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THE SUBSPECIES OF *LOPHURA* *NYCTHEMERA*

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The variations in the populations of silver pheasants (*Lophura nycthemera*) inhabiting the hills and moderately high mountains of southern China, Indo-China, Siam, and eastern Burma have so far remained much confused. In the preparation of a general work on the pheasants, I have had to study these birds in as much detail as the very inadequate existing material and information permit. For that purpose I have used all the specimens in the collections in the museums of New York, Washington, Chicago, Philadelphia, and Cambridge in the United States, and detailed descriptions and photographs of those in Berlin, Paris, and London. I am indebted to the curators of these different institutions for the loan of specimens and for much interesting information.

A general revision of the genus *Lophura* Flemming, 1822, will shortly appear in the "Ibis," where my reasons for including in it the species previously placed by most authors under the generic term *Gennaëus* will be given in full.

I want to discuss in the present note only the various geographical races of *Lophura nycthemera*. Their obligatory habitat is hilly ground covered with forest, bamboos, or brush with isolated trees, up to 6000 or 7000 feet. It follows that the species is absent from large tracts of open and cultivated country, plains and marshes, as also from high mountain ranges. Therefore populations are geographically segregated by such unsuitable ecological terrains and also by large rivers.

Male silver pheasants have, generally speaking, a large black crest, purplish black underparts, and light upperparts varying

from white more or less regularly and heavily lined with black to black lined with white. The females are brown above, with a darker crest; the tail and underparts are either plain brown or variously vermiculated or mottled. The legs are bright crimson. Individual variation is important in both sexes, but it is, however, easy to distinguish the populations, as such a variation does not extend too far or confuse the issue. The wing and tail have been flattened and extended for measurements.

Lophura nycthemera nycthemera

Phasianus nycthemerus LINNAEUS, 1758, *Systema naturae*, ed. 10, vol. 1, p. 341; China.

MALE: The whitest of all subspecies. The upperparts are white, each feather of the mantle, back, and wings bearing very thin, wavy, broken black lines, three to four on the scapulars and wing-coverts; ear-coverts, back and sides of the neck pure white; central rectrices pure white, or with a few thin, broken black bars or spots on the basal part of the outer web. Tail long (650–720 mm.). Wing, 265–297 mm.

FEMALE: Plain olive brown above and below, the feathers inconspicuously peppered with black, with pale shafts, including the four central rectrices; crest tipped with black; chin and throat whitish and mottled; belly and vent either plain brown or lightly streaked with white or pale gray; lateral rectrices mottled brown, black, and white. Wing, 240–260 mm.

There is a great deal of individual variation and many degrees in the vermiculation of the belly and tail feathers. All wild collected females from Kwangsi and eastern Tonkin that I have seen have uniform brown underparts.

Edwards' plate and description, on which Linnaeus' name is based, leave no doubt that they apply to the whitest form of silver pheasants. The male is very white above and the female practically plain brown below. The pair from which they were taken were kept alive by Sir Hans Sloane in London and had bred there; no one knew their exact origin in China, but it is probable that they had come from the neighborhood of Canton, as all shipments from South China were effected from that port during the eighteenth century. It also seems likely that those birds and later on others of the same origin form the major part of the ancestors of the present day captive stock. Swinhoe, writing to Elliot, states: "It is brought to Canton City from the Province

of Kwangsi by the West River and offered alive in the shops for sale." Most of the captive bred males seem to belong to the very white form. Captive females, however, are generally streaked or vermiculated with white or pale gray on the belly, lower breast, and vent, and have the primaries, secondaries, and central rectrices also slightly vermiculated, contrary to the wild caught Tonkinese specimens which are practically entirely plain brown except on the lateral rectrices. Yen records a pair from Yaoshan, Kwangsi, which he had compared with Tonkin birds and found identical. He gives their wing measurements as 265 mm. for the male, 250 for the female, which are normal for the present subspecies. A male from Yaoshan in the Berlin Museum is abnormally small: wing, 250; tail, 495 mm., and it is intermediate in color between Tonkin and Fokien specimens. It is possible that vermiculated females exist in some part of the range and plain ones in another, but we still know too little about these birds in the wild state to discuss the question further; also the captive stock may be of mixed origin. According to E. Stresemann (*in litt.*), birds collected by R. Mell at Lungtaotong, Siuhang, Yiushan, northern Kwangtung, are somewhat variable, partly like *nycthemera*, partly approaching the following subspecies from Fokien. There are four adult males, one immature, and three females in the Berlin Museum. Of the full plumaged males, three are more like true *nycthemera*, and one resembles the Fokien birds. Three have pure white central rectrices, and one shows almost unbroken, wavy black lines on the basal half of the outer web. They all have three to four black lines on the scapulars and wing-coverts, but their hind neck is slightly lined. Two of the females are plain colored underneath like those from Tonkin, but the third one, collected at the same time and at the same place, is mottled below like a female from Yenping, Fokien, mentioned further on. Their measurements fall within the limits of those of *nycthemera*. No accurate records or available specimens from northeastern Yunnan, Kweichow, Chekiang, eastern Kwangsi, and western Kwangtung are at hand, although it has been reported that silver pheasants occur in all suitable habitats in those provinces. Yen and various other authors mention the silver pheasant as common on all bamboo, brush, and forest-covered mountains of southern China. Some of these populations, when they are better known, may show sufficiently special characteristics to deserve subspecific distinction.

DISTRIBUTION: Provisionally, Kwangtung, Kweichow (?), Kwangsi, southeastern Yunnan, and Tonkin west to the Red River at altitudes of 1000 to 6000 feet. In Tonkin we have collected specimens at Backan, Nganson, and Langson.

The population on the highlands along both sides of the Red River (Chapa and Pakha) is intermediate and unstable. Some males resemble those from northwestern Tonkin and Laos, while others are lighter and indistinguishable from *nycthemera*. The females are either almost plain brown below like those from Tonkin, mottled like those farther west, or intermediate and vermiculated. A female and two immatures from Mongtze, southeastern Yunnan, probably belong to the same intermediate population, being slightly vermiculated underneath.

We here restrict the type locality of *nycthemera* to the Chinese-Tonkinese border east of Langson.

Lophura nycthemera fokiensis, new subspecies

MALE: Differs from *nycthemera* in having the black lines of the upperparts more numerous (four to five) on the scapulars and wing-coverts, less wavy and usually unbroken; back of the neck lightly lined, central rectrices with almost unbroken, wavy bars on the basal half of the outer webs. Rather small, with a long tail. Iris orange. Bill greenish yellow, base dusky; wattles and feet crimson. Type in the American Museum of Natural History, No. 423032, collected by P. D. Bergen, northwestern Fokien, November 21, 1911. Wing, 267; tail, 730; culmen, 32; tarsus, 90 mm. Fourteen males examined from northwestern Fokien: wing, 261–287; tail, 610–730. The series is very even.

FEMALE: Olive brown of a very dark shade, usually slightly peppered and vermiculated with grayish white underneath. One specimen from Yenping, January, 1920 (M.C.Z.), has the feathers of the breast and abdomen mottled, each feather showing three broad, irregular white bars; wings and four central rectrices uniform brown; other tail feathers finely vermiculated. Wing, 220–240; tail, 250–260; 14 females examined.

DISTRIBUTION: Fokien and probably southern Chekiang, where silver pheasants have been reported. How far south this subspecies ranges remains unknown. Appears to intergrade with *nycthemera* in northern Kwangtung.

***Lophura nycthemera beaulieui*, new subspecies**

MALE: Similar to *fokiensis*, but black lines a little thicker; hind neck pure white; tail shorter.

Type in the Museum of Comparative Zoölogy, Cambridge, Massachusetts, No. 266974, collected by Delacour, Edmond-Blanc, and Greenway at Xieng-Khouang, Laos, February 3, 1939. Iris orange; bill greenish white, base dusky; wattles and feet crimson. Wing, 288; tail, 560; culmen, 37; tarsus, 96 mm. Named in honor of M. André David-Beaulieu, who, as the French Resident of Xieng-Khouang for seven years, made an excellent survey of the birds of the Tranninh plateau. Eight males examined. Wing, 270–290; tail, 430–620 mm. The tail is rather short, but varies much in length; a few specimens have the hind neck slightly peppered.

FEMALE: Rich brown, with underparts always mottled with white or pale buff. The mottling consists of four to five very irregular, V-shaped bands that vary in width and are often much broken; some specimens are not only mottled but reticulated, particularly in the southeastern part of the range in Tonkin and northern Annam (Mt. Bavi, Phuqui); primaries, secondaries, and central rectrices slightly vermiculated; other rectrices strongly mottled and barred black, brown, and white. Wing, 245–270; tail, 265–315 mm.

DISTRIBUTION: Western Tonkin, northern Annam, and northern Laos, south to about latitude 17° N., from 1000 feet on the banks of the Mekong up to approximately 6000 feet. It is not positively known that it occurs in southwestern Yunnan, but it has been found almost on the border. The range of this subspecies, which is fairly constant over a very large area, is bordered to the east by the high mountains along the Red River and by the Mekong to the west. We have specimens from Phuqui, Hoi-Xuan, Hatinh (Annam); Mt. Bavi, Na-Hai, Muong-Moun (Tonkin); Phong-Saly, Muong-Ngoi, Ban-Houesai, Nam-Khoueng, Xieng-Khouang, Nong-Het, and Napé (Laos). Male specimens from Phong-Saly and Nam-Khoueng, northwestern Laos, seem to be slightly more heavily lined, and the females are more buffy below than the average population. They may show some intergradation with the more northern form *occidentalis*, but the lack of specimens collected between the Mekong and the Red rivers in southwestern Yunnan prevents us from ascertaining this.

As I said before, the population on both sides of the Red River in Tonkin is intermediate and unstable and should be recorded as *nycthemera* \geq *beaulieu*.

Lophura nycthemera jonesi

Gennaesus jonesi OATES, 1903, Ibis, p. 97; 20 miles east of Kengtung, southern Shan States (longitude 99° 05' E.).

MALE: Differs from *beaulieu* in having the black bars on the upperparts decidedly wider; hind neck usually peppered; tail also rather short and very variable in length, even in birds from the same locality. Wing, 260–291; tail, 440–651 mm.

FEMALE: Much as in *beaulieu*, but lower parts more broadly and more regularly mottled dark brown and buff or white, the pale bands usually straighter, fairly regular, and three in number; central rectrices chestnut brown and finely to coarsely vermiculated with buff, the others mottled brown and buff. Wing, 250–270; tail, 250–295 mm.

DISTRIBUTION: Northern and central Siam, south to the mountains west of Korat, southwestern Yunnan, and the southern Shan States east of the Salween River, west to the Mekong, across which *beaulieu* is found. I have examined specimens from Pukha, Doi Pha Sakaeng, Doi Chiang Dao, Doi Langka, Doi Suthep, Doi Angka, Doi Khun Tan, Pahom Pak (Siam); *Kengtung (southern Shan States). Usually found between 4500 and 7000 feet.

Lophura nycthemera ripponi

Gennaesus ripponi SHARPE, 1902, Bull. Brit. Ornith. Club, vol. 13, p. 29; southern Shan States (Mawmai, longitude 97° E.).

MALE: Similar to *jonesi*, but with the black lining above slightly less heavy. Wing, 260–305; tail, 433–610 mm.

FEMALE: Similar to *jonesi*, but underparts distinctly mottled pure black and white, never brown or buff, the feathers usually with two white bands. Wing, 250–270; tail, 270–290 mm.

DISTRIBUTION: Southern Shan States west of the Salween River, in the region of Taunggi, Fort Stedman, Mawmai (approximately longitude 97°–98° E., latitude 20° N.) between 5000 and 7000 feet altitude. This subspecies seems to cross occasionally with the lowland *L. leucomelana lineata*, producing the birds called *sharp* by Oates, but on this point there is still insufficient information.

***Lophura nycthemera occidentalis*, new subspecies**

MALE: As in *jonesi*, but black lines a little more wavy on the mantle, hind neck white and tail longer. Type in the American Museum of Natural History, No. 543317, collected by G. Forrest, hills northwest of Tengyueh, Yunnan (altitude 7000 feet), December 25, 1926. Iris "honey yellow"; wattles and legs crimson; bill "dark fleshy brown, upper tip greenish." Wing, 286; tail, 655; culmen, 35; tarsus, 96 mm.

Four males examined from northwestern Yunnan, northeastern Burma (Ho-Mu Shu Pass, Tengyueh, Gangfang, 6000 to 7000 feet). Wing, 285–296; tail, 560–660 mm. The three males from the Tengyueh region and Gangfang have the black lines less regular and narrower than in *jonesi*, but the specimen from Ho-Mu Shu Pass, slightly to the east, is as heavily and distinctly marked as Siamese birds. All have a long tail. A male from Black Rock, eastern Burma, 4500 feet, shows slight signs of hybridization with *lathamii* (tail shorter and more heavily barred, black lining closer).

FEMALE: More strikingly different than the male. Underparts always mottled dark brown and deep buff, never white or pale buff; the mottling is narrower and less regular than in *jonesi*, much as in *beaulieu*; tail dark chestnut brown, darker and redder than in the previously mentioned subspecies, all the feathers more finely vermiculated, as are also the primaries and secondaries. Two females from Tengyueh and one from Vijawlaw, Burma (6000 feet), are alike. Wing, 246–257; tail, 260–283 mm.

DISTRIBUTION: Northwestern Yunnan and northeastern Burma, east of the Myitkyina and Bhamo districts, between 6000 and 7000 feet. In these districts of Burma, it interbreeds at moderate altitudes along the valleys with the lowland *L. leucomelana lathamii* (see Stanford and Ticehurst, 1939, Ibis, pp. 219–224).

Lophura nycthemera rufipes

Gennaesus rufipes OATES, 1898, Manual of the game birds of India, vol. 1, p. 362; Ruby Mines, northern Shan States (Mogok).

MALE: Much darker than in any of the subspecies mentioned above, the black lines on upperparts wider than the white ones; ear-coverts, sides, and back of the neck completely lined black and white; tail rather short. Resembles the subspecies of central and southern Indo-China but larger. Wing, 260–285; tail, 400–480 mm.

FEMALE: Much as in *occidentalis*, but upperparts and central rectrices lighter and less chestnut, other rectrices mottled brown, black, and white; crest dark brown at tip instead of purplish black. Wing, 240–257; tail, 250–275 mm.

DISTRIBUTION: The highlands of the Ruby Mines District, northern Shan States, interbreeding with *L. leucomelana lathamii* in the valleys and on the lower slopes. Range in the north, east, and south still uncertain, but because of its very well-marked characteristics it is probable that *rufipes* is isolated from all other subspecies of *nycthemera*.

Lophura nycthemera berliozii

Gemmaeus nycthemerus berliozii DELACOUR AND JABOUILLE, 1928, Bull. Brit. Ornith. Club, vol. 48, p. 127; Lao Bao, Quangtri, Annam.

MALE: Intermediate between *beaulieuvi* and *beli*. Resembles *engelbachi* and *beli*, but differs considerably in having more white on the upperparts, and a longer tail; very similar to *jonesi*, but black lines thicker; the back and sides of the neck are usually pure white, the black lines on the upperparts are quite wide apart, the white dominating over the black; the white lines on the wings are numerous and wide; the central rectrices vary as to the amount of black lining; some specimens have them entirely vermiculated, others pure white on the inner web and at the tip; they show no buffy tinge. Wing, 255–265; tail, 370–450 mm.

This is rather an unstable form and it shows a good deal of individual variation. It is very imperfectly known and more material and data are needed.

FEMALE: Resembles *beli* and *engelbachi*, being entirely chestnut brown, more or less vermiculated with whitish on the lower breast and abdomen. Very different from *jonesi*.

DISTRIBUTION: The slopes and plateaus of the Annamitic chain in the provinces of Quangtri and Donghoi. We found it near Lao Bao (Quangtri) and Tamtao (Donghoi), and it probably extends to Laos west and north, perhaps intergrading with *beaulieuvi* which has been found as far south as the Cammon plateau (Napé). Found from 2000 to 5000 feet.

***Lophura nycthemera engelbachi*, new subspecies**

MALE: Crown, crest, and lower parts purplish black, the feathers of the sides of the breast pointed and falcated, the outer web black,

the inner web white, gradually becoming striped or spotted with black, then black with a white shaft streak near the flanks; an irregular narrow white band along the sides of the neck; upperparts black lined with white, the feathers of the mantle, back, rump, and upper tail-coverts with four to six slightly wavy lines following the contour of the feathers; these white lines are about half the width of the black space between them or slightly broader; one occupies the shaft, or is very close to it; wing-coverts, tertiaries black with three or four white lines about 3 mm. wide; secondaries and primaries with many irregular diagonal white lines of about the same width on each web; central rectrices pale buff, the inner webs unmarked except along the shaft where faint vermiculation and spots exist, the tip of the outer web slightly vermiculated, the wavy black lines increasing in width towards the base where the black and white become nearly equal; the black vermiculation increases gradually on the outer rectrices until the black dominates. Iris orange; bill greenish white, the base dusky; face wattles and legs bright crimson. Wing, 261; tail, 412; culmen, 21; tarsus, 89 mm. Type in the American Museum of Natural History, No. 417008, Plateau des Bolovens (Thateng), Laos, collected by T. D. Carter, February 3, 1932. Named in honor of Dr. Pierre Engelbach, the medical officer of the provinces of Paksé and Saravane for 12 years, who has made an excellent survey of the birds of the Boloven plateau.

Twenty-two males examined, all from the Boloven plateau. The series is very uniform, the only difference being, as in all silver pheasants, in the length of the wings and of the central rectrices, and in the amount of spotting on the inner web and tip; nine have them plain buffy white without any spots and a wide band along the shaft is also unspotted on the outer web; 10 are like the type; three have them vermiculated all over. Twenty-two adult males from the Boloven plateau measure: wing, 250–270; tail, 330–415 mm.

The present subspecies differs from *berliozi* in having the black bars much wider and the neck thickly vermiculated with black. It differs from *beli* in the slightly narrower black lines of the upperparts, and in the buff ground color of the tail, which is pure white in *beli*. *L. n. annamensis* has narrower white lines on the upperparts, and broader white bands along the sides of the neck and body; *lewisi* is blacker and has fewer white lines, while *rufipes* is larger, more coarsely lined, and shows no white bands on the sides

of the neck, the white lines on the wings being more irregular and closer to each other.

FEMALE: Entire upperparts plain chestnut brown, the tail brighter, the crest darker, the shafts lighter; throat and fore neck pale brown; underparts light chestnut, the shafts white and the feathers peppered rather inconspicuously with whitish buff. Females vary a good deal; above, they are almost all alike, the shade of the chestnut being only slightly brighter or more olive in some specimens; underneath, of 14 examined, seven are virtually plain breasted; three are slightly vermiculated with buffy brown, one has an irregular whitish shaft streak and vermiculations along it, while three show large, irregular, white vermiculations throughout; a more or less considerable amount of black and brown vermiculation on the rectrices, always slight, accompanies that of the underparts. Strikingly different from the female of *rufipes*. Wing, 230-248; tail, 202-272 mm.

DISTRIBUTION: The Boloven plateau, southern Laos, where the subspecies appears to be isolated between 2000 and 5000 feet altitude.

Lophura nycthemera beli

Gennaëus beli OUSTALET, 1898, Bull. Mus. Nat. Hist., Paris, vol. 4, p. 258; mountains west of Hue, Annam.

MALE: Resembles *engelbachi* closely, but the ground color of the longest rectrices is white, not pale buff. There is a great deal of individual variation; some specimens have virtually no white on the sides of the neck, and the black and white lining of the upperparts is finer and more wavy, the white and black lines being about equal in width. It also seems that the tail is usually more arched. More material is required for a thorough understanding of this form. The original pair, the male of which is the type preserved in the Paris Museum, was brought over alive from Hue in 1897 by Marc Bel. The type is rather dark, the feathers of the mantle having the black lines wider than the white ones; the white bands on the sides of the neck are large; the central rectrices are white, with the inner web spotted with black near the shaft and the outer web vermiculated. The initial pair bred in the museum ménagerie, and A. Morlot, the curator, reported on them (1925, L'Oiseau, pp. 281-282), stating that eight chicks were reared in 1898, 14 in 1902, and four in 1905. Some of the offspring have been preserved in the Paris Museum. One of them, and another

male I brought over alive from Hue in 1924 and presented to the New York Zoological Society (now in the American Museum of Natural History), are of the distinct, closely lined type mentioned above. A few specimens that I collected in central Annam, in the mountains west of Hue and Tourane, resemble the type, and others are intermediate. Wing, 230–260; tail, 340–360 mm.

FEMALE: Resembles *engelbachi*, but entirely chestnut brown, lighter below, with white shafts; tail bright chestnut.

DISTRIBUTION: The higher peaks and ridges of the eastern slope of the Annamitic chain in central Annam, from Faifoo to about Hue, above 3000 feet.

Lophura nycthemera annamensis

Gennaesus annamensis OGILVIE GRANT, 1906, Bull. Brit. Ornith. Club, vol. 19, p. 13; Bali?, Nhatrang, southern Annam.

MALE: Long crest, chin, throat, and underparts glossy black, with a striking, wide white border along the sides of the neck, the breast, and the flanks, the long feathers of which are falcated, white with some black spots, those near the breast and abdomen partly black; upperparts black, each feather with six to eight narrow white lines; wings black with fewer white lines; tail much as in *lewisi*, but narrower and straighter. Wing, 225–250; tail, 310–355 mm.

FEMALE: Mostly plain dull brown, the tail bright chestnut; chin and throat pale; crest long and dark; feathers of mantle and underparts with pale shaft; those of the back with inconspicuous dusky borders.

DISTRIBUTION: The mountain forests of southern Annam, particularly the Langbian plateau, north to Pleiku. A female obtained by A. David-Beaulieu near An-Binh, southeastern Cochinchina, in the foothills. Sight record from Honquan.

Lophura nycthemera lewisi

Gennaesus lewisi DELACOUR AND JABOUILLE, 1928, Bull. Brit. Ornith. Club, vol. 48, p. 125; Bokor, Cambodia.

MALE: Crest, chin, throat, fore neck, and underparts glossy purplish black; feathers of the sides falcated with a white shaft and one or two V-shaped white lines, which are gradually reduced to a pale shaft towards the middle of the breast; feathers of the sides and back of neck black with three concentric black and white

lines; upperparts black, each feather having three V-shaped narrow (1 mm.) white lines, one very close to shaft, which is dark; wing and tail-coverts black with white lines about 10 mm. distant; rectrices black, narrowly barred with white, the central pair almost uniform buffy gray on the inner web and tip, the next pair intermediate. Wing, 240-250; tail, 295-305 mm.

FEMALE: Crest reddish brown with pale shafts; head, throat, and neck pale grayish brown; upperparts mottled gray and reddish chestnut, each feather chestnut inconspicuously peppered with blackish brown, with a whitish shaft and a heart-shaped patch of gray at the tip, becoming a broad, terminal border on lower back and rump; secondaries and primaries chestnut with dark inner webs; rectrices bright chestnut, the central pair with lighter borders and tip and very finely peppered with dark brown; underparts light grayish brown with white shafts, tinged with buff on the sides and flanks.

DISTRIBUTION: The mountains of southwestern Cambodia ("Chaines de l'Elephant et des Cardamomes") and of the adjacent border of southwestern Siam. Found from 2500 to 6000 feet.

Lophura nycthemera whiteheadi

Gennaëus whiteheadi OGILVIE GRANT, 1899, Ibis, p. 386; Five Fingers Mountains (Mt. Wuchi), Hainan.

MALE: Crest and underparts glossy black, the feathers of the sides falcated with broad white shaft streaks; back and sides of neck white, upper back white, with two narrow V-shaped black lines to the feathers, becoming wider on lower back and rump; scapulars, wings, and tail-coverts with one wide, pointed, black bar on the shaft and another V-shaped one, about 5 mm. wide on the middle; central rectrices almost pure white, the middle pair white on the inner web, the others with thick black and white bars. Wing, 245-255; tail, 520-530 mm.

FEMALE: Very distinct; crown and short crest dark chestnut with pale centers to the feathers; chin, throat, and face pale grayish brown with light centers; upper back and underparts black, each feather with a large white patch on the middle; rest of upperparts dark chestnut minutely vermiculated with black, the scapulars, wing-coverts, and feathers of the back with pale shafts; central rectrices chestnut vermiculated with black, the others pale chestnut.

DISTRIBUTION: The mountains of the Island of Hainan.