Husbandry

Most gallinaceous birds can live to 6 to 20 years depending on the species. They are best maintained in combination indoor and outdoor aviaries. In general, the available space should be as large as possible. In some countries the minimum areas are stipulated by law.

A pair of pheasants can be maintained and bred in an aviary with a floor space 4 by 6 meters with an additional 4 square meter shelter. A Common Pheasant cock with 5 to 6 hens needs 30 to 40 square meters. An aviary for peafowl should be at least 3 meters wide, 3 meters deep and 3 meters high. These species are best maintained in open-air enclosures or big gardens.

Left: Common pheasant cock. Photo: Nico van Wijk.
One pair of Bobwhite or California Quail needs a minimum of 1.5 m x 1.5 m floor space. For grouse, small aviaries measuring 4 meters in depth and 8 meters in width are recommended, because these birds may injure themselves if they fly into netting at the high speeds attained in larger flights.

Right: A pair of California Quail. Photo: Jörg Hempel.

Many Galliformes prefer to roost in elevated positions, making the height of an aviary important. Shelters should be provided to protect birds from sun, wind and rain. Tropical or subtropical species maintained in cold climates require an indoor aviary or, if kept outdoors in winter, a heated shelter. The mesh size of netting should be small enough to prevent a bird from placing its head through the mesh. It should also prevent the smallest predators from entering the aviary. Some gallinaceous birds, especially the Common Pheasant, fly straight up when panicked. For this species, the top netting in an enclosure should be loose to provide some give and reduce the chances of head and neck injuries. An opaque barrier can be placed at the back of the aviary, extending up to one-half of the height, to provide extra visual security for the birds.

Left: Black Francolin, male. Photo: Nico van Wijk.

Ground-dwellers like some quail, some partridges and some Francolins do not need elevated perches. Perches should be placed far enough from walls or wire netting to prevent the tail or wing feathers from contacting these surfaces. Peafowl, Reeve’s Pheasant, Argus pheasants and Phoenix Fowl require especially high perches, three to four meters above the ground, to accommodate their long tail feathers. Sharp corners should be avoided in designing the aviary. Curved corners or dense bushes planted in the corners reduce the possibility of trauma. Shrubs also help to landscape an aviary and provide shelter for the birds; however, the aviary should not be overplanted. Too many plants will make an aviary difficult to clean. Natural turfs are attractive, but are not recommended when keeping birds that are highly susceptible to infectious diseases.
An aviary with natural soil. Photo: Jan Willem Schrijvers.

An aviary with a concrete floor that is covered with an exchangeable layer of sand meets the needs of sensitive species (like grouse or the Cheer Pheasant) and is better than natural soil. Plants may be grown in containers that are removed when the aviary needs cleaning.

Left: Eared pheasant. Photo: Jan Willem Schrijvers.

Snowcocks need large rocks for perching and shaping their bills. Some species like monals, Eared pheasants and the Cheer Pheasant use their upper bill to search the soil for roots and insects. If these birds are maintained on artificial substrate, natural abrasion of the bill will not occur and manual trimming will be necessary.

Gallinaceous birds do not bathe in water. Most gallinaceous birds like to take dust or sand baths. The placement of abrasive materials on the plumage may function to lightly abrade and polish the edges of the feathers, and may help reduce the number of external parasites as long as the sand itself is not contaminated. Insect powders should be used only if they are known to be nontoxic for the species concerned and only if the birds in fact have parasites. In the winter, Willow Ptarmigan bathe in the snow.
Various bird species should generally not be mixed in one aviary because of possible interspecific aggression and the potential transmission of infectious agents. If species are combined, it is best to mix birds that do not compete for the same food or biotope. Ground-dwelling gallinaceous birds can be combined with bush- or tree-living species like thrushes, babblers, starlings, bulbuls and doves (with the exception of the Ground Pigeon); however, mixing of species is not recommended. Predatory species, including birds that feed on eggs, should not be combined with gallinaceous birds.

Silver Pheasant, eared pheasants, Golden Pheasant, Lady Amherst’s Pheasant, Elliot’s Pheasant, Swinhoe’s Pheasant and Indian peafowl can be maintained in open-air enclosures that are fenced but not covered. Birds in open-air enclosures must have sufficient hedges, bushes or trees for cover. Higher trees should be available for roosting. Fruit trees or oaks (some are poisonous) provide a food source as well as cover. The flight capacity of a bird should be reduced by clipping the wings before introducing it to new surroundings.

Losses to predators can occur in open-topped facilities, particularly with respect to chicks. Rare species should not be maintained in an open-topped enclosure. A breeder who uses open-topped enclosures should expect that the loss of a bird to a predator is the responsibility of the breeder and not the fault of the predator.
Some gallinaceous birds are noisy, especially the Indian peafowl and guineafowl during the breeding season, and should be maintained in seclu-
ded areas to avoid complaints from neighbors.

Right: Guineafowl.
Photo: Jan Willem Schrijvers.

Restraint
Cocks with spurs can injure handlers, especially when they become increasingly aggress-
ive during the mating season. The beak can also serve as a weapon. Although serious injuries are rare, the face and the eyes of handlers should always be protected from a bird’s beak, even in small species. The legs of a gallinaceous bird should be the initial focus for restraint. Catching gallinaceous birds in an aviary can be done gently with a hooked, long stick. The birds should never be restrained by the feathers alone. The whole body must be secured to prevent a shock molt. Shock molt is most common in tail feathers, but other feathers can be involved. Birds can be nearly “bald” after several failed restraint attempts. In larger species, the base of the wing is fixed with one hand and the legs are controlled with the other hand. The abdomen should be supported from below. If assistance is not available, a large bird can be restrained by placing it under one arm and pressing it gently against one’s body. Birds can usually be calmed by placing a loose-fitting, lightweight cotton sock over the head to reduce vision.

Nutrition
Many diseases and pro-
blems in captive Galli-
formes are directly or in-
directly related to mal-
nutrition. Breeders of galli-
naceous birds should be aware of the natural foods consumed by any species maintained in captivity.

Conclusive data on the nutritional demands (with respect to maximal egg or meat production and not for longevity and appearance) is available only for the domestic fowl, domestic turkey and the Japanese Quail.

Left: Domestic turkeys (Ronquières).
Photo: Jan Willem Schrijvers.
Some information is available for the domestic guineafowl, and less has been determined for the Common Pheasant. All nutritional guidelines for other gallinaceous birds are based on experience. Generally, the protein requirement increases at the beginning of the mating season because of egg and semen production. After the breeding season, the amount of protein in the feed should be gradually reduced. With any change in the diet, the new feed should be mixed slowly into the daily diet until the conversion is complete.

“Easy” Birds
Many gallinaceous birds are omnivorous. The nutritional requirements of Common Pheasant, Golden Pheasant, Lady Amherst’s Pheasant, Silver Pheasant, peafowl, guineafowl, turkeys, partridges and New World quail are relatively easy to provide. Commercial diets for domestic fowl, domestic turkey, Common Pheasant and Japanese Quail are available in many countries. Pellets designed for turkeys can be used in species without special requirements. Adding fresh green plants to the diet provides the birds with nutritional diversity.

Right: A turkey poult eating cabbage. Photo: Jan Willem Schrijvers.

Below: A Roulroul with chick. Photo: Jan Willem Schrijvers.

Grass or corn silage can also be offered in small quantities. During the breeding season, the diet should contain 20 to 25% crude protein. Outside the breeding season, a maintenance diet containing less than 20% crude protein is best. Commercial diets for domestic turkey are usually better suited for pheasants than diets developed for domestic fowl. Feeding is best accomplished by providing small portions of the diet several times a day in the non-breeding season and offering food ad libitum during the breeding season.

Most New World quail are primarily seed-eaters and are easy to feed. Forest-adapted species may be largely insectivorous and have higher and more specific protein requirements in comparison to other gallinaceous birds. Cracids are mainly, but not exclusively, vegetarians. They can be sustained on pellets containing 21% crude protein supplemented with fruits but no grains. During the
breeding season, they are fed soybean paste, chopped hard-cooked eggs, chopped meat or mealworms (larvae of the meal beetle). Megapodes can be fed a commercial poultry diet.

**Birds with a High Protein Requirement**
Some gallinaceous birds like Peacock pheasants, Argus pheasants and the Roulroul (Crested Wood Partridge) do best with high-protein diets. In addition to high-protein turkey or pheasant diets, adult peacock pheasants should be fed mealworms, chopped meat, fruits and a small quantity of grain. Green plants are rarely consumed by these species. The Roulroul is fed a commercial soft feed for insectivorous birds mixed with live insects, chopped hard-cooked eggs and chopped meat. The primarily meat diet of these birds results in an odoriferous feces.
“Difficult” Birds
Some gallinaceous birds consume almost exclusively vegetable material. The Koklass, the Blood Pheasant, snowcocks, tragopans and grouse are examples. Feeding these species with game bird pellets or, even worse, with commercial diets for domestic fowl and turkeys, results in obesity, reduced fertility and imbalances in the intestinal microflora. These species should be maintained only where natural-type foods are available year round.

Left: Temming tragopan pair. Photo: Mick Bassett.

These gallinaceous birds should be fed large amounts of fresh vegetables. Pellets should be provided only in small quantities, if at all. Koklass naturally feed on ferns, grasses, leaves, mosses, buds and berries. In captivity they should be provided soft green plants, fruits and berries and no grains. In the summer, grasses and lucerne can be provided. Spinach, romaine lettuce and fresh, frozen vegetables can be substituted in the winter months.

Free-ranging Blood Pheasants feed on mosses, lichen, ferns, grass tips and conifer needle-buds. They browse constantly in planted aviaries. Snowcocks eat mostly grasses and leguminous plants. Their chicks feed on these plants immediately after hatching.


Tragopans consume oak trees, bamboo sprouts, grasses, mosses, oaknuts, berries and a few insects. In captivity, tragopans can be fed lucerne, grasses, cucumbers, apples and different kinds of berries. In the spring, summer and autumn, grouse feed on a variety of plants. In the winter, most grouse species are restricted to consuming one or a few plant species. During the winter season, the Spruce Grouse, capercaillies and other grouse species feed almost exclusively on conifer needles, the Black Grouse on birch buds, and ptarmigans on buds from different deciduous trees (birch, alder, willow). Captive grouse should receive natural foods or at least large amounts of leaves, grass and berries supplemented with a limited quantity of pellets and grain. Capercaillies and ptarmigans require a diet high in crude fiber. Even with strict attention to the diet, the bacterial fecal flora in capercaillies in captivity is similar to the fecal flora of the domestic fowl, and differs substantially from the fecal flora of free-ranging capercaillies. The tannin and essential oil content of natural food plants may support the growth of autochthonous intestinal flora in free ranging grouse.
In the Sage Grouse, leaves and sprouts of the North American Big Sagebrush are the sole winter food and the main portion of food in the summer.

**Longevity of Selected Gallinaceous Birds**
- Peafowl: Approx. 20 years
- Bobwhite Quail: Approx. 6 years
- Grouse: 8-10 years
- Common Pheasant: 10-18 years
- Cracids: 20 years and more

**Supplements**
Some commercial poultry diets contain coccidiostatic agents. Halofuginone (a coccidiostat) is toxic for the Common Pheasant, guineafowl and the Common Partridge. Monensin (another coccidiostat) is toxic for guineafowl. Commercial diets for the Common Turkey contain antiflagellates. The presence of antimicrobial agents can be life-threatening in species that depend on a functional cecal flora and fauna (e.g. grouse) for proper digestion. In general, the effects of coccidiostats and other medical feed supplements on gallinaceous birds have not been sufficiently studied. It is safer to provide food without these potentially toxic supplements.

All gallinaceous birds should have access to grit. The grit container should be emptied and refilled regularly because birds select only stones that are suitable for their body mass. Pellets or complete rations have an adequate supply of calcium and should not be supplemented with lime or crushed shell. Fresh, clean water must be available at all times for all species.

**Sources:**
- **Aschenbrenner H:** Rauhfussühner. Hannover, Verlag M & H Schaper, 1985.

Below: Roosting together in the aviary. Photo: Jan Willem Schrijvers.

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