after the dispensation from the basic conditions of specially protected animals is granted in accordance with the rules of nature conservation and under the conditions set down in the permission. The holder of the hunting bird of prey shall pass falconry trials and shall be a member of a falconry organisation.

Detailed instructions for the use of hunting birds of prey and for the use of hunting dogs, their number set down for the particular types of hunting areas and group hunting, the performance of field trials of dogs and falconry trials, and what hunting organisations and what schools at which game management is a course of study or a compulsory subject of the curriculum may be charged with the organisation of these trials shall be laid down by a decree.

9.5.5 Banned hunting methods

Game hunting shall be carried out by the method corresponding to hunting principles, nature conservation principles and principles of prevention of cruelty to animals. It shall be banned:

- a) to catch the game into snares, on bird-lime, into steel-traps, into cage traps for hawks, dead-fall traps and contact traps and by means of hooks, to catch muskrats into basket traps,
- b) to hunt the game by the method causing useless torments, to poison the game or to kill it with gas,
- c) to catch the game into trapping nets unless it is caught for the purposes of stocking or unless the feathered game is caught for ornithological research,
- d) to shoot the feathered game with decoy owl, to catch the game by means of living animals used as baits,
- e) to drive roe deer by pointers and other hoofed game by dogs with the height at withers more than 55 cm,
- f) to shoot the woodcock by driving by the dog and by rousing by beaters,
- g) to hunt the game with electric appliances that can kill or stun, with sources of artificial light, mirrors, appliances for the target illumination, with the sight for shooting by night with electronic magnification of the image or for the image reversal, with the reproducer set with game voices, with explosives,
- h) to hunt the game by means of mechanisms moving on the ground, above the ground or on the water surface if it is not a boat sailing at a speed slower than 5 km/hour,

- i) to shoot the game with other firearms than hunting firearms (rifle or shotgun or combined firearm designed for hunting purposes),
- j) to shoot the game with banned firearms, their attachments and ammunition,
- k) to shoot roe deer with other firearms than with the rifle with a bullet cartridge of the energy within 100 m lower than 1 000 J (Joules) and other hoofed game of the energy lower than 1 500 J; this shall not apply to the shooting of piglets and hoggets of wild boar that may be shot with the shotgun with a shotgun bullet during beat, drive hunt and silent beat,
- l) to shoot the game with semi-automatic or automatic firearms with the magazine for more than 2 cartridges,
- m) to hunt the game except wild boars and red foxes during the night, i.e. an hour after sunset to an hour before sunrise; to hunt the wild boar and red fox during the night without the use of appropriate optical viewing and shooting devices,
- n) to hunt the game in the time of famine at a distance shorter than 200 m from feed mangers and salt licks,
- o) to add attractants and narcotics to feed unless they are added for the purposes of game capture,
- p) to shoot the game in nests and to liquidate the nests by shooting,
- q) to hunt the game on hunting grounds on which the harvest of agricultural crops is carried out at the same time, and on adjacent grounds at a distance shorter than 200 m from the boundary of these grounds,
- r) to hunt the game by still hunt at a distance shorter than 200 m from the boundaries of the adjacent hunting area, to shoot pheasants at a distance shorter than 200 m from the adjacent pheasantry, and at these distances to feed the game, to place game management facilities and to carry out hunting from game management and other facilities,
- s) to shoot hoofed game in capture and acclimatisation facilities and in wintering facilities except the game that is wounded and undesirable for breeding,
- t) to shoot during group hunting hoofed game except hinds and calves of red deer and sika deer, moufflon ewes and moufflon lambs, piglets and hoggets of wild boar; this ban shall not apply to hunting in game preserves,
- u) to shoot brown hare, common pheasant, rock partridge, guinea fowl, mallard, common pochard, tufted duck, coot, grey leg goose, white-fronted goose and bean goose otherwise than with the hunting shotgun during group hunting with the participation of at least 3 sportsmen and set number of hunting dogs,
- v) to use lead shots to shoot waterfowl.

In the decision of the state organ of game management on the permission or on the imposition of the game stock adjustment in the hunting area or on the abolition of the keeping of a game species it may be stated that for such adjustment of game stock the ban shall not be applied to some hunting methods laid down in item g) if it is hunting by night, and in items m), t) and u). The bans or restrictions of hunting laid down by special legal rules shall not be affected.

9.5.6 Hunting permit, hunting licence and compulsory instance

Hunting permit

Who hunts the game shall have the hunting licence, hunting permit and certificate of compulsory insurance with him/her; for the hunt with the firearm he/she shall have firearms licence and firearms certificate, and for the hunt with the hunting bird of prey its registration card. These certificates shall be produced at request by the person who hunts the game to the police

body, state organ of game management, game manager and game-keeper guard of the respective hunting area.

Hunting permits shall be issued and signed by the hunting area user on forms designed for this purpose. For the persons taking part in group hunting a list of participants in this hunt (collective hunting permit) may be used instead of the hunting permit. The hunting area user shall file the records of issued permits including their specimens for at least 3 years after the expiration of their validity.

Hunting licence

Hunting licences shall be issued by the state organ of game management in the district of which the applicant has his/her permanent residence. Hunting licences to foreigners and Czech citizens – nonresidents shall be issued by the state organ of game management in the district of which they stay.

Types of hunting licences:

- a) hunting licence for Czech citizens,
- b) hunting licence for pupils and students of vocational schools at which game management is a course of study or a compulsory subject of the curriculum,
- c) hunting licence for foreigners.

The hunting licence shall be issued exclusively to the person who proves that he/she:

- a) is older than 16 years,
- b) has the legal capacity,
- c) passed a hunting examination or an examination from game management at a university where game management is taught, or is the pupil, student or graduate from a higher vocational school at which game management is a course of study or a compulsory subject of the curriculum; in foreigners the valid certificate authorising to hunt issued abroad shall be considered as a proof of the hunting examination; the certification of the hunting examination issued by its organiser shall be a public instrument,
- d) is an honest citizen of the Czech Republic; to prove his/her honesty he/she shall submit an abstract from the records of the Crime Register; the imposed fines for offences in the game management sector and the fines for the offences imposed pursuant to this law shall not be considered if two years have elapsed since when the decision on their imposition came into force; in the foreigner who is not resident in the territory of the Czech Republic and who applies for the issuance of hunting licence for a period shorter than 30 days the valid hunting licence from the country of his/her residence may replace an abstract from the Crime Register,
- e) is insured.

The state organ of game management shall withdraw the hunting licence maximally for a period of 5 years if such a circumstance is additionally found out due to which the issuance of hunting licence would have to be withheld or if such a circumstance occurs after its issuance. The state organ of game management may withhold the issuance of hunting licence if criminal proceedings or administrative procedure for the fine imposition are instituted against the applicant.

A decree shall lay down details about the issuance and withdrawal of hunting licences, obligatory essentials of the hunting permit, and the contents of hunting examinations and the method of their performance, and what hunting organisations and schools at which game ma-

nagement is a course of study or a compulsory subject of the curriculum may be charged with the organisation of hunting examinations.

Compulsory insurance

Anybody who hunts the game shall be insured for his/her liability for damage resulting from this activity, caused by injury to health or killing of other persons with the limit of indemnity at least 20 000 000 Kč, and for material damage with the limit of indemnity at least 500 000 Kč per insured accident. The insurance terms and conditions that will specify the scope of insurance shall not contain an exclusion due to which the insurance does not cover the cases of careless behaviour of the insured.

For the members of hunting organisations that conclude collective insurance policies with insurance companies and whose members pay the insurance premium simultaneously with the membership fee the membership card of the hunting organisation in which the payment of membership fee for a current year is confirmed and a note is given that the membership fee includes the payment of compulsory insurance pursuant to this law shall be the certification of compulsory insurance.

Other persons shall prove their insurance by the insurance policy.

9.5.7 Game control and utilisation

Method of controlling the hunted game

Each body of shot or found utilisable hoofed game shall be marked with unremovable seal immediately after shooting, finding or after searching is carried out; clearable seals shall be issued to users of hunting grounds by the state organ of game management. In the other game species shot during group hunting the hunting area user shall issue a certificate of origin when more than 10 bodies are transported; it shall also apply to the game searched after group hunting.

Types of seals, certificates of the game origin, their issuance, recording, fixation, removal, etc. shall be laid down by a decree.

Handling of shot game

The handling of game after its shooting shall be governed by veterinary rules; it shall also apply to the handling of killed wild-gone farm animals or tagged individuals of farmed game.

Putting shot game into circulation

The hunting area user may sale only the game, venison and other parts of game coming from his/her hunting area; he/she shall keep records on shot game, its sale and his/her own consumption. The game sale shall be governed by veterinary rules.

For each body of hoofed game the carrier shall have the filled-in certificate of game origin with him/her, indicating the date of shooting and the hunting area where it was shot, and the seal number. The carrier shall hand over the certificate of game origin to the recipient of the game. The recipient of the game shall keep the certificate of game origin and the removed seal for a month from the date of reception, the trader in venison or the person who uses venison for catering or other purposes within 6 months from the date of game acquisition. Putting the game into circulation is subject to veterinary rules. If the hunting season differs according to

the sex in some game species, venison may be bought from hunting area users only if the sex of the body of game can be identified unambiguously.

After capture the live game shall be transported only if the requirements laid down by veterinary rules are met. The young of hoofed game until the age of 6 months shall be transported only with their mothers.

9.6 Damage caused by the use of hunting area, by game and to game

Liability of the hunting area user

The hunting area user shall compensate for:

- a) the damage that is caused in the hunting area by hunting activities to hunting grounds or to standing field crops, grapevine or forest stands,
- b) the damage that is caused in the hunting area by game to hunting grounds or standing field crops, grapevine, fruit orchards or forest stands.

If the hunting right is exercised by an association, its members are liable for the damage compensation jointly and severally.

The damage caused by game that escapes from the game preserve shall be compensated by the game preserve user. The game preserve user shall be absolved from liability if he/she proves that the game escape was possible due to the damage to the game preserve fence by an unavoidable event or by the person for whom he/she is not liable.

Measures to prevent damage caused by game

The owner or the leaseholder of hunting ground shall take adequate measures to prevent damage caused by game while the game may not be injured.

Uncompensated damage caused by game

Damage shall not be compensated if caused by game to non-hunting grounds, to the grapevine not treated against damage caused by game, to unfenced flower nurseries or fruit orchards or vegetables gardens, to tree alleys, to solitary trees and to high-priced crops. What crop is high-priced shall be decided, in case of doubt, by the state organ of game management. Neither shall damage caused by game to agricultural crops that are not harvested at agrotechnical terms be compensated nor damage to agricultural crops stored on hunting grounds if the person who stores the crops does not take any measures to ensure the efficient protection against damage caused by game. Damage shall not be compensated to forest stands protected by fencing against damage caused by game, to individual plants where only lateral shoots are damaged and to forest plantings where less than 1 % of individuals per year suffer damage by browsing, fraying or grubbing of trees, for the whole time until the forest stand is established while damaged individuals must be distributed evenly on the plot. Damage caused by the game whose stocks cannot be reduced by shooting shall be compensated by the state.

Claims to compensation

The compensation for damage caused by game shall be claimed by the injured person with the hunting area user:

- a) for damage to agricultural lands, field crops and agricultural stands within 20 days from the date on which the damage is incurred,

- b) for damage to forest lands and forest stands established in the period from 1st July of the preceding year to 30th June of the current year within 20 days from the elapse of the given period.

Simultaneously with the claim for the compensation for damage caused by game the claimant shall estimate the extent of damage. In field crops and agricultural stands where damage can be estimated only at the time of harvest, the claimant shall estimate it within 15 days after harvest.

The claimant and the hunting area user should agree on the compensation for damage caused by game. If the hunting area user does not compensate for damage within 60 days from the date on which the claimant files his/her claim and estimates the extent of damage or if he/she does not make a written agreement on the compensation for such damage in the same time limit, the claimant may bring an action for the compensation for damage.

Compensation for damage caused to game

Liable for damage to game shall be anybody who causes it by the breach of legal duty. The damage to game shall be taken to mean mainly illegal hunting of game (poaching), game death, destruction of breeding places, impairment or destruction of the environment necessary for the life of game and the release of animals that may disturb the natural equilibrium or impair the gene resources of geographically autochthonous game species. The compensation for damage shall be claimed by the hunting area user.

9.7 State administration of game management

9.7.1 State organs of game management and their powers

State organs of game management

Ministry of Agriculture shall be the central organ of state administration of game management in the Czech Republic, except the territories of national parks. Ministry of Environment shall be the central organ of state administration in the territories of national parks. Regional authority within delegated powers shall be the organ of state administration of game management in the territory of administrative regions.

Municipal Authority of the Capital of Prague shall be the organ of state administration of game management in the territory of the capital of Prague. The delegated powers that are conferred by this law to appointed local authorities may be conferred to wards by the Statutes of the Capital of Prague. Local authority of the municipality with extended powers shall be the organ of state administration in the territory of municipalities. The powers of administrative regions within delegated powers and of municipalities within delegated powers on the grounds designed for national defence shall be performed by Ministry of Agriculture. In national parks the administrations of national parks shall exercise the powers that are conferred to municipalities; the powers of administrative regions shall be exercised by Ministry of Environment.

The minister of agriculture shall institute Hunting Council as his/her board of advisers consisting mainly of representatives of other administrative authorities, national hunting organisations, agricultural and forest organisations, universities and research institutes with activities in the game management sector.

Powers of Ministry of Agriculture

Ministry of Agriculture shall decide on:

- a) measures taken to preserve the game species,
- b) import, export and release of game species,
- c) the affairs of game management relative to organisations subordinated to Ministry of Defence,
- d) the imposition of measures to remove deficiencies found out by supervision.

Ministry of Agriculture shall:

- a) control the execution of the state administration of game management,
- b) organise and control game management research and participate in game management education,
- c) elaborate concepts of game management development,
- d) participate in international cooperation, programmes and projects,
- e) take care of the preservation of game species,
- f) appoint the central panel of trophy assessors,
- g) charge a hunting organisation to keep records on outstanding trophies,
- h) charge artificial persons to organise examinations for game managers,
- i) charge artificial persons to organise falconry trials, field trials of dogs and hunting examinations,
- j) charge national hunting organisations to organise national and international hunting exhibitions or to perform other selected tasks in the game management sector,
- k) cooperate with citizens associations pursuing game management activities,
- l) ensure the organisation of higher-level hunting examinations,
- m) support selected game management activities by the provision of services or allocation of financial resources, particularly in the area of education, support to endangered and rare animal species, assessment of game populations and trophy shows, game management divulgation and promotion, improvement of the living environment of game, hunting cynology, falconry and keeping of birds of prey, use of birds of prey in plant protection, preventive veterinary measures and control of infections in game populations,
- n) elaborate statistical reports on game management.

The contents of higher-level hunting examinations shall be to test the knowledge of game management and generally binding legal rules of game management and related rules. These examinations shall not be passed by graduates from secondary or higher vocational schools at which game management is a course of study or a compulsory subject of the curriculum nor by the persons who passed an examination from game management at a university where game management is taught. The details about the contents and scope of higher-level hunting examinations including the method of their organisation shall be laid down by a decree.

Powers of administrative regions

The administrative region within delegated powers shall decide on:

- a) approval with game keeping in captivity,
- b) restriction of ordinary management in some hunting areas,
- c) definition of areas for game keeping,
- d) declaration of other grounds as non-hunting ones,
- e) permission to use birds of prey as hunting ones,
- f) imposition of measures to remove deficiencies found out by supervision.

The administrative region within delegated powers shall:

- a) administer the affairs of game keeping areas,
- b) organise trophy shows in game keeping areas,
- c) fix the dates of game census,
- d) elaborate statistical reports on game management,
- e) participate in game management education and research,
- f) cooperate with citizens associations pursuing game management activities and with the public.

Powers of municipalities

In the matters not laid down in State organs of game management, Powers of Ministry of Agriculture and Powers of administrative regions the state administration in the game management sector shall be executed by local authorities of municipalities with extended powers.

9.7.2 Game management supervision

In the framework of their powers laid down by a special legal rule Ministry of Agriculture and Ministry of Environment shall supervise how the state organs of game management, natural and artificial persons observe the provisions of this law and of the rules issued for its implementation and how they respect the decisions taken on the basis of thereof.

Administrative regions and municipalities within delegated powers shall supervise the observance of this law and rules issued for its implementation. They shall supervise in a systematic way whether the decisions they take are respected, whether hunting area users perform game management pursuant to this law, carry out hunting control and observe the principles of game keeping.

By decision the state organs of game management shall impose a duty to take measures to remove found deficiencies and to rectify the situation; they shall be authorised to decide, if necessary, on the restriction of the hunting area use until the deficiencies or their causes are removed.

The officials of state organs of game management may wear uniforms during the discharge of their functions.

9.7.3 Support to game management and hunting associations

The state shall support selected activities of game management listed in this part of the law by the provision of services or allocation of financial resources. Financial resources may be granted mainly to:

- a) improvement of the living environment of game,
- b) support of endangered game species,
- c) park keeping of rare game species or subspecies,
- d) keeping and training of national breeds of hunting dogs and hunting birds of prey,
- e) use of birds of prey in plant protection,
- f) preventive actions of veterinary care and to the control of infections in game populations,
- g) greenery planting in the landscape including tree species fencing,
- h) trophy shows and hunting exhibitions, promotion and divulgation of game management.

The rules for the allocation of financial resources shall be set down every year in the framework of the rules for support to forest management that are an appendix to the state budget and of the rules for the use of financial resources from the Environment Fund.

10 244/2002 COLL. DECREE

Of the Ministry of Agriculture as of 7th of June 2002, implementing several provisions of act no. 449/2001 coll., on hunting

This Decree has 9 parts, which are:

- I. Details on the preconditions for carrying out the functions of a game-keeper guard and their verification, badge and game-keeper guard's Certificate
- II. Game Manager's Certificate, the manner of carrying out examinations for Game Managers and hunting organisations and schools that could be commissioned by to organisE these examinations
- III. Further instructions on using birds of prey and hunting dogs, their number and the manner of carrying out examinations of the dog's performance and falconry examinations and hunting organisations and schools that could be accredited with organising these examinations
 - title 1. Birds of prey
 - title 2. Hunting dogs
- IV. Hunting licences, hunting permits and hunting examinations
 2. Details on issuing and withdrawing hunting licences
 3. Obligatory requisites for hunting permits
 4. Hunting examinations
- V. Control methods for hunted game
- VI. Higher professional hunting examinations
- VII. The service uniform for employees of the state administration organs for hunting and their service badges
- VIII. Common provisions
- IX. Nullifying and concluding provisions

The decree, among other deals with:

10.1 Birds of prey

Further instructions on the use of birds of prey

Birds of prey in falconry can only be used by persons that have a hunting licence, have sat the falconry examinations and use the birds of prey in accord with the legal prescriptions in the article environmental and landscape protection. For hunting game only birds of prey that, in their size and hunting method, correspond to the species and size of the game being hunted can be used. A bird of prey must always be fastened by both limbs and it is not allowed to be on the leash when in free flight. The bird of prey must be marked for identification purposes with the keeper's legible tag and his/her address. The bird of prey can be taken to the hunting ground or training area by being carried in the hands or in a space for transporting persons in a car with a tie on both legs and, if needs be, a hood. Conveying birds of prey in transport means for longer distances follows a special legal rule.

10.2 Hunting dogs

Further instruction on the use of hunting dogs:

In the hunting ground hunting dogs are used, which have passed tests from these exercises:

- d) locating, tracking and fetching small game that has been killed, shot or injured in another manner,
- e) locating and trailing hoofed game that has been killed, shot or injured in another manner,
- f) den hunting.

For the purposes of this decree it is supposed that:

- h) **locating** - searching for and finding live small and hoofed game in the hunting ground in all natural conditions,
- i) **tracking** – trailing stricken small game directly after having been shot or injured in some other manner and retrieving them or retrieving the game animal killed by shooting or some other method of killing, all in natural conditions,
- j) **fetching** – bringing dead, shot or injured in some other manner small game all in natural conditions,
- k) **trailing** – following hoofed game that has been shot or injured in some other manner and retrieving them or retrieving the game animal killed by shooting or some other method of killing, all in natural conditions,
- l) **going to ground** – hunting game under ground,
- m) **hoofed game** - fallow deer, red deer, white tailed deer, chamois, bezoar goat, mouflon, wild boar, Dybowsky sika deer, Japanese sika deer, roe deer, and even elk if it is permitted to be hunted according to special regulation,10)
- n) **small game** – brown hare, wild cat, badger, wild rabbit, martens, red fox, muskrat, polecats, raccon dog, pheasants, doves, pigeons, coot, magpie, crow, rook, grouses, goshawk, buzzards, cormorant, partridge, sparrow-hawk, harriers, kestrel, black-headed gull, woodcock, European jay, grey heron etc.

The number of dogs set for individual types of hunting grounds

For a hunting ground, that has a set quality state, minimum state and standardised state of small game the number of dogs on it is set at:

- a) in hunting grounds up to 1000 ha
 - 1. 1 dog with the hunt tests for locating small game, tracking small game and fetching small game that has been shot, wounded or injured in some other manner or killed and
 - 2. 1 dog with the hunt test for den hunting,
- b) up to 3000 ha
 - 1. 2 dogs with the hunt tests for locating small game, tracking small game and fetching small game that has been shot, wounded or injured in some other manner or killed and
 - 2. 1 dog with the hunt test for going to ground,
- c) from 3000 ha
 - 1. 3 dogs with the hunt tests for locating small game, tracking small game and fetching small game that has been shot, wounded or injured in some other manner or killed and
 - 2. 2 dogs with the hunt test for den hunting.

For a hunting ground that has a set quality state, minimum state and standardised state of hoofed game sets the number of dogs on it to be:

- a) in hunting grounds up to 1000 ha
 - 1. 1 dog with the hunt tests for locating hoofed game and trailing hoofed game that has been shot, wounded or injured in some other manner or killed and
 - 2. 1 dog with the hunt test for den hunting,
- b) up to 3000 ha
 - 1. dogs with the hunt tests for locating hoofed game and trailing hoofed game that has been shot, wounded or injured in some other manner or killed and

2. 1 dog with the hunt test for den hunting,
- c) from 3000 ha
1. 3 dogs with the hunt tests for locating hoofed game and trailing small game that has been shot, wounded or injured in some other manner or killed and
 2. 2 dogs with the hunt test for den hunting.

In the event that the hunting ground has a set quality state, minimum state and standardised state for both small and hoofed game the number of dogs with the going to ground test is set out to be:

- a) in a hunting ground up to 3000 ha 1 dog,
- b) in a hunting ground more than 3000 ha 2 dogs.

In the event that the hunting ground does not have a set quality class, minimum state and standardised state for either small or hoofed game, it sets the number of dogs for all hunting ground sizes to be:

- a) 1 dog with the hunt tests for locating, tracking and fetching small game that has been shot, wounded or injured in some other manner or killed,
- b) 1 dog with the hunt tests for locating, and trailing hoofed game that has been shot, wounded or injured in some other manner or killed and
- c) 1 dog with the hunt test for going to ground.

For a game of the number of dogs is set at:

- a. 1 dog with the hunt tests for locating, and trailing hoofed game that has been shot, wounded or injured in some other manner or killed and
- b. 1 dog with the hunt test for den hunting.

The number of hunting dogs for collective hunting

During collective hunting it is set that for the first three hunters and for each subsequent ten there be one hunting dog with the hunt test for the game species that is being hunted.

10.3 Hunting licences, hunting permits and hunting examinations

10.3.1 Details on issuing and withdrawing hunting licences

Hunting licences are issued to:

- a) Czech citizens for an unlimited period, or a limited period that being for one day, five days, thirty days, six months or a year,
- b) pupils and students of vocational schools where hunting is an obligatory curricular subject, it is issued for one school or academic year, for the longest until the studies at such a school are completed,
- c) foreigners for a limited period that being for one day, five days, thirty days, six months or a year. For the purposes of this decree a foreigner is understood to be a physical person that does not have permanent residence in the Czech Republic.

The forms of the hunting licence are printed forms:



Fig.: The hunting licence is issued on the basis of a request submitted by the applicant

10.3.2 Obligatory requisites for hunting permits

A hunting permit must contain:

- the hunting permit's registration number,
- the hunting ground user and his/her residence,
- the title of the hunting ground in which the hunting ground user is authorised to carry out their right to hunt,
- the name or names, surname, hunting licence number, permanent address or the address of the sojourn for the person who has the hunting permit,
- animal species and number of head, for which the hunting permit is issued, for impeyan pheasant, wild turkey and hoofed game also the sex and for male hoofed game even the age class,
- the date of issue and validity period of the hunting permit,
- signature of the hunting ground user and game manager.

Druh zvěře	počet kusů	pohlaví *	věková třída *

10.3.3 Hunting examinations

Hunting examinations are oral and must contain questions from these subjects:

Group I

- the history of hunting and blood sports and hunting associations' activities,
- the significance of hunting, hunting culture and hunting ethics,
- a hunter's personality, hunting terms, hunting customs and traditions;

Group II

- 1) the legal regulation on hunting, on firearms and ammunition, on nature and landscape protection, veterinary regulations, regulations on the prevention of cruelty to animals, the European Union legal regulations and international agreements concerning hunting,
- 2) hunting administration,
- 3) plans for hunting husbandry and hunting statistics;

Group III

Game zoology and biology for hunting (knowledge of the main identification features of the game and how it lives);

Group IV

- 1) game breeding (including artificial game breeding and the basic technology),
- 2) game care (including feeding, constructing and maintaining hunting facilities),
- 3) ecology and nature protection, animal protection and improving the game's environment, preventing damages caused by game, the relation to other free living wildlife, ethology and its usage in hunting practices, animal welfare;

Group V

- 1) hunting cynology (knowledge of the breeds and groups of hunting dogs, proper breeding, raising and training, handling and using hunting dogs),
- 2) hunting dog illnesses (symptoms and their treatment),
- 3) game illnesses (knowledge of the most important game illnesses, illness prevention and treatment);

Group VI

- 1) hunting firearms, ammunition, aids and equipment (the rules for their usage and safety measures),
- 2) basic first aid for injuries acquired when carrying out the right to hunt;

Group VII

- 1) game hunting methods including catching game and hunting rules,
- 2) tracking,
- 3) treating wild animals, arranging and appraising hunting trophies.

Hunting examinations are taken in front of a hunting commission, which has nine members made up of a president, vice-president and seven examining commissioners.

An examining commissioner for hunting examinations can be somebody who has held a hunting licence for Czech citizens for at least five years and can prove that:

- a) they have passed a hunting examination whilst studying in a study programme realised in a university in the area of forestry or agriculture, or
- b) has graduated from middle and high vocational schools with a study field of forestry or veterinary prevention, or agriculture, if part of the curricular plan was the mandatory tuition of hunting or
- c) has passed higher vocational hunting examinations, or
- d) has a university education in the field of law according to the formerly valid legal regulations or obtained by studying in bachelors, masters or doctors study programmes in the area of law, if it is a matter of the Group II subjects, or
- e) has a university education in the field of law according to the formerly valid legal regulations or obtained by studying in bachelors, masters or doctors study programmes in the area of veterinary medicine and hygiene if it is a matter of the Group III subjects.

The president or vice-president of the examination commission can only be someone who has held a hunting licence for Czech citizens for at least 5 years and can prove that they meet the

qualification prerequisites. Only one examining commissioner can test one group of subjects and the examination for one group of subjects can last at the most 15 minutes.

The manner of evaluating an applicant's knowledge

An applicant's knowledge from individual groups of subjects is classified thus: "passed with distinction", "passed", "failed". If the applicant is classified as "failed" in at least one of the subject groups then they have failed the hunting examinations. The results for the hunting examinations are classified: passed with distinction, "passed", "failed". An applicant that has repeated the examination cannot be classified as "passed with distinction".

An applicant has passed with distinction if they were thus classified in at least 4 of the same subject groups. An applicant has passed if they passed in each group of subjects.

A record is made of the course and results of the hunting examinations by the hunting examinations organiser. The record is signed by the president, the vice-president and the examining commissioners.

The applicant receives a certificate stating that they have sat the hunting examinations with the hunting examinations organiser's designation, his credentials, his name and surname, date of birth, kind of examination, data on its composition and the result. The certificate is signed by the hunting examinations organiser's accredited agent, the president, the vice-president and the examining commissioners.

Hunting organisations and schools that can be commissioned to organise hunting examinations.

The following can be accredited with organising hunting examinations:

- a) hunting organisations, that have hunting as their main activity, that operate at a nationwide level and which ensure preparatory training for the applicant sitting the hunting examinations and in this framework professional practice for a year or,
- b) secondary or higher vocational schools with study fields in hunting, forestry or agriculture at which hunting is one of the obligatory curricular subjects, an intermediate professional forestry training institution or universities that have study programmes in the area of forestry or farming at which hunting is taught to an extent of at least an hour a week in the course of one school or academic year and which ensures for its students or pupils professional practice in hunting in the course of the hunting studies.

10.4 Control methods for hunted game

Seal

The seal is a single use irremovable label made of yellow plastic with a tag attached by a retractable strap. The state organ for administering hunting gives seals to the hunting ground user. The seal is fixed in an irremovable manner (by being fastened to the hindmost place) to the Achilles heel on one of the hind limbs of the hunted or otherwise killed animal or the found exploitable, hoofed game. In the event that the seal cannot be attached in such a manner the seal is fixed to one of the ribs of the animal's rib cage. Only seals and tags on the animal's origins issued by the pertinent organs for administering hunting can be used for marking hoofed game.

Tag of the animal's origins

The tag of the animal's origins is a written document made of paper. The following information is written on the tag of the animal's origins: the seal number, name of the hunting ground where the animal was caught, name or title of the hunting ground user, the date (year, month, day) and hour of the catch or finding of the game hunted or otherwise killed, the type of animal and its sex. It further has a place for any possible veterinary comments or comments on the game's movements up to the last processor. The state organ for administering hunting gives seals to the hunting ground user.

Records on the seals and tags on the animal's origins

The state organs for administering hunting keep records of received, issued and returned seals and tags on the animal's origins separately. The hunting ground user, before the hunt starts, gives each hunter, upon signing, the number of seals and tags on the animal's origins corresponding to the hunting permit and keeps a record of this. During collective hunts of hoofed game the animal can be labelled by the game manager. The records of the seals contain the record's serial number, the date, seal number, the title of the person issuing the seal and the person receiving it, the date of receiving the seal, the issuing person's signature and the receiving person's signature. Similar data is contained in the record of returned seals. The records on the tags on the animal's origins contain the same data as the records on the seals.

10.5 Higher professional hunting examinations

Higher hunting examinations in their scope are related to the hunting examinations and the examinations for a game manager. They have written and oral parts and they can only be sat by a person that has passed examinations for a game manager and for hunting. The written part takes place before the oral part, it takes at most two hours and must contain questions from the following subjects:

Group I

- 1) hunting here and abroad, especially neighbouring European countries,
- 2) animal breeding in breeding areas,
- 3) pheasantry and game preserves,
- 4) hunting facilities,
- 5) ecology and nature protection, hunting care of animals, principles of game care and breeding, creating and protecting the environment of game,
- 6) the importance of hunting and its economics,
- 7) hunting education, research, traditions, culture and promotion;

Group II

- 1) hunting zoology and biology of game,
- 2) the most important game diseases, preventing these diseases and their cure,
- 3) game nutrition and nursing game,
- 4) hunting cynology;

Group III

- 1) legal regulations on hunting, on firearms and ammunition, on nature and landscape protection, on the prevention of cruelty to animals and veterinary regulations,
- 2) the basic European Union regulations issued on protecting flora and fauna,
- 3) the rights and liabilities of a game manager and game-keeper guard;

Group IV

- 1) determining hunting ground quality, setting minimum and standardised states of game,
- 2) hunting management plans, keeping hunting records and statistics,

- 3) treating hides, arranging and appraising hunting trophies and ascertaining and treating expensive biological material;

Group V

- 1) blood sports, blood sport rules, hunting methods including falconry, hunting traditions and customs and hunting terms,
- 2) hunting weapons, ammunition, aids and equipment and the regulations governing their usage and safety measures,
- 3) game ethology and its usage in hunting practices.

The oral part of the higher hunting examination is made up of all of the subjects presented in paragraph 1 in front of an examining committee, which has seven members composing a president, vice-president and five examining commissioners.

An examining commissioner for the higher professional hunting examinations can be someone who has had a hunting permit for Czech citizens for at least 5 years and can prove that:

- a) they have passed the examination for hunting when studying in a study program realised in a university in the area of forestry or farming, or
- b) has graduated from a secondary or higher vocational school studying forestry or veterinary prevention, if part of the syllabus was the compulsory teaching of hunting, or
- c) they have passed a higher professional hunters exam, or
- d) has a university education in the field of law according to the formerly valid legal prescriptions or gained by studying a bachelors, masters or doctors study programme in the area of law if it is a matter of the subjects from group III, or
- e) they have a university education according to the formerly valid legal prescriptions or gained by studying a bachelors, masters or doctors study programme in the area of veterinary medicine and hygiene if it is a matter of the subjects from group II.

The president or vice-president of the examination commission can only be a person who has held a hunting licence for Czech citizens for at least five years and proves they meet the qualification prerequisites mentioned for examining commissioner.

The date when the higher professional hunting examinations take place is determined by the ministry. The ministry informs the applicant of the date, place and time of the examination, or its constituent parts in writing at least 30 days in advance.

The manner of appraising applicants

An applicant's knowledge from individual groups of subjects in the written and oral parts of the higher professional hunting examinations is classified thus: "passed with distinction", "passed", "failed". If the applicant is classified as "failed" in at least one of the subject groups, then they have failed in the pertinent part of the higher professional hunting examinations. The results for the higher professional hunting examinations are classified: passed with distinction, "passed", "failed". An applicant that has repeated the examination cannot be classified as passed with distinction. A record is made of the course and results of the higher professional hunting examinations by the ministry. The record is signed by the president, the vice-president and the examination commissioners.

10.6 The service uniform for employees of the state administration organs for hunting and their service badges

The service uniform is grey/green in colour and part of the uniform a metal badge for state administration of hunting, which is placed on the left lapel of the jacket.

Badge for state administration of hunting:



11 RULES FOR HUNTERS

The Czecho-Moravian Hunting Union (ČMMJ) stipulates the following rules based on provisions applying to hunting and game keeping, firearms and ammunition, protection of the environment and veterinary care that regulate hunting and game keeping, and on the statutes and other internal rules of ČMMJ. The Rules provide for correct, safe and traditional exercise of hunting rights. ČMMJ members are obliged to know and to observe the Rules for Hunters, as stated in ČMMJ statutes.

11.1 Game keeping and care for game

1. Cribs, feed troughs, their type, size, number and placement shall be appropriate to the game species and their numbers present in the hunting area. It also applies to game species present in the hunting area mainly during the time of famine.
2. Before the beginning of winter, hunters shall obtain forage, cereal and pulp food in such amounts as laid down by the game care plan.
3. Game is to be fed only with high quality food. The amount of the food provided shall take into account the game species, their number and the feeding interval. It is prohibited to serve hay containing hard sour grass, food containing rancid fat or food that is moulded or of poor quality. Salt licks shall be replenished continuously.
4. Hunters establish and maintain hunting facilities to serve their purpose and to be safely used. Cribs and feed troughs shall be roofed properly. Old, dilapidated facilities and facilities not in use shall be demolished. In order to prevent high concentration of game many small – even mobile – cribs and feed troughs should be built instead of a few big stable ones. For hoofed game, which lives in herds, feeding centres with scattered mangers for cereals should be built. Before any building starts, the landowner must give his/her consent.
5. Hunters shall establish and manage game food plot, regardless of whether the plot is to be harvested or left as pasture land.
6. In the spring, hunters shall clean and sanitize cribs and feed troughs including the close surroundings, and at least once a year sanitize or move the salt licks.
7. Hunters shall observe all veterinary regulations. They shall transport for veterinary examination any carcasses found, when the cause of death is unclear (i.e. with the exception of shot game found dead, game killed by a vehicle, agricultural machinery, etc.), any game shot dead, when its unusual behaviour prior to the kill, its physical appearance or its inner organs give rise to suspicion of disease, and any game killed by provision of the State Veterinary Administration. Other perished game, game shot dead that is not further used and animals harmful to game management shall be disposed of (buried, cremated etc.) Excluded are animals used for feeding predators.
8. Hunters – once being notified by the user of the hunting grounds about the time and the place of haymaking, harvesting, application of chemicals for plant protection and agricultural activities taking place at night, or if they find out themselves about such activities – shall take any measure necessary to decrease the death losses e.g. by disturbing the animals using hunting dogs, installing facilities or using the smell of humans to scare the game off, collecting eggs of birds both before and during the harvest, etc.).

11.2 Hunting

9. Game shall be hunted in a way that kills the animal as quickly and as painlessly as possible or catches it alive and unhurt. The most common way of hunting is shooting – group hunting, individual hunting - and hunting with birds of preys and ferrets, etc.

10. The most common method of group hunting is the circular drive, common drive, beat, drive hunt and silent beat. The method should correspond with the game species, its stock, the landscape, cover, weather, number of hunters and common local practice.

11. The leader of the hunt is usually the game manager. In his absence or due to other reasons the user of the hunting area can appoint any experienced hunter as the leader of the hunt.

12. In the opening ceremony participants shall be notified about the hunted game species and the kill limits, number and type of the drives and the signals; instruction for hunters and beaters shall be given and - in case the hunters are split in smaller groups - the group leader introduced. Participants shall be reminded to observe safety rules when shooting.

13. Before the start of the hunt it is necessary to do following:

- a) compose the list of all participants (hunters, beater, other participants) – this is considered to be the collective hunting permit for all game species permitted to be hunted,
- b) check the hunting licence, firearm licence and firearm certificate, insurance of each hunter present (ČMMJ members show their member card as their insurance is part of the membership fee, others show the contract with the insurance company); if any of the above mentioned document is missing the person concerned cannot participate as a hunter,
- c) check the number of certified hunting dogs, their certificates of pedigree, and expiry date of vaccination,
- d) check if a first aid kit is available and if it meets the requirements of a car kit.

14. Participants shall follow orders and signals set before the start of the hunt or drive.

15. The leader of the hunt is entitled to interrupt the hunt – mainly for safety reasons – and to take any necessary measures – excluded shall be individuals under influence of alcohol, medicaments or other substances, individuals under the age of 15, who are not participating as a part of their preparation for the hunting examination.

16. After each drive the shot game shall be displayed and the number of each species recorded.

17. Each hunt shall traditionally finish with a closing ceremony, the gamebag and announcement of the result (number of each species). The ceremony shall be carried out at an appropriate and dignified place.

18. All participants take part in the closing ceremony. If they cannot be present - for various reasons – they shall notify the leader of the hunt and apologize.

19. All participants are responsible for the proper handling of the game before its display.

20. In the morning and in the evening, ducks are shot when flying between or over different water bodies and flying to or from feeding plots without being scared by people or hunting dogs. A sufficient number of dogs must be present in order to retrieve and search the shot game.

21. Hunters can participate in individual hunting as guests only when given written permission by the user of the hunting area. The permission contains the time validation and all the game species the person is allowed to hunt. For game species with only lim-

ited quota the time validation is set or a special permission issued, which is valid only for the appropriate game and for one year released. Once all game and its number set in the permission is killed, the hunter shall return it to the game manager or his deputy. Permission is also required for catching game and it shall contain, apart from the name of the game species, also the information that the game species is only to be caught.

22. If the guest is using a rifle, he shall on request from the game manager or the hunting guide submit proof of both the accuracy of the firearm and suitability of the ammunition.

23. The guest shall follow all orders given by his hunting guide, who is responsible to the user of the hunting area for safety, for killing the permitted game species and for the observance of rules 26 – 32.

24. If the guest knows the hunting area very well and his skills and professional knowledge guarantee flawless hunting, the presence of the guide is not necessary. If the guest hunts without the guide, it is himself, who is responsible for observing rules 26 – 32.

25. Rules applying to a hunting guest apply also for hunters in their own hunting area.

26. After the shot, the hunter – if hunting individually – shall mark the place where the animal was present at the time of the shot (place of shot), and the direction, in which the animal was running. If he cannot find the exact place, the hunter shall mark the place where he was standing, the direction of the shot and at least the probable place of shot.

27. Individual hunters shall track the animal or they will ensure that the animal is tracked. If the hunter is not able to track the animal on his own due to rugged topography, bad hit resulting in a long tracking or the animal crossing the border to neighbouring area, he will inform the game manager and ask him for help. The hunter shall provide all information making the tracking easier – calibre, type of the bullet, place of shot, behaviour and markings of game after the shot. While tracking, the hunter shall follow orders given by the game manager.

28. Hunters shall kill the wounded animal as fast as possible. Wounded hoofed game will be shot dead – finishing shot. Other game shall be killed with a blow (with a stick) in the neck. Hunters are obliged to gralloch or to treat the game and provide for transport to the designated place.

29. Killing females with offspring is considered a breach of the hunter's ethical code. If the female is to be shot, the offspring will be killed first.

30. Killing the leading female of a group is also considered as a breach of the hunter's ethical code.

31. Individual hunters use binoculars with enhancement at least 6x. For a successful hunting of pigs at night a scope is necessary. Hunters shall not use night vision gear and scopes with radiant points.

32. Hunters shall inform the game manager about the result of the hunt, place, time, number of shots and other circumstances.

33. Hunters, who shoot a trophy game, shall treat the trophy with care and once finished, they deliver it according to the instructions from the user of the hunting ground to the trophy show. This procedure shall be cancelled in case that there are doubts about the state of health, and if the animal has been delivered for veterinary examination, the game was killed for documentary or museum purposes or killed illegally. Trophies of an anonymous hunter are not admitted to the shows. Hunters treat and deliver also the lower jaw if requested by the user (for health, management reasons).

11.3 Safety provisions and rules for handling guns

34. For killing game hunting firearms and ammunition are used and handled with extreme care in order to avoid injuries.

35. Firearms and ammunition shall always correspond with the game species. For small game only shot cartridge shall be used. Hunters shall always carry all required documents.

36. The gun is usually carried on the left shoulder, barrels in the front and with the nozzle point up or, when raining, down. When hunting, the gun is to be held firmly with the nozzle pointing up.

37. A loaded gun is always carried safety-on and shall be safety-off only immediately before the shot. If the hunter does not shoot or if he is not going to continue shooting, the gun is to be safety-on or unloaded. Hunters shall never rely on presumption that a safety-on gun cannot fire, e.g. when falling down.

38. The gun shall always be handled as if loaded, and therefore never be pointed towards people.

39. The gun shall be loaded only during the hunt itself – for individual hunting, once in the hunting area, and for group hunting, once the drive has started. The drive is considered to have started once the signal is given or when the given time has passed – in rugged terrain, or when being placed too far away to hear the signal. Only with permission from the leader of the hunt, the gun can be loaded once being appointed to the place (in driving or circular drives). When loading and unloading, the gun shall always point in a direction where no one can be endangered. Breech loading guns shall be loaded and unloaded with barrels pointing to the ground. Rifles and semi-automatic weapons shall be loaded and unloaded with barrels pointing up or down. Before loading the gun, hunters shall make sure there is no obstacle in the barrel, e.g. snow, soil, etc.

40. Guns shall be unloaded immediately after the individual hunt or at the end the drive. Guns must not be loaded in rooms, inhabited places, means of transport, when crossing an obstacle, climbing up or down the tower, storing, delivering for repair, passing to an other person and when crossing other hunting areas. Hunters passing loaded guns to other persons will notify these persons about this fact. Hunters shall unload and break the gun or open the breech of the rifle and semi-automatic weapons when they gather before the start of the hunt, and once the drive or the hunt is finished.

41. At home, in public places, in means of transport, during breaks in hunting, guns shall be kept safe and any access by other people – especially children - prevented. Guns are stored unloaded, with magazines empty and hammers and bolts released.

42. The hair trigger is put into action just before the very shot. If not used, it is released immediately.

43. If the gun fails to fire, it shall still be pointed in the direction of the shot for at least 3 seconds, and only then carefully opened.

44. Game and animals harmful to game management shall be shot only after being recognized and other requirements of the hunt met.

45. When hunting, guns shall never be aimed in a direction where people or property may be endangered. A dangerous direction of the shot is direction, where people, livestock, buildings, vehicles, etc. are or may be within the range of the gun. It is dangerous to shoot at game standing on or close to the horizon. Hunters shall be extremely careful when shooting in the forest. The range of pellets is usually equal to their diameter (in mm) multiplied by 100. The range of the shotgun bullet is 1000 m, of a .22 calibre bullet 1200 m and of a rifle up to 4000 m.

46. When group hunting, hunters shall neither shoot nor aim at:

- game flying too low compared to the positions of other participants,
- game along the row of hunters, beaters or in a direction where hunting dogs may be endangered,
- into the circular drive once being prohibited by a signal,
- into and in the drive, if not allowed by the leader of the hunt,
- once the drive has ended.

47. Hunters shall take into consideration all circumstances detectable by their senses that may influence the safety of the shot. They shall be extremely careful in terrain with rugged topography and with thick bushes, when visibility is low, in forests and recreational areas, during harvest of forest fruit and agricultural activity. Hunters shall consider the possibility of the bullet bouncing off frozen and stony soil, roads, ice, water surface, wet meadow, stones, tree trunks and branches – especially if frozen.

48. Before the drive starts, the group leader shows each hunter his/her stand or place in the row (common drive, circular drive), and announces the meeting point after the drive. Hunters shall sign their positions to their neighbours. Once being shown their stand or while walking and hunting (common drive, stalking etc.), hunters shall observe the situation and decide about when and where they can shoot. They shall be extremely careful when shooting with shotgun bullets. On the stand, hunters shall behave calmly, silently and shall never leave it before the drive end. Once the drive is over, they shall tell their neighbours that they are leaving for the meeting point.

49. Participants suffering from an illness, injury, tiredness, participants under medication are recommended to leave the hunt.

50. If the gun or the ammunition is used during the hunt in an unsafe way, or if the hunter handling the gun and shooting is disregarding safety rules, the leader of the hunt reprimands him or allows him to participate only as a beater. Hunters breaking the rules severely or repeatedly shall be excluded from the hunt.

51. In case of an injury, death of a person, or damage to property including hunting dogs, the leader of the hunt notifies the police. All insurance events shall be reported to the insurance company. Participants, who witnessed or took part in the event resulting in an injury, death of a person, or damage to property, shall immediately notify the leader of the hunt. They shall provide also first aid to the injured, transport him/her for further treatment and obtain facts essential for proper investigation of the case.

52. If a person is injured or killed during the hunt, the leader of the hunt breaks off the hunt and provides for help and transport to the doctor. To allow a proper investigation, he/she shall find out, describe in his statement and produce a draft of:

- exact stands of participant and witnesses in question,
- position and direction of the running game that was shot at,
- direction of the shots,
- sequence of the shots (more hunters shooting),
- guns, cartridges and empty shells of hunters in question,
- impact marks of the bullets (in snow, on trees, etc.),
- place of death of the game,
- all other circumstances - mainly weather condition (sunshine, dusk, rain, snow, fog, frost, speed and direction of the wind).

However, the leader of the hunt shall not reconstruct the case himself.

11.4 Hunters' ethics and traditions

53. Hunters observe all regulations concerning hunting, firearms and ammunition, nature protection, veterinary care and other legislation relating to hunting as well as relating to the statutes and internal rules of ČMMJ. Hunters exercising hunting rights shall observe the ethical code and keep up traditions. They possess and obtain knowledge about the game and its environment and pass their knowledge to beginners.

54. Hunters shall use special hunters' language.

55. Hunters invited to the hunt, who cannot participate, shall apologise. They provide substitutes for themselves only if the invitation is transferable.

56. A person accompanying the hunting guest is allowed to participate only with consent of the guide or the leader of the hunt.

57. Hunters arriving at the meeting point shall report to the leader of the hunt and greet other participants. The hunting guest shall report to the chief representative of the user of the hunting area. To ask to participate in a hunt without previous invitation is considered to be a breach of etiquette and such person will be politely yet firmly sent away.

58. While group hunting, the following is considered a breach of the hunters' code:

- to shoot hares in bed, pheasants on the ground or on the perch, duck on the water surface – except for finishing shot when no dog is sent to retrieve it.
- to shoot pheasants released in the area before or during the very hunt,
- to hide from approaching small game – except for prepared hides – and knee or lay down for the shot.

59. Hunters do not criticize the leadership of the hunt, the hunting area or the number of game. They report severe flaws only to the leader of the hunt.

60. While in common or circular drive, hunters shall keep the distance and in row – neither staying behind nor forerunning is allowed. Beaters shall not avoid thick bushes and difficult terrain in the drive, and catch and kill unwounded game; they shall collect all shot game and carry it to the designated place holding the small furred game by the hinds and the feathered by the neck.

61. Hunters shall not shoot at game that is closer to their neighbours or is moving in their direction. If the distance to the game is the same, guests and older hunters have the privilege of shooting first.

62. Hunters shall not shoot with shotguns into distances that are too long, inappropriate for their guns and shooting skills; the maximum distance for shotguns is 40 m. For hunting purposes, hunters shall use shotguns of calibre 12 – 20 and pellets with diameter of 2.5 – 4 mm (according to the game species, weather condition and other circumstances).

63. Hunters shall not shoot at short distances, which damages the venison. Such game is usually marked and given or sold to the hunter in question.

64. If more than one hunter are shooting at the same game, the successful hunter will be chosen according to the rule “The first bullet, and the last pellet”. The first bullet is the hit that is fatal or heavy enough for the game to be found and finished easily. The vitality of each game species shall be taken into consideration. The last pellet is the hit of game that is alive and capable of getting away. Shooting at game with a fatal shot is considered a breach of the hunters' code – except for finishing shot. Hunters firing such a shot - by mistake or incapable of stopping to pull the trigger - shall apologise to the successful hunter who shot dead the game observing the above rule.

65. Killed game shall be treated with care and dignity. Game is displayed during the closing ceremony – gamebag – in the best possible appearance, small game shall therefore be laid only on dry places; it shall not be thrown, dragged and carried around by dogs. Game on display shall never be stepped over. After each drive, the game shall be

displayed - small gamebag. Game shall be laid on the right side in separate rows of each game species and each tenth animal – counted from the left - shall protrude out of the row by the upper half of the body. Before the small gamebag, game shall be treated (urine is pressed out of rabbits and hares, etc.).

66. During the closing ceremony the game is displayed in the same way as during the small gamebag. Game included in the game management plan is placed in the front – furred game first, followed by feathered game, then other furred game, including animals harmful to game management, and finally other feathered game. Foxes shall always be placed in the front of the gamebag. The tail of furred game shall be at an angle of 90° to the body. All participants shall be present; hunters with guns and dog leaders with dogs. Hunters shall stand in the front of the gamebag. All game shot during the hunt by the hunters shall be displayed, even if later disposed of (ill, undeveloped game, etc.). Pheasants and duck can be displayed tied in brace. The whole ceremony shall be performed with dignity.

67. During the hunt, the traditional Dyk hunting signals and fanfares shall be used. During the opening ceremony the following signals are sound: “Attention”, “Welcome”, after the welcoming remarks and instructions “Long live the hunt” and “Start of the hunt”. During the hunt it is mainly “Start and End of the drive”, “Repetition of the drive” and “Long break”. Small trumpets can also be used to give signals. Fanfares “Attention”, “Halali”, “Long live the hunt” and “End of the hunt” are sounded during the closing ceremony.

68. It is against the hunters’ code to use shot gun bullets at a distance that is beyond the precise aiming skills, when the bullet has not enough energy to kill the animal instantly, and when the accuracy of the bullets is so low that even when aiming correctly the bullet will not hit the animal properly. Hunters shall choose the calibre and the type of the bullet according to this rule.

69. It is against the hunters’ code to fire the shot when there are obstacles between them and the game that can alter the direction e.g. forest, bush, etc.

70. It is against the hunters’ code to shoot at game facing the hunter with its rump – except for finishing shot – and to shoot in the head – except for finishing shot of pigs. Hunters shall always shoot at the shoulder blade.

71. For marking the place of shot, the place of the hunter and the direction of the escape route, branches shall be used. Hunters leaving the carcass in the forest for some time shall take measures in order to prevent the venison been eaten by other game, e.g. leaving the used shell, their handkerchief, covering with branches against ravens, etc.

72. Traditionally, successful hunters of hooped game and some other game species (fox) shall be marked with the hunter’s branch. The hunter’s branch is usually dipped in the blood and shall be worn on the right side of the hat. It is presented by the hunting guide or the leader of the hunt. Hunters without a guide shall follow the same procedure alone. If there was a hunting dog tracking the animal, the successful hunter shall hand over a part of the hunter’s branch to the leader of the dog. A branch shall be put into the mouth – “last food” – or the beak - “last peck” – of the game. Hunters violating rules are denied the hunter’s branch.

73. Usually hunters who shot the animal garlloch it themselves. They receive the “hunter’s right” that consist of heart, lungs, liver, kidneys, milt, windpipe with gorge and tongue. If someone else is garlloching the animal, the successful hunter shall offer the “hunting right” to this person.

74. Traditionally, the user of the hunting area shall leave the trophy – part of the “hunting right” to the hunter. The following is considered to be a trophy: antlers and horns including the skull, weapons of wild boars including the whole head, tushes of red deer,

canine teeth of predators, skulls of big predators, whole body of small predators, skin of pigs, the “Bone of Hubert” in heart of red and fallow deer, beard of red deer and chamois, feathers from the wing joint, feathers from the tail bone of woodcock, feathers from the tail of ducks and the whole stuffed body.

75. Hunters violating rules are denied the “hunting right” including the trophy.

76. Trophies of hoofed game serve for management purposes and proper hunters keep them for their whole lives and prevent any damage.

77. Usually, the user leaves game species with no game management plan (pigeons, doves, rabbits), when shot individually, to the hunter for free. The user also decides during the closing ceremony upon the distribution of game shot during group hunting.

78. In the hunting areas, where killing the game is rewarded, the reward shall be given to the person who called or tracked the animal or who set the trap. The reward for the game shot by a hunting guest – even in absence of the guide - shall be given to the hunting guide.

79. Hunters provide for their own or entrusted hunting dogs, birds of prey and ferrets and keep them in good physical and health condition and clean environment.

80. Hunters shall see that their dogs pass the examinations of dog’s performance, are obedient and do not disturb during the hunt. They shall never punish their dogs during the hunt. Dogs with no examination of dog’s performance shall not participate in the hunt, however young dogs - in training – are allowed to take part. Dogs shall not be allowed to retrieve healthy game.

81. Falconers shall not hunt for the prey, but for the hunt itself, the birds’ beauty, courage and hunting skills. It is an old tradition that each falconer takes only three preys per day.

82. Hunters take care of their weapons, keep them in good condition and clean and oil them after each hunt.

83. Hunting clothes are simple, consistent with the tradition and they serve their purpose. For special occasions uniforms of the organisation shall be worn.

84. Hunters shall kill animals harmful to game management observing all regulations. They kill them where other means – talk with the owner, reprimand – have failed and damage to game cannot be otherwise prevented.

85. Traditionally, hunters are dubbed hunters when passing their hunting examination or dubbed hunters of a game species after their first kill of the game species. Dubbing shall be performed by an experienced hunter who knows the right procedure and the importance of dubbing. It shall never be performed just for entertainment.

86. After the group hunt there is the “last drive” – a social event with decent hunting entertainment. Usually, there is a “honorary hunting tribunal” dealing with and “punishing” small misdemeanours. It shall be of entertaining and educational character.

11.5 Final provisions

87. The Hunting Council of ČMMJ is entitled to change and amend the Rules for Hunters according to current needs.

88. ČMMJ has no objection and recommends the Rules be accepted by other hunting organisations and by users of hunting areas and adopted as their internal rules.

89. Rules for Hunters established by ČMS in 1979 shall be abrogated.

90. These Rules for Hunters were discussed and approved by the Board of Representatives of ČMMJ (2nd Congress of ČMMJ) in Prague on October 21, 2000.

91. These Rules for Hunters shall come into force when published in the Circular of ČMMJ.

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