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## A NEW SUBSPECIES OF CURASSOW OF THE GENUS *PAUXI* FROM PERU

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THE discovery in 1937 by M. A. Carriker, Jr., of a new curassow, subsequently described as *Pauxi unicornis* by Bond and Meyer de Schauensee (Not. Nat., 29:1-2, 1939), was noteworthy because of the great distance of the type locality from the range of the closely related *Pauxi pauxi*. Carriker's two specimens, a male and a female, were taken in the Yungas de Cochabamba in Bolivia about 2,800 km from the closest areas in Venezuela and adjacent Colombia where *Pauxi pauxi* was known to occur. The discovery suggested that other *Pauxi* populations might eventually be found along the eastern slopes of the Andes in Colombia, Ecuador, or Peru, a region whose avifauna is imperfectly known. Indeed, Tschudi (Untersuchungen über die Fauna Peruana: Ornithologie. St. Gallen, Scheitlin und Zollikofer, 1845-1846) had reported *Pauxi* from Peru long before, but his record remained doubtful in the absence of any specimens or corroborating evidence in the century that followed. When we first began our work in Peru in 1965, Dr. Maria Koepcke of the Museo de Historia Natural "Javier Prado" in Lima called our attention to the uncertain status of *Pauxi* and urged us to be on the lookout for it. Thus we were not wholly surprised when in July 1969 one of our assistants succeeded in collecting in east-central Peru a pair of curassows closely similar to the Bolivian *Pauxi unicornis*. These Peruvian birds appear to represent an undescribed race, which we propose to name in honor of Dr. Maria Koepcke in appreciation of her encouragement to us and in recognition of her many contributions to Peruvian ornithology.

### ***Pauxi unicornis koepckeae* subsp. nov.**

TYPE: Adult male, American Museum of Natural History No. 802108, from the Cerros del Sira (southwest slopes, in the Río Llulla Pichis watershed), 9° 26' S, 74° 45' W, elev. 1,200 m, Depto. Huánuco, Peru; 17

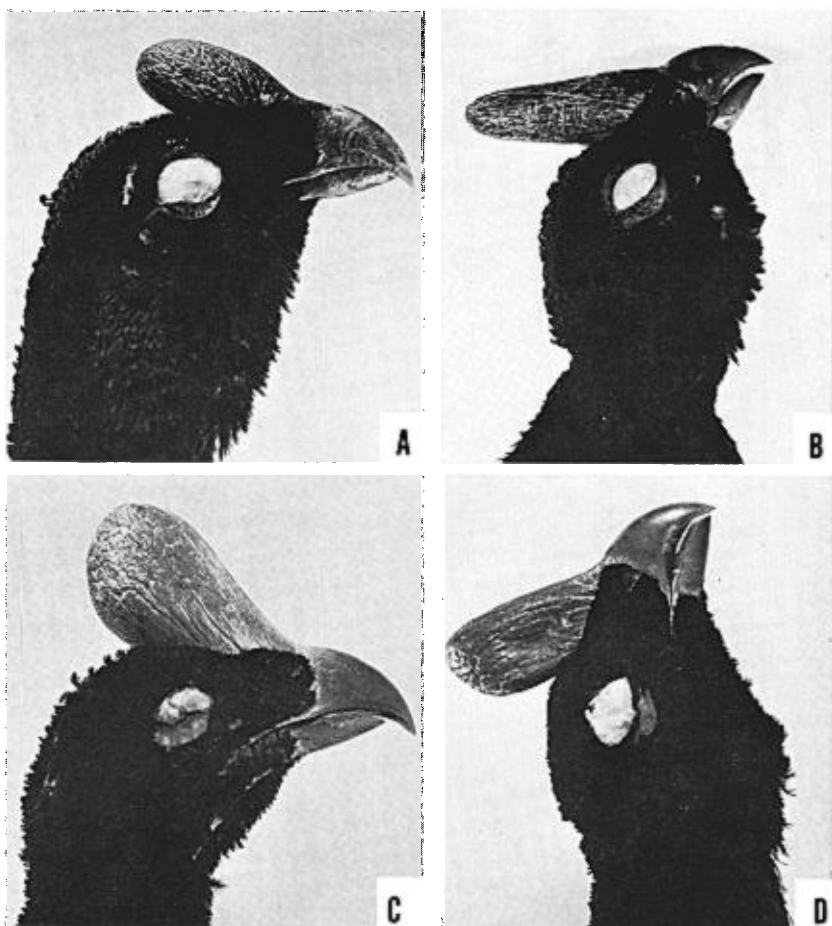


Figure 1. A, type of *Pauxi unicornis koepckeae*. B, type of *P. u. unicornis*. Adult male, Acad. Nat. Sci. Philadelphia No. 138764, collected in the hills above Bolivar, near Palmar, 2,500 feet, Yungas de Cochabamba, Bolivia, by Gordon B. Howes, 20 July 1937. C, *P. p. pauxi*. Male, Amer. Mus. Nat. Hist. No. 525536, from Limones, 700 m, Mérida, Venezuela. S. Briceño Gabaldón. 2 November 1907. D, *P. p. gilliardi*. Male, Amer. Mus. Nat. Hist. No. 703327, from Falda Sur, Cerro Vintaina o Cerro Frontera, 1,800 m, Perijá, Zulia, Venezuela. R. Urbano. 23 March 1952. W. H. Phelps orig. No. 54436. (The depression in the side of the casque is a peculiarity of this specimen resulting perhaps from an old injury. It is not characteristic of the race.)

July 1969; collected by Manuel Sanchez S.; prepared by John S. Weske, original number 2085.

DIAGNOSIS: Similar to *P. u. unicornis* Bond and Meyer de Schauensee, but with casque ellipsoidal and more inclined posteriorly, instead of erect

and shaped like an elongate cone with a rounded top as in the nominate form (see Figure 1); shows less white tipping to tail than *unicornis*: lateral rectrices are more narrowly tipped and the four central rectrices lack white entirely; agrees with *unicornis* in having the back a slightly glossy greenish black, with only obscurely darker edges to the feathers, and in having a well-developed low crest of curled, shiny, black feathers. Differs in these same respects from *P. pauxi* which has a glossy, more bluish-black back, with prominent black feather edgings (giving a scaled effect) and which lacks a conspicuous crest; differs also in the casque from *P. pauxi*, whose casque is bulbous-shaped and generally larger and thicker (though this is less true of *P. p. gilliardi*); has less white tipping to tail than *P. pauxi*, which resembles nominate *unicornis* in this character.

MEASUREMENTS: Type: wing chord, 396 mm; tail, 348 mm; tarsus, 108 mm; width of casque, 20.3 mm; tip of casque to tip of bill, 84.5 mm. Adult female paratype (only skull preserved): width of casque, 19.5 mm; tip of casque to tip of bill, 84.5 mm.

SOFT PARTS: The soft parts of the type of *P. u. koepckeae* are as follows: irides dark reddish-brown, tarsi and toes pale pinkish-orange, bill vermilion, casque light grayish-blue.

RANGE: Known only from the type locality.

REMARKS: We have noticed two additional differences between the type of *koepckeae* and the type of *unicornis* not mentioned in the foregoing diagnosis. In *koepckeae* the crest seems wider and lower. We believe this difference is due simply to the way the skin was rearranged on the skull and allowed to dry when the specimens were prepared. The other difference concerns certain dorsal feathers of *unicornis*, which show a brownish-black coloration subterminally. The type of *koepckeae* is entirely greenish-black dorsally, as, of course, are most of the dorsal feathers of *unicornis*. Probably the brownish-tinged feathers result from immaturity and indicate that the Bolivian type was not quite fully adult.

The one known female of *P. u. koepckeae* was essentially identical to the type in plumage color, casque shape, and soft-part color. Through an unfortunate misunderstanding, the female was plucked and prepared for the stewpot by our Peruvian assistants, who did not realize that we wished to preserve both birds as skins. However, we were able to determine the bird's sex and to save the skull, which has been deposited in the Museo de Historia Natural "Javier Prado" in Lima.

#### TAXONOMIC STATUS

The recognition of a subspecies chiefly on the basis of differences in one character, the casque, might be challenged, especially when only two specimens exist of each form. However these differences seem certainly

attributable to geographic variation, since there is almost no individual variation in casque shape and size in the pairs known from the two localities, and since these are known as geographically variable characters in the helmeted curassows. Furthermore, through the kindness of R. Meyer de Schauensee, we have recently seen photographs of at least two more Bolivian *Pauxi* obtained by Charles Cordier near Guanay, Arepuchó, apparently also located in the Cochabamba area. The casque of one bird looks identical to that of the type of *unicornis*, while that of the other is similar to the type but appears slightly larger and more cylindrical (less conical) in shape. Judging from the pictures, one would have no hesitation in calling the birds nominate *unicornis*. In view of the apparently consistent and conspicuous difference in casque shape and of the 1,250 km distance between the Bolivian and Peruvian type localities, we feel the description of a Peruvian race is justified. The Peruvian form differs as much from nominate *unicornis* as *P. pauxi gilliardi* Wetmore and Phelps does from nominate *pauxi*. *P. p. gilliardi*, found along the Venezuela-Colombia border in the Sierra de Perijá, resembles nominate *pauxi* in all characters except the casque, which is decidedly smaller and less swollen.

Another question concerns the conspecificity of *P. pauxi* and *P. unicornis*. The two species differ no more morphologically than well-marked geographic races of many other wide-ranging Andean bird species. If the Peruvian birds showed any intermediacy between the Venezuelan and Bolivian ones, we would probably consider all forms of *Pauxi* as a single polytypic species as did Wetmore and Phelps (J. Washington Acad. Sci., 33: 142–146, 1943). However, the Peruvian bird shows no approach to *P. pauxi*. As noted above, it resembles *unicornis* in all plumage characters (except the tail) and differs from *pauxi* as *unicornis* does. Its casque does not seem to us to be a step in a cline of casque shape connecting *P. unicornis* and the races of *P. pauxi*, as this structure is more inclined than in any of these other forms. In tail pattern *koepckeae* is alone among the *Pauxi* forms in lacking white tipping on the central rectrices. Also, morphologically similar forms that behave as good species are frequent in the Cracidae, including the genera *Crax* and *Mitu*, which are closest to *Pauxi*. For the present it seems prudent to regard *P. unicornis* and *P. pauxi* as two closely allied species, forming a superspecies.

It is well to note at this point that *P. pauxi* and *P. unicornis* do not seem to us as absolutely different in one character—the crest—as Vaurie (Amer. Mus. Novitates, 2307: 1–20, 1967) suggests. The difference is one of degree. In *P. unicornis* each of the crown and nape feathers is curled nearly 180° at its tip, revealing the glossy undersurface. Together these feathers form a conspicuous, rather shiny area. In *P. pauxi* these

feathers are somewhat shorter and the tip of each is only slightly up-curved, so that the underside faces mainly downward. The feathers are just as glossy beneath as in *P. unicornis*. Thus the crest in *P. pauxi* is merely less well-developed than in *P. unicornis*. A crest quite similar to *P. unicornis* could be contrived if the tip of each feather of a *P. pauxi* was somehow artificially curled.

The helmeted curassows (*Pauxi*) are very close to the razor-billed curassows (*Mitu*), and a little less so to the "typical" curassows (*Crax*). We prefer not to make a decision on the generic question and merely follow standard lists in using *Pauxi*.

#### THE LOCALITY

The Cerros del Sira are an isolated range of rugged hills and mountains rising to 2,400 m between the Rios Pachitea and Ucayali. The nearest Andean slopes over 1,000 m high lie 60 km to the west, the intervening Pachitea Valley being a broad alluvial plain with elevations as low as 200 m along the river. The Sira receives abundant precipitation and is covered with undisturbed, heavy, humid forest. On most days during our stay the slopes from about 1,200 m up were cloud-shrouded from midmorning to sunset.

The two Peruvian *Pauxi* specimens were taken together in a lushly vegetated ravine at 1,200 m near the lower elevational limit of cloud forest. Both birds were perched in a tree well above ground when shot. Presumably the species fills the same large curassow niche that *Mitu mitu* occupies in the lowlands and lower slopes of the Sira to about 800 m. We saw no other *Pauxi* during our two months of work in the Sira at elevations from 250 m to 2,400 m. Probably the species is not common, but we must note that our access to the forest at higher elevations was limited to a single long trail that kept mainly to the tops of forested ridges. If *Pauxi* is territorial and rather sedentary, we may have collected the only birds in the immediate area crossed by our transect. The 1,000 to 1,500 m elevational band in the Sira contains many square kilometers of similar habitat. Campa Indians, who live up to 550 m in the foothills, recognized the *Pauxi* when shown our specimen and had a name for it (Quiyuri, pronounced "Kee-oó-ree"), but none of the several Campas we showed it to had himself ever seen or killed one.

#### STATUS OF *PAUXI* IN PERU

The occurrence of *Pauxi* elsewhere in Peru remains uncertain. Quoting Bond and Meyer de Schauensee (op. cit.): "Tschudi . . . says that it occurs frequently in northeast Peru in the province of Maynas, and is rarer in the mountains of central Peru," but "no specimens are known to

have been collected or to exist in museums." The Peruvian Andean eastern slopes are not thoroughly explored ornithologically, but extensive work in certain sections in the twentieth century by Harry Watkins, M. A. Carriker, Jr., and others has not turned up a *Pauxi*. In addition, because cracids are much sought by Peruvian hunters, the chances of such a bird escaping notice are much less than in the case of a songbird. Perhaps *Pauxi* remains as a relict population only in the Sira. In our own work in similar habitat on the eastern and western slopes of the Apurimac Valley in the Departments of Cuzco and Ayacucho, we have not encountered a *Pauxi* during three field seasons. Yet because considerable areas of humid mountain forest are still uninhabited and unspoiled by man, despite greatly increased colonization in eastern Peru, possibly other *Pauxi* populations will yet be found.

#### ACKNOWLEDGMENTS

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