

SPECIES OF BIRDS OF THE PHASIANIDAE FAMILY (AVES: GALLIFORMES) FROM THE VIVARIUM OF THE NATIONAL MUSEUM OF ETHNOGRAPHY AND NATURAL HISTORY. PART 2. MONALS AND PHEASANTS

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Rezumat

Speciile de păsări din familia Phasianidae (Aves: Galliformes) din Vivariul Muzeului Național de Etnografie și Istorie Naturală. Partea 2. Monali și fazani. Articolul reprezintă un studiu descriptiv detaliat și complex al unor specii de păsări din familia Phasianidae (Aves: Galliformes), care se adăpostesc în cadrul Vivariului Muzeului Național de Etnografie și Istorie Naturală, fiind descrise speciile din următoarele genuri: *Lophophorus*, *Lophura*, *Crossoptilon*, *Syrnaticus*, *Phasianus* și *Chrysolophus*. Lucrarea se axează pe următoarele aspecte: denumiri sinonime, identificarea, descrierea speciei, variațiile geografice, dimensiuni, habitat, comportament, înmulțire, distribuție și statutul ecologic.

Cuvinte-cheie: vivariu, monal, fazani.

Introduction

Members of the Order Galliformes are found on every continent except Antarctica. The red junglefowl, common turkey and helmeted guineafowl have been domesticated for centuries. Their descendants, through selective breeding, are of considerable economic importance today. Some varieties are very plentiful in the wild, while others like the Japanese quail and various pheasants are approaching a level of complete domestication. Many Galliformes are commonly maintained as game and food birds. Some are stable in captivity under variable ambient conditions, easy to breed and inexpensive. Other species are from niches with specific environmental requirements and need specialized diets, humidity and temperature ranges to survive [19].

Galliformes and humans have been closely associated throughout much of history. Chiefly terrestrial birds, they are easily trapped and their meat and eggs provide rich sources of protein. Thirty-five species of partridges, quails, francolins, snowcocks, guineafowl and turkeys have been introduced to locations outside their natural range for purposes as diverse as ornamental collections, recreation, sport and production of meat.

Galliformes species are characterized as birds that are medium to large bodied, have rounded wings, have a well-developed keel bone and have strong legs with four digits that are designed for their terrestrial life. As mentioned above, Galliformes are one of the first bird orders to be associated with humans and among the first domesticated. They remain diverse with regard to their domestication, ranging from the common barnyard poultry species to the

more exotic species found in zoologic settings and captive breeding programs. In a zoologic setting, aviary collections may include the more exotic members of Galliformes, whereas places such as children's zoos may have the common domesticated chicken. The more exotic Galliformes species are usually housed as breeding pairs, other collections of domesticated Galliformes species being housed in small flocks. The majority of exotic Galliformes species housed in zoologic parks are the pheasants, peafowl, guineafowl, but also partridges and quails. In some captive conditions, guineafowl are considered the "watch dogs" of Galliformes and have been used for rodent control and alerting other species to impending danger with their shrill calls. In some zoologic settings, guineafowl are usually kept in mixed exhibits, as for the peafowls, they are often allowed free roam access in zoologic settings [6, 12].

If to speak about our Museum, on May 18, 2008, on the International Museum Day, the visiting audience, coming to the National Museum of Ethnography and Natural History to participate in the events organized on this occasion, had a special opportunity. After a period of two decades, the Botanical Garden of the Museum was reopened for the public. But this time a surprise was prepared for the public – a Vivarium with species of birds, reptiles and fishes was inaugurated. On the territory of the Botanical Garden there were arranged aviaries for different species of exotic and decorative birds that managed to adapt to the local climate. Both the Botanical Garden and the Vivarium represent a continuation of the permanent exhibition of the National Museum of Ethnography and Natural History, which aims at exhibiting the living species of plants specific to the territory of the Republic of Moldova as well as species of birds brought from different corners of the world.

Among these bird species, there are many species from the Phasianidae family, Galliformes Order, such as: himalayan monal, silver pheasant, blue eared-pheasant, Reeves's pheasant, common pheasant and golden pheasant. In this order of ideas, we would like to provide some more detailed information on these species, especially referring to the following: alternative names, identification, description, geographical variation, measurements, habitat, behavior, breeding, distribution and ecological status.

FAMILY PHASIANIDAE – Partridges, Quails and Pheasants **SUBFAMILY PHASIANINAE – Pheasants**

The 67 species, within 20 genera, of the pheasant subfamily include some of the most colourful and exotic of birds. Many have developed extraordinary displays (Bulwer's Pheasant, peacock-pheasants, arguses, peafowl and tragopans) to exhibit their apparently cumbersome feathers to maximum effect. Due to striking differences in male plumage, many additional genera were erected in the past, but intergeneric relationships are more easily appreciated by comparing females. Pheasants are currently treated within the same family

as partridges and quails, but are usually clearly differentiated, males tending to be large and long tailed, with iridescent plumages. Partridges largely moult their tails centrifugally (the reverse in pheasants), but their close affinity is reflected in genera such as the spurfowls, Blood Pheasant and tragopans that effectively „bridge the gap”. Because of their large size and striking plumage they have long been popular with aviculturists, indeed some are virtually unstudied in the wild, but comparatively well known in captivity. Their often restricted ranges and dependence on forest habitats render pheasants particularly vulnerable, and no fewer than 23 species are considered globally threatened [8].

Genus *Lophophorus* - monals

Three distinctive, very large and stocky pheasants of alpine meadows in the Himalayas and Western China. Blackish males exhibit highly refulgent coloration in strong light. Both sexes have bare skin around eye and moderate-length, flat, rather broad tails of 18 feathers. Bills strong and markedly decurved, the upper mandible conspicuously overlapping the lower. Legs stout and strong, males having a single short spur and females usually unspurred. Over most of the genus' range only one species occurs, but the situation is less clear in North-Eastern India/China border regions, where Sclater's and Himalayan are found in close proximity.

Himalayan monal - *Lophophorus impejanus* (Latham, 1790)

Alternative names: Impeyan Pheasant, Impeian Monal. Considered by many to be one of the beautiful and magnificent pheasants, it is the National Bird of Nepal.

Identification: Typically found at forest edges, on grassy slopes at or just above tree-line. Male unmistakable with its black but very glossy plumage and chestnut tail, often with a white rump (latter may be obscured, wholly lacking or only evident in flight). The peacock-like crest and all-rufous tail are unique to this monal, although it is only in extreme North-Eastern India (and adjacent Tibet and Myanmar) that confusion could arise with congenetics. The smaller brown female is boldly streaked and vermiculated pale buff on dark brown underparts, has a slight crest on the rear crown, and a striking, clean white throat and bare bluish skin around eye. Additionally, the dark tail is narrowly barred buff and the uppertail-coverts and tail are tipped white, which can appear as a narrow white horseshoe and tip when flushed. Compare with female Koklass, tragopans and other female monals, particularly Sclater's.

Description: Male has elongated tuft of bare-shafted, racket-like feathers immediately behind midcrown, female a scruffy tuft on rear crown. Bill greyish-horn (paler in female), with enlarged and decurved upper mandible, overlapping lower mandible. Bare skin around eye turquoise-blue (both sexes). Irides brown. Legs dark grey (male) to yellowish-green (female). Male has single short spur, female unspurred. Sexes differ. **Adult male:** head, including

crest, metallic green; chin and throat black (sometimes glossed green). Rest of underparts velvety black. Neck (except black foreneck) iridescent copper. Mantle brilliant yellow-green, becoming purple on scapulars. Lower back white (but sometimes obscured by black streaking or even appears wholly blackish). Lower rump and shorter uppertail-coverts purple; longer uppertail-coverts metallic green. Upper wing coverts metallic green, becoming purple-blue on inner greater coverts and inner secondaries. Primaries and inner webs of secondaries dark brownish. Tail rufous, darker (very rarely blackish) at tip. **First year male:** intermediate between sexes. Larger than female, with variable amounts of black on foreneck and metallic purple feathers on upperparts. **Adult female:** chin and throat clean white or buffish-white, otherwise entire plumage dark brown, each feather centre blackish-brown, with vermiculated buff fringes, and buff and white streaks. Lower back buffish, weakly scaled dark brown (thus obviously paler than uppertail-coverts). Longest uppertail-coverts tipped white, forming narrow white band at base of tail. Tail blackish-brown with narrow rufous-buff bars and shallow white tips. Orbital skin bluish. **Juvenile:** very similar to female, but markings less distinct [1, 7].

Geographical variation: None currently recognised, but marked individual variation in extent and colour of iridescence and extent of white on the back exists. Some males in Himachal Pradesh (North-Western India) lack any white and have quite extensive green on breast (sometimes named *chambanus*), others have the green replaced by purple (*mantoui*), while some have mostly black body feathers, with gloss confined to the wings (*obscura*). Females usually more rufous and richly toned in east of range.

Measurements: Length: male 70-72 cm, female 64 cm. Male larger. Males: wing 289-320 mm, tail 215-235 mm, crest 75-88 mm, tarsus c.70-80 mm, weight 1980-2380 g. Females: wing 259-287 mm, tail 182-200 mm, weight c. 1800-2150 g.

Habitat: Coniferous and mixed forests with welldeveloped bamboo, rhododendron and other understorey scrub. Usually in meadows and forest clearings on steep Himalayan slopes, it is the only pheasant for which much information on altitudinal movements exists. In North-Western India, predominantly above 3000 m in December-January, descending in February to c. 2300 m, returning upslope in March (above 2500 m), reaching the tree-line (c. 3500 m) in April, and emerging periodically onto alpine meadows in May. In Nepal reported as high as 4350 m in summer and in North-Western Pakistan at 2300-3500 m in spring and 2000-2500 m in winter. Recorded to 1900 m in Arunachal Pradesh. Occasionally forages close to cultivation.

Habits: Perhaps the easiest of the predominantly forest-dependent Himalayan pheasants to observe. Slightly less wary than other species and occasionally flushes noisily from forest on steep slopes, flying around spur of a hill or into a side valley. Usually encountered singly or in loose groups of up

to four, even during breeding season (usually with only one male). Appears to forage throughout day, using stout bill to search for insects and their larvae and tubers, as well as smaller quantities of seeds, shoots and berries, leaving characteristic patches of dug-over soil up to 25 cm deep. In summer feeds on alpine pastures and, in exceptional circumstances, within cultivated fields. Calls at dawn in January-June and infrequently during other months. In courtship, male fans chestnut tail, droops wings and struts around female, parading brilliant iridescent plumage. Rarely seen display flight involves male gliding on spread tail, with wings held above the body, while uttering piping call [9].

Breeding: Mating pattern uncertain, polygamy suspected. Nest a scrape in grasses, often sheltered by a rock or fallen tree, among bushes on relatively steep hillsides and usually unlined. Nests recorded at 2100-4500 m, but usually at higher elevations. Clutch typically 3-6 variable eggs (2-8 reported, but largest clutches dubious), being pale yellowish or reddishbuff, with reddish-brown markings. Season mid-April to mid-July.

Distribution: Forested Himalayas, from Eastern Afghanistan (Nuristan and apparently formerly the Afghani Safed Koh range), Northern Pakistan, Kashmir and North-Western India through Nepal, Sikkim and Bhutan to Western Arunachal Pradesh, reaching as far east as extreme Southern Tibet (west to c.85°E, east to 95°E). An apparent gap in its range occurs in Northern Arunachal Pradesh, where it is only known from the extreme west and northeast, although it may prove contiguous on the Tibetan side of the border. Also known from North-Eastern Myanmar (around Putao) [24].

Status: Widespread and common in suitable habitat. It's still fairly extensive range is suffering increasing encroachment and fragmentation, and concern has been raised that the species is undergoing a moderate decline. Not considered threatened, being known from many localities, including several protected areas, e.g. the Machiara Wildlife Sanctuary in Pakistan and Great Himalayan and Khangchendzonga (India), and Khaptad and Langtang (Nepal) National Parks. In the Kulu Valley, more than 70 individuals were encountered per 100 hours of fieldwork in some areas, and also common in Nanda Devi National Park, where it has obviously benefited from increased protection in recent years. It appears to use forest with significant understorey growth and where this is being lost and/or degraded through grazing or collection of fodder for domestic stock or firewood, it is probably under pressure. Hunting appears to be a threat in some regions, and it may already be extinct in Afghanistan [7, 21].

Genus *Lophura* - gallopheasants and firebacks

A large, complex genus encompassing at least nine medium-sized pheasant species of subtropical and tropical forests. In several respects, they superficially recall junglefowls, though the two genera are probably not very

closely related. Males of most species have long, graduated tails, composed of 16 feathers, which are quite strongly arched and sometimes very elongated. Their rather long legs support a single white spur in males, females are normally unspurred. *Lophura* contains a peculiar range of pheasants; most species were formerly allocated monotypic genera. Such clumsy treatment was revised by Delacour, who united several genera and species.

Silver pheasant - *Lophura nycthemera* (Linnaeus, 1758)

Alternative names: Northern, whitest populations are stunningly lovely, however, even the darker, less fancy southern races are beautifully patterned. Some of these, however, are often considered to belong with its sister species, Kalij Pheasant.

Identification: Combination of red legs, black underparts and white or close-barred (appearing grey) upperparts, with long arching or very long tail, renders male unmistakable in most of range. Southern and southwestern races, notably *lineata* (Eastern Myanmar) and *crawfurdii* (Tenasserim and South-Western Thailand), however, are shorter tailed, have intensely vermiculated upperparts and appear very similar to easternmost races of Kalij. Interbreeding between *williamsi* Kalij and *occidentalis* Silver occurs in Northern Myanmar, producing a number of intermediates. Females vary according to population, from almost uniform olive-brown, through chestnut to uniform dark brown, some races have pale shaft streaks to body feathers while others have blackish underparts with bold white streaks or spots. Apart from range, it is basically the reddish legs which is the most useful distinction from female Kalij. In Vietnam (and perhaps Eastern Laos) be aware of the possibility of confusion with females of other, much rarer, *Lophura* pheasants, notably Imperial, Vietnamese and Edwards's.

Description: *L. n. nycthemera*. Bill greenish-horn. Bare facial skin scarlet. Irides orange (adult male) or brown (female). Legs reddish to bright red, greyish in *lineata* and variable, usually greyish-pink, in *crawfurdii*. Sexes differ but both have prominent loose crest on rear crown. Tail elongated, slightly ridged, male with central tail feathers broad and very long, tapering to a point. Adult male plumage not attained until second year (unlike Kalij). **Adult male:** forehead, crown and mop-like crest glossy blue-black. Head-sides, neck and nape virtually unmarked white, and rest of upperparts including wings and tail white, each feather penciled with several narrow black lines, loops or chevrons. Tail has many fine irregular black bars over basal portion of each feather. Chin, throat, foreneck and rest of underparts glossy black; feathers at breast-sides and fore flanks with white streaks. **First-year male:** upperparts closely mottled buff and black, and crest black. Tail longer than female, with more prominent barring on outer feathers. Underparts dull blackish, with irregular whitish chevrons. **Adult female:** entire plumage quite uniformly dull olive-brown, finely peppered blackish, contour feathers with pale shaft streaks. Crest has black tip. Tail olive-

brown, with outer feathers mottled black, brown and white. **Juvenile:** similar to female but wing-covert feathers have narrow buff and black tips [5, 13].

Geographical variation: Very variable, with circa 15 subspecies recognised. Some male characters, such as tail length and whiteness of upperparts, are clinal, increasing northeastwards from Myanmar. There may be a case for lumping the larger, longer tailed, whitest subspecies as clinal variants of the nominate, though more work on female plumages could place a different perspective on Silver Pheasant taxonomy. Some isolated subspecies (including those in the south) also vary in relative thickness of the black-and-white V markings on upperparts, which affects how pale or dark they appear in the field. Races *lineata* and *crawfurdii* are often included in Kalij Pheasant.

L. n. lineata (Vigors, 1831) – (Lineated Kalij/Pheasant) occurs in Eastern Myanmar and North-Western Thailand; male has upperparts very finely and closely vermiculated (appears grey in field), whitish streaking on breast-sides, rather long, broad tail coarsely vermiculated becoming unmarked buffy-white on arch and at tip, and legs greyish or brownish; female buffy-brown, with darker brown crest, becoming rich rufous below, underparts with bold white streaks, upperparts with white chevrons and dark feather edges to nape and mantle. Tail buffish, the outer feathers barred rufous, black and white.

L. n. crawfurdii (J. E. Gray, 1829) – (includes *sharpei*) (Crawfurd's Kalij/Pheasant) occurs in South-Eastern Myanmar (Tenasserim) and South-Western Thailand; male resembles *lineata* but legs often reddish, vermiculations on upperparts coarser and tail rather shorter; female darker, with almost blackish underparts, more boldly streaked white below and often has reddish legs.

L. n. lewisi (Delacour & Jabouille, 1928) – occurs in Elephant and Cardamom Hills of South-Western Cambodia and South-Eastern Thailand; male similar to *crawfurdii* but crest and tail slightly longer, markings of upperparts coarser and in the form of chevrons (not lines); female quite different to *crawfurdii*, having rufous-brown upperparts and tail, and greyish-buff underparts, with weak whitish shaft streaks.

L. n. annamensis (Ogilvie-Grant, 1906) – occurs in Southern Annam (Vietnam); male differs from preceding forms in white band on neck-sides and narrower, straighter tail; female has quite long crest and is uniform dull brown, with rufous tail, and mantle and underparts have faint pale shaft streaks.

L. n. engelbachi Delacour, 1948 – occurs on Bolovens Plateau, Southern Laos; male resembles *annamensis* but has narrower, irregular, white band on neck-side and upperparts have broader white markings; female has entire upperparts chestnut-brown, brighter on tail, and paler rufous underparts vary from virtually plain to being streaked and peppered white.

L. n. beli (Oustalet, 1898) – occurs in Central Annam (Vietnam), at

higher elevations in Eastern Annamitic Mountains; male like *engelbachi* but white band on neckside broken or absent, white markings on upperparts finer, and has narrower, more arching tail, which is whiter, less buffy, on central feathers; female bright rufous-brown overall, brightest on tail, and has white-streaked underparts.

L. n. berliozi (Delacour & Jabouille, 1928) – occurs in Central Annam (Vietnam), in Western Annamitic Mountains; male has whiter upperparts and longer tail than previous forms, with mantle and most of neck white (except front), central tail mostly white (but wholly vermiculated in some); female like female *beli* but vermiculated white on vent and belly.

L. n. rufipes (Oates, 1898) – occurs in Northern Myanmar, in Northern Shan States, between Irrawaddy and Salween Rivers; male resembles *engelbachi* but larger and with longer tail, but lacks white at necksides; female resembles female *ripponi* or *occidentalis* rather than *engelbachi*.

L. n. ripponi (Sharpe, 1902) (includes *jonesi*) – occurs in Northern and Central Thailand, South-Western Yunnan (China) and Northern Myanmar, in Southern Shan States; male has full black crest, and compared to *berliozi* has even whiter upperparts and much longer tail; female dark dull brown above, with dark chestnut tail, underparts dark brown to blackish, with pale buff or white chevrons.

L. n. occidentalis Delacour, 1948 – occurs in North-Western Yunnan (China) and North-Eastern Myanmar; male similar to *ripponi* but tail longer; female quite different, having underparts closely mottled rich buff and dark brown, and brighter dark chestnut tail, which is finely vermiculated.

L. n. beaulieui Delacour, 1948 – occurs in South-Eastern Yunnan (China), Northern Laos and Northern Vietnam; male similar to previous two races but tail slightly shorter; female dark brown, underparts with broken pale buff or whitish bands, sometimes forming reticulated pattern, and outer tail mottled and barred black, brown and white.

L. n. fokiensis Delacour, 1948 – occurs in North-Western Fujian (and possibly Zhejiang) (China); male similar to *beaulieui* but tail longer, with wavy lines over basal half of inner webs; female dark olive-brown, often lightly peppered or vermiculated greyish-white on underparts.

L. n. nycthemera (Linnaeus, 1758) - occurs in Guangdong and Guangxi in Southern China and Northern Vietnam; male larger and whiter than all other forms.

L. n. whiteheadi (Ogilvie-Grant, 1899) – occurs on Hainan (China); male similar to nominate but black markings on upperparts much bolder, tail very long, with white central feathers and boldly barred lateral feathers;

female very distinctive, having chestnut upperparts and short dark chestnut crest, with mantle and underparts boldly patterned: each feather white at centre with black border.

L. n. omeiensis Cheng, Chang & Tang, 1964 – occurs in Central Sichuan (China); another distinctive form, male similar to nominate but has most tail feathers (except long white central pair) extensively black at base; female overall dark brown with blackish lateral tail feathers.

L. n. rongjiangensis Tan & Wu, 1981 – occurs in South-Eastern Guizhou (China); few data available, reported to resemble both *beaulieui* and nominate in basic appearance [3, 8, 20, 33].

Measurements: length: male 80-125 cm, female 56-71 cm. Considerable overlap among subspecies. In general, northern forms are larger and have strikingly longer tails. For example, males of the most northerly subspecies, *omeiensis*, have wing 276-299 mm and tail 765-800 mm, while those of one of the most southerly, *crawfurdii*, have wing 240-250 mm and tail only 270-290 mm. Western races (*lineata*, *crawfurdii*): male wing 220-260 mm, tail 230-345 mm, tarsus 72-76 mm; female wing 203-235 mm, tail 202-272 mm. Southern races (*lewisi*, *engelbachi*, *annamensis*): male wing 220-260 mm, tail 230-345 mm, tarsus 75-89 mm; female wing 203-235 mm, tail 220-238 mm. Northern races (the remaining 10 subspecies): male wing 230-305 mm, tail 340-800 mm, tarsus 95-105 mm, weight (*occidentalis*) 1425-1725 g; female wing 150-270 mm, tail 225-353 mm, weight (*occidentalis*) 1150 g.

Habitat: Variety of forested, scrub and open habitats to 2200 m. In China in open scattered forests and alpine meadows and in Thailand inhabits both semievergreen and hill-evergreen forests. In Laos, Vietnam and Cambodia reportedly widespread in montane evergreen forest and also in submontane forest, in places down to 300 m (but higher in others, such as on Bolovens Plateau in Southern Laos).

Habits: Little information, but apparently similar to Kalij Pheasant, spending much time in secondary growth and scrub. Encountered in groups of up to at least 7-8. Emerges in early morning and late afternoon on tracks and in grassy areas and fields to feed, which it does mostly by pecking and scratching ground, but also by digging. When disturbed typically escapes by running.

Breeding: Observations of single males with several females suggest polygamy. Nest poorly described. Clutch averages 7, but can be up to 12; eggs of *nycthemera* pale to dark rosy buff. Breeding season appears to vary across range, in China being mid-March in the southeast and from April elsewhere, and March-May in Northern Myanmar and Thailand. Incubation in captivity is 25-26 days.

Distribution: From Eastern Myanmar (east of the Irrawaddy), including Tenasserim, adjacent Western, Northern and Central Thailand, through

much of Eastern Laos and Vietnam (south to Central Annam), with isolated populations in Elephant and Cardamom Mountains on Thai-Cambodia border, on Bolovens Plateau in Southern Laos and Southern Vietnam (Dong Nai, Lam Dong and Ninh Thuan Provinces). Also across Southern China, from Yunnan north to Guizhou and Sichuan, and northeast through Guangxi and Guangdong to Fujian, Zhejiang and Anhui, with an isolated population on Hainan [15, 17, 26].

Status: Variable across range, being generally common to very common in China, but at risk in Thailand and sparingly recorded in Laos. Considered common in Myanmar 50 years ago. Some subspecies, typically isolated ones, such as *annamensis* in Central Vietnam, *engelbachi* in Laos and *whiteheadi* on Hainan are probably threatened. Like the Kalij, it inhabits a variety of wooded habitats, including secondary vegetation, but is possibly less inclined to venture into open and may be more restricted in degree of open vegetation it tolerates. Occurs in many protected areas, including Bach Ma and Cuc Phuong National Parks in Vietnam, Tianmushan and Ba Wang Ling and many other Natural Reserves in China, and Khao Soi Dao, Kaeng Krachen and Khao Sam Roi Yot Wildlife Sanctuaries in Thailand. Excessive habitat degradation is a concern, as is hunting in some areas [5, 10].

Genus *Crossoptilon* - eared-pheasants

A small, very distinct genus of large, rather long-bodied, short-legged Chinese pheasants, with brush-like tails and rather soft, almost hair-like, relatively unpatterned plumages, lacking not only iridescence and cryptic patterning but also sexual dimorphism. That females are similar to males is unusual among ground-nesting birds, as cryptic patterning is important for concealment. Two species have prominent 'ears' of stiffened feathers that form pointed tufts or 'horns' rising from the head-sides like a 'handle-bar moustache'. Tails are vaulted, medium-long and rather graduated, of 20-24 feathers; the central pairs are particularly broad, soft vaned and arching, forming a 'bustle'. Their distributions are largely mutually exclusive and clearly arose from a common ancestor.

Blue eared-pheasant - *Crossoptilon auritum* (Pallas, 1811)

The most numerous, and arguably the most attractive of the eared-pheasants.

Identification: Montane forests and meadows of Central China, with range virtually meeting that of White Eared-pheasant in Central Sichuan (Songpan district). Confusion unlikely as White Eared-pheasant really is white in Western Sichuan, with greyer populations much further west. Superficially similar in coloration to Tibetan Eared-pheasant, but Blue is much larger, with a high 'bustle' of a tail and white bases to outer feathers, prominent long white 'horns' and more uniformly darker grey uppertail-coverts and rear underparts. Compare also Brown Eared-pheasant.

Description: Crown of short, dense velvet-like feathers. Ear-tufts long, projecting as 'horns'. Bill reddish-horn. Bare facial skin red. Irides yellow. Legs crimson. Uppertail-coverts long, loose and hair-like. Tail of 24 feathers, the central two pairs with soft and drooping vanes (reminiscent of Ostrich plumes). Sexes similar, though male a little larger and has short spur, absent in female. **Adult:** forehead and crown velvet black. Chin, upper nape and ear-coverts pure white, the latter appear as long horns like a 'handle-bar moustache'. Most of rest of neck and body plumage bluish-grey, the feathers with hair-like fringes. Primaries dull brown, secondaries brownish-black with purple sheen. Tail bluish-grey, darkening and glossed green at tip, which is purple; the outermost 5-6 feather pairs are white on basal third or half. **Juvenile:** dark grey-brown, mottled with buff shaft streaks and edges to feathers. Tail relatively short. Soon acquires adult feathering and much as adult at eight weeks [4, 32].

Geographical variation: Monotypic.

Measurements: Length c. 96 cm. Male slightly larger. Males: wing 285-314 mm, tail 447-570 mm, tarsus (both sexes) c.100 mm, weight 1735-2110 g. Females: wing 283-311 mm, tail 470-510 mm, weight 1820-1880 g.

Habitat: Both coniferous and mixed forests, at 2700-4400 m. Often on rocky slopes with juniper scrub and alpine meadows. Descends in winter, but still usually above 3000 m.

Habits: Presumably similar to other eared-pheasants. Encountered in large flocks of up to 50-60 outside breeding period and these are thought to comprise a number of family groups. Flocks disband in spring. Forages in early morning and late afternoon, feeding on buds, leaves, stems and roots of various plants, including grasses, sedges, herbs, spruce and other trees, and also some animal matter, such as beetles. Feeds by digging during warmer months, and on leaf buds and berries in late autumn and winter.

Breeding: Assumed monogamous. Nest a scrape under trees or shrubs. Clutch usually c. 8 but can be 6-12; eggs pale greyish-brown. Breeds April-June. Incubation in captivity 24-28 days by female alone.

Distribution: Central China. From northern limit in North-Eastern and Eastern Qinghai, south over Southern Gansu, reaching extreme North-Eastern Tibet (Tanggula range) and Northern Sichuan (south to Songpan). There is an apparently isolated population in the Helan Shan of Ningxia Nei Mongol.

Status: Apparently locally not uncommon throughout much of range. No obvious conservation problems and it is considered unthreatened. Perhaps partially due to the lack of conservation concern, it has not been formally surveyed, but anecdotally overall population is thought to number hundreds of thousands and is possibly not declining. Probably particularly well protected within panda reserves [16, 18].

Reeves's pheasant - *Syrnaticus reevesii* (J. E. Gray, 1829)

Alternative name: White-crowned Long-tailed Pheasant. Males of this

spectacular pheasant have uniquely scaled golden body plumage and the longest tail among typical pheasants.

Identification: Hill and montane forests, especially in steep-sided valleys, of Central China. Male unmistakable with black-and-white patterned head, scaly golden body plumage and extremely long barred tail. Female less striking, having a longer and more pointed tail than congeners, but rufous in outer tail and striking pattern created by dusky crown and cheek bar, contrasting with otherwise unmarked whitish or pale buff head and throat, distinctive.

Description: Bill greenish-horn. Bare skin around eye red (obscured by black plumes, which are very extensive in female). Irides brown. Legs grey. Tail very long (central feathers up to 1600 mm in males), graduated (outermost feathers only 65 mm) and tapering, of 20 feathers. Sexes differ. Male has very short spur, absent in female. **Adult male:** crown white. Forehead, lores, head-sides and occiput black. Patch on ear-coverts, throat and upper neck white, bordered below by black collar. Rest of neck and most of upperparts golden-yellow, each feather with neat black border giving very scaly appearance. Scapulars and wing-coverts white, feathers bordered black or chestnut. Secondaries buffy-yellow, barred black, white and chestnut. Primaries dark brown, barred rufous-buff. Foreneck and breast blackishchestnut, marked with white, becoming tawny-rufous on rear flanks and deep black on thighs and vent. Tail silvery-white, crossed by numerous black and chestnut bars, with cinnamon-buff at edges, outer feathers progressively shorter, more broadly edged cinnamonyellow. **Adult female:** crown blackish, with reddish feather tips. Eyebrow, head-sides and front and sides of neck clear warm buff, face with blackish eye-stripe and cheek bar. Hindneck and upperparts grey-brown, vermiculated with buff and black shaft streaks, mantle blacker, with chestnut and white marks. Breast and flanks chestnut, with whitish and grey mottling, upper breast has some black mottling, central belly whitish and vent buff, with chestnut markings. Wings grey-brown vermiculated black, each feather with subterminal black patch and buff streak, primaries and secondaries barred rufous and dark brown. Central tail feathers grey-brown, vermiculated black, irregularly barred pale buff and dark brown, outer feathers with extensive rufous and black-and-white tips. **Juvenile:** resembles female, but paler and duller, with whiter foreneck and whitish streaking on pale brown breast; young male soon acquires adult malelike tail pattern [11, 14].

Geographical variation: Monotypic.

Measurements: Length: male 210 cm and female 150 cm, much of difference accounted for by very long tail of male. Males: wing 260-300 mm, tail 1000-1600 mm, tarsus 80 mm, weight 1529 g (captive mean). Females: wing 218-250 mm, tail 330-450 mm, tarsus 57-61 mm, weight 949 g (captive mean).

Habitat: Evergreen and deciduous (especially oakdominated) forests, with tall grasses and bushes. Altitudinal range 300-2000 m.

Habits: Appears at forest edge or emerges onto adjacent farmland in early morning and late afternoon to forage. At other times retreats into forest and is largely quiet. Often in small groups, but up to 10 or more congregate in winter. Forages by scratching ground, but also digs using stout bill. Typically escapes by running, but if pressed will fly swiftly, with quick strong wingbeats, making a very impressive appearance. Roosts in trees within forest.

Breeding: Mating pattern unclear. Nest a deep scrape lined with needles, leaves and herbs among grass and undergrowth in forest. Clutch 6-9, but up to 15 reported; eggs olive-brown to olive-cream. Breeds mid-April-mid-July.

Distribution: Central China. Recently extirpated from Hebei and Shanxi in north. Presently occurs from North-Eastern Yunnan north through Sichuan, Guizhou and Hunan to Southern Gansu, Shaanxi, Hubei, Henan, Anhui and Jiangxi. This spectacular pheasant has been introduced into several areas worldwide, including the Czech Republic, France, Germany, Austria, England and the USA (including Hawaii), but only those in parts of Eastern Czech Republic and Northern France appear to be self-sustaining [10, 27].

Status: Vulnerable. Local and probably scarce to reasonably common. Approximately 10 years ago it was considered one of China's most threatened birds and a range contraction of c. 50% was estimated. Subsequent surveys have found it at a number of localities, but many are small and isolated. The number of sites and fragmented nature of its range suggest that there may be fewer than 10,000 individuals, and it is almost certainly continuing to decline through further habitat degradation. Known from a few protected areas, including Fanjingshan and Badagongshan National Nature Reserves. As well as loss of its hill forest habitat, it is still under pressure from hunters, both for food and for majestic tail feathers of male, which can reach up to 1.5 m and are sometimes used in head dresses in opera productions, though plastic feathers are now used in some Beijing Opera costumes. Introduced population in Czech Republic numbered c. 2500 individuals in 1985, but just 200-400 estimated in 2000 [34].

Genus *Phasianus* - northern pheasants

Phasianus is close to *Syrnaticus* but differs in having hair-like feathering on rump and 'feathery' tail fringes, while males possess a short tuft of feathers either side of the rear crown. Significant differences also exist in the patterns of the downy chicks and in display behaviour. The two pheasants included here form a species-pair, and there is strong rationale for treating them as conspecific within a monotypic genus. However, despite broad geographic variation within Common Pheasant, the native Japanese taxa constitute a very distinctive, significantly differentiated group, maintained at species level here.

Common pheasant - *PHASIANUS COLCHICUS* Linnaeus, 1758

Alternative name: Ring-necked Pheasant. Familiar species of farmland

in most temperate zones having been widely introduced for shooting purposes - the archetypal 'game' bird. Its native range extends over much of temperate Asia and perhaps west to extreme South-Eastern Europe.

Identification: The most widespread pheasant, with a range almost worldwide due to introductions, e.g. in Chile, New Zealand, Tasmania, North America, Japan and Europe. The only phasianid likely to be encountered in most of its range, as it shuns dense forests and high montane zones inhabited by others. Male unmistakable: bottle-green head, short 'ears', 'goggles' of bare red skin, long barred tail and highly glossed, colourful golden or often purplishcopper plumage. With c. 30 subspecies recognised in its native range, colour tones vary and introduced populations may combine a host of features through racial mixing; some have white collars or pale forewings, and rumps vary from bluish-grey to reddish. Melanic variant ('*tenebrosus*') with blackishgreen body frequently encountered among introduced populations (perhaps most frequent in UK); though similar to Green Pheasant it is easily distinguished by the dark rump, dark grey wings and blackish underparts (Green has blue-grey forewings and rump, and greener underparts), while the female is dark chestnut, closely marked buff and black. Females of wild populations vary in colour saturation but are less variable than males. Their scale-spotted underparts and partial tail bars distinguish them from similar-sized females of Golden, Lady Amherst's and Copper Pheasants.

Description: *P.c. colchicus*. Bill greenish-horn to yellowish-horn (brownish-horn in female). Bare facial skin bright red (male). Irides brownish-yellow to orange-brown or brown (brownest in females). Legs greyish (brownier when very young). Male has small erectile tuft at each side of rear of head. Rump feathers loose and disintegrated (male). Tail of 18 feathers, graduated, with central pair longest and tapering at tip, and feathers disintegrated at sides towards base. Sexes differ. Male has short spur, absent in female. **Adult male:** head, throat and upper neck blackish, glossed green, with bronze tone to crown and purple sheen on throat. Lower neck, breast and underparts coppery-orange, with purple-pink reflections and blackish (glossed purplish-blue) scaling. Central belly and vent glossy blackish, undertailcoverts rich chestnut. Upperparts coppery-red, each feather with black fringe and terminal central spot, becoming buff-centred on back and scapulars. Rump feathers dense and hair-like, coppery-red; uppertailcoverts buffy-brown with chestnut tips. Wing-coverts buff, greater coverts with purple-rufous edges and some blackish marks; flight feathers dark brown mottled and barred buff. Tail buffy-brown, reddish-violet at sides, with numerous dark brown bars across central part of feathers. **First-year male:** much as adult. **Adult female:** entire plumage uniformly dull sandybrown, indistinctly mottled darker brown on neck and breast-sides. Throat, head-sides, central breast and belly almost unmarked, and flanks with strong blackish-brown V markings. Crown intensely mottled black. Lower nape

and mantle feathers have chestnut centres and buff subterminal U; most of remaining upperparts have black feather bases. Wing-coverts buffy-cinnamon, dotted black; flight feathers dark brown barred buff. Tail buffy-brown, with numerous dark brown and buff bars across central portion of feathers. **Juvenile/immature:** like female but mantle feathers duller and with buff shaft streaks; rump and uppertail-coverts browner, scaled buff; flank markings irregular and broken. Males swiftly moult to immature plumage (at 6-8 weeks), prior to fully attaining male features at c. 5 months - thus they appear constantly patchy during first few months of life [6, 11, 19].

Geographical variation: Considerable, especially among males. Where ranges are contiguous, variation often appears clinal (including presence of white collar, intensity of plumage coloration, and body size), but differences can be more abrupt between slightly isolated populations and the striking Japanese forms demand specific rank as Green Pheasant. The 30 generally recognised subspecies form five groups, which have been occasionally afforded specific status, but the two principal groups meet in the Tarim Basin of extreme Western China. Within each group there is a degree of plumage variation, casting substantial doubt on the validity of many subspecies. Introduced populations may be unassignable to one subspecies as, in many parts of the world, released stock are of several, often mixed, origins.

Black-necked Pheasants (*colchicus* group). Western group with pale brown to buff wing-coverts and well-developed purplish tones, lacking white on neck.

P. c. septentrionalis Lorenz, 1888 – occurs in Northern Caucasus from Dagestan north to the Volga Delta (Russia); paler, less spotted and barred, and has more golden plumage tones than nominate.

P. c. colchicus Linnaeus, 1758 (includes *lorenzi* and *europaeus*) – occurs in Eastern Georgia, North-Eastern Azerbaijan, Southern Armenia and North-Western Iran. Those in European Turkey, North-Eastern Greece and South-Eastern Bulgaria appear to be of this form and are probably native, though purity threatened by mixed-race introductions.

P. c. talischensis Lorenz, 1888 – occurs in South-Eastern Transcaucasia and Caspian lowlands of Northern Iran; poorly differentiated from nominate but reportedly has narrower purplish-blue borders to breast feathers and females usually darker.

P. c. persicus Severtzov, 1875 – occurs in South-Western Turkmenistan and North-Eastern Iran; paler than previous forms, with more buffy wing-coverts and paler golden body plumage.

White-winged Pheasants (*principalis-chrysomelas* group) – Central Asia, redder, less purplish than nominate group with whitish wing-coverts, and often a partial white collar.

P. c. principalis P. L. Sclater, 1885 (includes *bogdanowi* and *komarowii*) – occurs in Southern Turkmenistan, extreme North-Eastern Iran and North-Western Afghanistan; see group features.

P. c. zarudnyi Buturlin, 1904 (includes *tschardjuensis*, *medius* and *gordius*) – occurs in Central Amu Darya on Turkmenistan-Uzbekistan border between Kerki and Darganata; paler and brighter than previous form, with variable amount of white on nape.

P. c. bianchii Buturlin, 1904 (includes *jabae* and *michailowskii*) – occurs in upper Amu Darya in Southern Uzbekistan, South-Western Tajikistan and extreme Northern Afghanistan; darker below than previous two subspecies, with blackish markings merging on breast, and upperparts duller and browner, less reddish, than others.

P. c. chrysomelas Severtzov, 1875 (includes *dorandti* and *oxianus*) – occurs in Amu Darya Delta, Uzbekistan and adjacent Northern Turkmenistan; brighter than previous form, with breast markings not merging, darker, tinged copper and bronze above, and has distinct, but broken and irregular white collar.

P. c. zerafschanicus Tarnowski, 1893 (includes *tarnowskii* and *klossovskii*) – in Zerafshan Valley and Kaska Daya near Samarkand in Uzbekistan; differs from rest of group in having well-developed white collar, but similar to *zarudnyi* in being overall rather pale, buff and golden.

Kirghiz Pheasants (*mongolicus* group). The *mongolicus* group differs from the last in having iridescent coppery-maroon and green upperparts and a partial white collar.

P. c. mongolicus J. F. Brandt, 1844 (includes *brandti* and *semitorquatus*) – occurs from Northern Tien Shan (Northern Kyrgyzstan) north through Eastern Kazakhstan to Lake Balkash and east to North-Western Xinjiang and Urumchi (Western China); features as above for the group.

P. c. turcestanicus Lorenz, 1896 (includes *triznae*, *kvaskovskii* and *bergii*) – occurs in South-Eastern Kazakhstan, from the east shore of the Aral Sea along the Syr Darya to the Western Fergana Valley in Eastern Uzbekistan and borders of Kyrgyzstan; differs from the previous form in being more purplish, less bronzygreen above, with bolder, more regular markings below and in having a bolder white collar.

Tarim Basin Pheasants (*tarimensis* group). Two rather different forms, though *shawii* has some features associated with the Central Asian group and was included therein by Delacour (1977). It is, however, separated from these by the massive Tien Shan, and is best grouped with *tarimensis* (Vaurie 1965).

P. c. tarimensis Pleske, 1888 – occurs in Eastern and Southern Tarim Basin, Xinjiang (Western China); no white collar and olive-yellow on lower back and rump.

P. c. shawii Elliot, 1870 – occurs in Western Tarim Basin, Xinjiang (Western China); differs in having whitish wing-coverts, reddish rump and uppertail-coverts.

Grey-rumped Pheasants (*torquatus* group). In most forms of this large group, males have a conspicuous white eyebrow and collar, the lower back and rump greenish-grey, and bluish-grey wingcoverts. Many forms intergrade.

P. c. hagenbecki Rothschild, 1901 – is isolated in the Kobdo Valley of Western Mongolia; the largest and palest form, with complete white collar, pale crown and straw-yellow ground colour to body plumage.

P. c. pallasi Rothschild, 1903 (includes *alpherakyi* and *ussuriensis*) – occurs in Ussuriland and Southern Amurland in Russian Far East, adjacent North-Eastern North Korea and North-Eastern China (Northern Heilongjiang); darker than previous form, with a browner crown and more golden-yellow body plumage.

P. c. karpowi Buturlin, 1904 – occurs in Korea and North-Eastern China (Central Heilongjiang, south to Northern Hebei to the suburbs of Beijing); darker and more richly coloured than *pallasi*, and intermediate with the following taxon.

P. c. kiangsuensis Buturlin, 1904 (includes *pewzowi* and *schensinensis*) – occurs in North-Eastern China (Western Hebei and adjacent Nei Mongol, Northern Shanxi and Shaanxi); darker and more richly coloured than previous forms in the group, with a dark crown and narrower white collar.

P. c. alaschanicus Alpherak & Bianchi, 1908 – occurs in Northern China (isolated in Ningxia north to Nan Shan and east to Lang Shan); paler than the previous form with whiter ‘eyebrows’ and a narrow collar broken at the front.

P. c. edzinensis Sushkin, 1926 is isolated in the valley of the Edzin Gol in Northern Gansu (China); like the following form but with more contrastingly marked scapulars (darker borders and purer white centres) and paler underparts.

P. c. satscheuensis Pleske, 1892 is isolated in extreme North-Western Gansu (China); very pale and sandy above but dark coppery-red and golden-yellow below, crown pale, collar narrow and broken.

P. c. vlangalli Przhevalski, 1876 is isolated in Western Zaidam basin of Northern Qinghai (China); darker than the previous form, relatively rufous above and lacking pale centres to scapulars, crown quite dark and collar vestigial.

P. c. strauchi Przhevalski, 1876 (includes *holdereri*, *berezowskyi* and *chonensis*) occurs in Southern Shaanxi and Southern Gansu (China); resembles *kiangsuensis* but even darker and more richly coloured, collar narrow and broken, and virtually absent in some.

P. c. sohokhotensis Buturlin, 1908 is isolated in the Soho-Khoto oasis in Eastern Gansu (Northern China); like the previous form but paler and duller.

P. c. suehschanensis Bianchi, 1906 – occurs from Songpan south to Kwansien in Western Sichuan (China); strongly patterned, dark and richly coloured race, with no collar, coppery and maroon above, glossed bronze-green, copperbrown below, glossed green, becoming purpleblue on lower foreneck, and tail purplish-brown.

P. c. elegans Elliot, 1870 (includes *sladeni*) – occurs in extreme Eastern Tibet (Xizang) and adjacent Western Sichuan, south to North-Western Yunnan (China), reaching Northern Myanmar; similar to previous form but blacker below, with more extensive purple-blue on breast, and more reddish, less maroon, on scapulars.

P. c. rothschildi La Touche, 1921 occurs in South-Eastern Yunnan (China) and adjacent extreme Northern Tonkin (Vietnam); like *elegans* but blue of breast more restricted, flanks and mantle paler and more golden, and sometimes has vestigial collar.

P. c. decollatus Swinhoe, 1870 – occurs from Western Hubei west to the Red Basin of Eastern Sichuan, south to North-Eastern Yunnan and Guizhou (Central China); paler above and below than the previous form, with more boldly spotted scapulars; tail virtually identical to *suehschanensis*.

P. c. takatsukasae Delacour, 1927 – occurs in Southern Guangxi (China) and extreme North-Eastern Tonkin (Vietnam); darker and more richly coloured than *torquatus*.

P. c. torquatus Gmelin, 1789 (includes *gmellini* and *hemptinnii*) – occurs from Shandong and Henan south to Southern Guangdong (Eastern China); golden-yellow mantle and flanks, purplish-red breast centre, bluish belly centre, and collar prominent but broken at front.

P. c. formosanus Elliot, 1870 – occurs in Taiwan; paler than the previous form, with flanks almost whitish-buff and mantle straw coloured [2, 8, 23, 27, 31].

Measurements: Length: male 75-89 cm, female 53-62 cm. Northern populations typically larger than southern races, i.e. wing length of male *hagenbecki* of Western Mongolia is 260-265 mm, whereas *rothschildi* of Yunnan has wing 210-230 mm. *P. c. colchicus*. Males: wing 250-266 mm, tail 490-590 mm, tarsus 69-74 mm, mean weight 1150 g. Females: wing 210-220 mm, tail 290-310 mm, tarsus 62-70 mm, mean weight 850 g.

Habitat: Throughout its natural range occurs in a broad variety of temperate habitats in mountains and foothills near cover: riverine scrub and lakeside reeds, woodland edge, steppe and open country, usually scrub and woods near cultivation, but tends to avoid dense forest, highest mountains and very dry areas. Also subtropical plateaux, in cold valleys and oases surrounded by deserts and high mountains. Where introduced its habitat use is similar, but occurs especially in agricultural landscapes.

Habits: Encountered in a wide variety of group sizes and compositions according to season and, probably, local conditions. Occurs singly, in pairs, in groups containing a male and several females, and, in winter, in single-sex flocks in some areas, or flocks in which males outnumber females. Emerges from cover to feed in early mornings and late afternoons at forest edges, in woodland rides and cultivation, plantations, secluded parks and gardens etc. close to cover. Water sought either in morning or evening and seeks cover in middle of day. When disturbed walks quickly or runs for cover with tail cocked and head high, but if pressed will fly short distance to escape, before walking or running on alighting. If flushed 'explodes' from underfoot, though most prefer to run rather than fly from danger. After noisy initial rise, may tower to clear hedge and continue with speedy flap-flap-glide action over short distance. Roosts usually in bushes, but also uses trees.

Breeding: Where introduced it is polygamous with male defending harem of two or more females. This system can be assumed to also occur in its native range and harems of five females have been reported. Nest usually on ground in grass tussocks or beneath cover such as a bush, occasionally above ground. Coarse grass appears to be favoured for nest building. The lining is of finer grasses and feathers. Clutch 8-14 eggs in native range, but 1-28 reported; eggs small and unmarked olive-brown, but sometimes greenish, bluish or pale greyish-olive. Breeding season apparently variable within native range and where introduced, presumably due to local conditions; from approximately late February in Jiangsu (Central China), April in Turkmenistan and May-June in Amurland (Russia). Incubation 22-25 days.

Distribution: From the Korean Peninsula through much of China south to Northern Vietnam, but absent from highest areas of Tibetan Plateau. Local in extreme North-Western, South-Central and South-Eastern Mongolia and Ussuriland in Russian Far East. West of China distribution appears patchy and not well known. From Northern Afghanistan and Northern Iran through Turkmenistan and Uzbekistan (including islands within Aral Sea) to Kyrgyzstan, Tajikistan and Eastern and Southern Kazakhstan. Also Caucasus republics and adjacent Russia west of the Caspian Sea, and patchily west to the Black Sea. Possibly also native in extreme South-Eastern Bulgaria, North-Eastern Greece (Nestos Delta) and adjacent European Turkey. Widely introduced, most notably to North America, West Indies (on Eleuthera, in the Bahamas, Cuba, especially Isladela Juventud, and perhaps Puerto Rico), Europe, Morocco, Tasmania, New Zealand, Chile (marginally established in Cautun and Valdivia) and Hawaii. In Japan long established as an introduction in Southern Hokkaido and on Tsushima (in Korean Strait), where native Green Pheasant is absent, but introductions elsewhere in Japan apparently less successful, seemingly due to low fertility of hybrid offspring with Green [25, 28, 30].

Status: Where introduced it is generally common to superabundant as resident populations are regularly supplemented by game-reared birds in advance of shooting seasons. Status of many native populations largely unknown, or show precipitous decrease through hunting or habitat destruction. It is the commonest galliform in China, being frequent throughout except on Hainan and most of the Tibetan plateau. There are no formal estimates of density other than one from Pangquangou, a reserve created to protect Brown Eared-pheasant in Shanxi, where there was an autumn density of 64/km² in 1989, which is similar to autumnal densities on managed estates in the UK. Additional data from elsewhere and in different habitats would be valuable. On Taiwan it is declining but still common in the south and east. Elsewhere the only recent information is from Azerbaijan where the nominate subspecies is locally common, but *talischensis* is now very rare. Certain restricted-range subspecies may be endangered (i.e. *hagenbecki* and *edzinensis*). Given its apparent tolerance of considerable habitat alteration and its broad distribution, its overall population probably numbers millions, if not tens of millions within its native range. Given the relative stability of the overall population, it is not considered globally threatened. Provided suitable habitat remains it is likely to be safe, despite heavy hunting in some areas, both for food and sport. It does, however, suffer from conversion of its habitat for agriculture [22, 29, 32].

Genus *Chrysolophus* - ruffed pheasants

Small genus containing two very distinctive Chinese pheasants. Though females possess obvious similarities, males are so stunningly different that initially it may appear odd to place them together; however, they share a number of peculiar features. Both are small-bodied pheasants with very long tails and possess a ruff or cape of large squared feathers at the head-sides, which may be fanned in display. Body feathers are disintegrated and hairy, especially those of the uppertail-coverts, which are very long and stiffened at tips. Legs rather slim and spur only weakly developed. Their close relationship is also manifest in captivity, where they readily hybridise and first-generation offspring are usually fertile.

Golden pheasant - *Chrysolophus pictus* (Linnaeus, 1758)

Being popular in ornamental collections, this beautiful species is one of the most familiar of all pheasants. Despite this, it is remarkably little studied in the wild.

Identification: Hill forest (chiefly 800-1600 m) in Central China. A small, slender, shy forest pheasant, often revealing presence by distinctive loud rasping call of male. Male unmistakable, with red underparts, yellow face, crown and rump, golden cape and long, coarsely marked brownish tail; in display golden cape is fanned forwards and upwards, concealing the face. Female very similar to female Lady Amherst's but has plainer head and lacks

contrasting white throat and belly of latter; bill and legs yellowish (not grey). Small size and closely barred, unspotted, body plumage and longer, more boldly barred tail are useful distinctions from Common Pheasant.

Description: Male has greatly elongated crest of fine silky feathers, female slightly elongated feathers, visible as a 'bump' on rear crown. Male has ruff of large square-ended feathers from nape, forming a cape when relaxed. Feathers of both upper- and underparts rather disintegrated and hair-like in texture, especially on rump and uppertail-coverts (which are elongated and rather stiff). Tail greatly elongated, consists of 18 feathers, tapering to a point; central feathers broader and vaulted; female has tail unremarkably elongated. Bill yellowish-horn. Bare skin around eye and small wattle deep yellow. Irides whitish or pale yellow (brown in female). Legs yellowish-horn, rather long and slender. Sexes differ. Male has very small spur, often hardly visible, female unspurred. **Adult male:** crown crested, shining golden-yellow. Head-sides buffy-yellow, becoming orangebuff on throat and almost whitish on cheeks. Elongated square-ended feathers from nape, orange with blue-black edges, forming cape. Neck, breast and underparts scarlet, becoming brownish on vent and undertail-coverts. Mantle dark green, feathers black edged. Back and rump bright golden-yellow. Uppertail-coverts stiff and elongated, scarlet. Scapulars and wing-coverts rich cinnamon, with some black mottling, flight feathers brownish-black, with cinnamon or pinkish-buff outer edges. Central tail feathers cinnamon-brown, freckled with buffywhite spots, each with narrow blackish highlight; rest of long tail feathers closely wavy-barred or almost vermiculated brown and whitish. **First-year male:** mix of male and female plumage features, but with more 'female' features than male. **Second-year male:** similar to adult male, but ruff not fully developed, with more round-tipped feathers; wingcoverts more mottled black and buff, less clear. **Adult female:** head and neck cinnamon-buff, closely barred blackish-brown on crown and neck, throat unmarked. Head-sides silvery-grey, barred blackish. Most of rest of plumage (including belly and undertail-coverts) barred rufous-buff and blackish-brown, very noticeable on breast, flanks and wings. Back, rump and uppertail-coverts almost plain but finely peppered and streaked. Tail buffy-brown, broadly barred blackish-brown on central feathers, narrowly on outermost ones, and becoming paler at tip. **Juvenile:** very similar to female, but has warmer plumage tones and is less heavily and regularly barred on breast and flanks [6, 18].

Geographical variation: Monotypic.

Measurements: Length: male 100-115 cm, female 61-70 cm, largely differ due to longer tail of male. Males: wing 190-209 mm, tail 630-790 mm, tarsus 75 mm, weight 575-710 g. Females: wing 165-193 mm, tail 340-375 mm, tarsus 70 mm, weight 550-665 g.

Habitat: Inhabits bamboo and scrub on rocky hills and slopes at mid-altitudes (800-1600 m), occasionally at edges of terraced cultivation or scrubby tea plantations. Habitat use may vary seasonally. Those in United Kingdom inhabit dense lowland half-grown coniferous plantations, usually with rhododendron thickets.

Habits: Very difficult to observe as it keeps to cover of dense, dark forest or bamboo thickets; most likely to be encountered feeding on tracks or in clearings in early morning or late afternoon. Usually in groups during much of year, though also seen singly. In larger flocks during winter when males and females roost together. Flocks disband in spring (from late March), when males begin to defend territories. Female has much larger home range than male. Roosts in trees and large bushes. Feeds in deciduous forest, edges of farmland and scrubby grassy areas in winter, deciduous forest in spring and both deciduous and mixed coniferous/broad-leaf forest in summer, especially relatively open woodland. Shy nature makes observation difficult and probably best located by tracking down calling male. Runs rapidly from danger, slipping through dense cover with great agility, aided by its slender body and relatively long legs. Hardly ever flies.

Breeding: Mating pattern unclear, evidence for both monogamy and polygamy based on scant anecdotal information. One nest was situated within a bamboo thicket surrounded by tall herbs interspersed by rocky outcrops. Clutch 5-12 pale buff to cream eggs. Breeding thought to commence in April. Incubation in captivity lasts 22 days and is by female alone, which sits motionless throughout this period.

Distribution: China. Distributed through much of centre of country in suitable habitat. From South-Eastern Qinghai in the northwest, east through Western and Southern Gansu, Southern Shaanxi to Western Hubei and Western and Southern Hunan. South from Qinghai to North-Western Yunnan and Guizhou to Wuzhou in Eastern Guangxi. Introduced to France, New Zealand and United Kingdom, but only in latter has it become very locally established [11, 14].

Status: Fairly common in suitable habitat. Little formal assessment of its status until recently and results of an ongoing study awaited. Frequency of observations in some areas, together with size of range and density estimates from some areas, suggests a population in the tens of thousands. Though this appears secure, declines were formerly sufficient for it to be considered globally Near Threatened (it has recently been removed from the Red Data List). Occurs in a number of protected areas, including Foping Panda Reserve and Taibaishan Nature Reserve. Its prominence in Chinese traditional culture may

be to the species' disadvantage as it is considered a delicacy and is expensive, when available, in restaurants. It is principally threatened by loss of its wooded habitat, though some direct exploitation exists. Introduced to the UK, where a small number of very localised populations (totalling 1000-2000 individuals) survive, most notably in South-Western Scotland, East Anglia, the South Downs and Gloucestershire [10].

Conclusions

By opening the Vivarium within the National Museum of Ethnography and Natural History, the visitor was given the opportunity to admire and know, in the historical center of Chisinau, over 60 species of exotic and decorative animals, predominantly birds, but also reptiles and fish. All this birds' biodiversity, largely collected from all over the world, is already a local natural heritage that is important both scientifically and aesthetically for our museum as well as for the whole country. This patrimony deserves to be admired, researched and promoted to the public in order to educate respect and attachment to the nature that surrounds us.

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Abstract

Species of birds of the Phasianidae family (Aves: Galliformes) from the Vivarium of the National Museum of Ethnography and Natural History.

Part 2. Monals and pheasants. The article is a detailed and complex descriptive study of some species of birds from the Phasianidae family (Aves: Galliformes), which could be met in the Vivarium of the National Museum of Ethnography and Natural History, describing species of the following genera: *Lophophorus*, *Lophura*, *Crossoptilon*, *Syrnaticus*, *Phasianus* and *Chrysolophus*. The work focuses on the following aspects: alternative names, identification, description, geographical variation, measurements, habitat, behavior, breeding, distribution and ecological status.

Keywords: *vivarium, monal, pheasants.*

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