NOTES ON THE HORNED COOT,
FULICA CORNUTA BONAPARTE*  

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In May, 1956, while on a visit in South America on behalf of the International Committee for Bird Preservation, I was fortunate enough to meet Senor Luis E. Peña G. through the good offices of Dr. R. A. Philippi, the well-known Chilean ornithologist. Senor Peña, an entomologist, has recently spent two seasons in the highlands of northern Chile, in the mountains of eastern Antofagasta just south of the Bolivian border. His trip has been well described in his own words (1954).

On his trips, Senor Peña has been lucky enough to observe one of the rarest and least known birds of the world, the Horned Coot, Fulica cornuta. The other naturalist who has seen them, also a Chilean, is Senor William R. Millie, who found the species and the first known nests on Laguna Grande in the high region of Huasco in 1936, 1945, and 1946. Some of Millie’s observations are given in “Las Aves de Chile” by Goodall, Johnson and Philippi (1951). Both these gentlemen have been kind enough to furnish me with notes on the species, and from Senor Peña, I have obtained a pair of his specimens which are now in the Yale Peabody Museum Collection.

Fulica cornuta was described by Bonaparte from a single specimen collected in the highlands of Bolivia, in 1853, and for many years this skin remained unique. It was illustrated in a drawing of the head in a paper by Sclater and Salvin (1868). Hellmayr and Conover (1942) list eight specimens of the

* An informal synopsis of this paper was presented at the Seventy-fourth Stated Meeting of the American Ornithologist’s Union in September, 1956.
species in museum collections, all from the highlands of southern Bolivia or northwestern Argentina in Tucuman. Besides these, there was apparently one other specimen collected at Laguna Blanca, Catamarca Prov. Argentina, 1918, now in New York, and five specimens from northern Chile subsequently taken by Millie and Peña, making a total of fourteen in museum or private collections.

**Fulica cornuta** and **Fulica gigantea**, the Giant Coot, are the two largest coots in the world, measuring up to 19 or 20 inches in total length. The Giant Coot also has a restricted range to the north of the Horned Coot, in the cordillera of central and southern Peru, Bolivia and extreme northern Chile. The two species are apparently allopatric.

The Horned Coot, however, differs from all other members of its family in the extraordinary wattle which arises in the frontal area. Where all other species of the tribe of coots and gallinules characteristically possess a horny shield or cutaneous structure in the area of the forehead, posterior to the bill this species possesses a wattle which is identical in both sexes, and which is flanked by a pair of smaller wattles. The central, large wattle, which in our specimens measures $\delta 29, \varphi 33$ mm. in total length in the dry skins, is fleshy and perhaps somewhat extensible or erectile, although neither Peña nor Millie noticed this in life. In these specimens, in breeding condition taken on October 9, 1955, the wattle is far more developed than in the other museum skins which I have examined; some of which certainly were immature birds. It may be, however, that out of the immediate breeding cycle, the wattles shrink in size. The female in Dr. Philippi's collection, secured by Millie and said to be on the nest, has a poorly developed fleshy protuberance, about the size of the drawing of the type in Sclater and Salvin (*op. cit.*), and similar to three immature specimens in the American Museum of Natural History's collection in New York.

The two small flanking wattles in our specimens stand erect on either side of the large wattle, and measure; $\delta 4, \varphi 6$ mm. in length. All three wattles terminate in tufts of thick celluloid-like filoplumes, further extending the length of the structure by some 15-20 mm. In addition, the large wattle which lies forward over the bill, pointing in an anterior direction, is cov-
Feb. 28, 1957  Horned Coot, *Fulica Cornuta* Bonaparte

Senor Peña at a nest site on Laguna Verde, 4200 m. alt.

One of Senor Peña's specimens of the Horned Coot contrasted with *Larus serranus* for size.

Photos by L. E. Peña G.
ered irregularly on the dorsal surface with small tufts of down. All of this is well illustrated in the accompanying plate by Robert Clem.

A strange feature which is apparently more obvious in life, for Millie's field notes mention it specifically, is a small patch, appearing white in life, lying below the wattle, at the base of the maxilla. Under examination with low power magnification, this is revealed to be a fleshy caruncle, the rugose skin distended into minute patches which appear to be filled with a fatty mass, for in the dried skin, the color has changed from white to a dull, pale yellow.

The bill color, as shown in the plate, appears to be olive-yellow in life, brightening towards the base of the mandibles to dull orange. There is a black patch along the culmen, wider at the base including the depression in which the external nares lie, and extending out, more narrowly to the tip of the culmen.

The other unique feature of the Horned Coot is its nest. Nesting has been observed by both Millie and Peña. Peña found nests with incubated eggs in December on Laguna Verde (alt. 4300 m.) on the slopes of Vulcan Hecar, in the northeast of Salar de Loyoquis. Millie found nests with young in December and January and a nest with eggs in late November. He also found nest building in progress on November 27, 1946, at Lagunita de Encierro (alt. 4200 m.). I quote from Millie's letter:

"I watched a pair constructing their nest for about three hours. They, too, had selected a sheltered place with comparatively shallow water. They were just finishing the stone structure made of stones of the size of small potatoes, carried there by them in their beaks. On this mound which I later measured to be about 1 mt. in diameter and 60 cms. high and which I calculated to consist of at least 1. 1/2 tons of pebbles they then proceeded to place algae* carried to and fro in rapid journeys.

* Mr. Millie has subsequently been again to the high cordillera of the Atacama, and at my request sent me on November 24, 1956, a specimen of plant material from the lake, which he asserts the coots use in nest building, and also feed on. I am grateful to Professor Gilbert M. Smith of Stanford University, who has examined this specimen and reports that it is in fact not alga, but *Myriophyllum*, a flowering plant, and a far more probable source of nest building material than an alga.
Head of *Fulica cornuta*
The nest of *Fulica cornuta*, Bonap.
in Laguna Verde
Feb. 28, 1957  Horned Coot, *Fulica Cornuta* Bonaparte 7

This was accomplished by swimming out to where they found the slime whence they would tip up with head down and come up with a load of the material and carry it to their nest, first making a sort of landing ramp. When I left that evening they had made quite a large portion of the nest. Both birds worked in this home building project. Several old nests from previous years were also seen and all had these stone mounds as a foundation."

Peña describes a similar nest on Laguna Verde, 40 meters from the shore and in water 40 centimeters deep, covered with vegetable material and based on a truncated cone of stones. A diagramatic sketch of the nest is given.

The eggs of *Fulica cornuta* are roughly similar to those of the Giant Coot, about the size of a turkey's egg, and vary from 58.5 to 78 mm. in length and 38.2 to 58 mm. in width, stone gray to buff in ground color, speckled or blotched with dark gray or brown. The clutch consists of three to four eggs.

*Fulica gigantea* of Peru, like other members of the family, makes a more typical nest of a mat of floating water weeds. The Giant Coot also nests twice a year, in August and again in December. No other known bird constructs its own island of stones on which to nest. All authors who have studied the natural history of this xerophytic area in the high Andes of northern Chile and Bolivia, speak of the paucity of vegetation. It seems possible to speculate that this stone platform nest habit has evolved in response to the lack of vegetation, and also perhaps to the presence of predators on the shores. The local Black-headed Gull, *Larus serranus* found breeding on Laguna Verde by Peña was nesting on a projecting stone, two meters out from the shore of the lake.

Other associated bird species seen by Peña in December besides the gull, were the Andean Flamingo, *Phoenicoparrus andinus*, and in October, the Junin Grebe, *Colymbus occipitalis junciensis*, and Puna Teal, *Anas versicolor puna* and the Andean Crested Duck, *Lophonetta speculoides alticola*.

The October birds, taken by Peña were paired and courting, thus possibly explaining the enlargement of the wattles. Peña reports that the weather is ferocious at this altitude in October, the wind almost ceaseless from the WSW. At 11 A.M. part of the lagoon was covered with ice which he had to break and swim
in to retrieve his specimens. The only moderate season in this area is from December to February, and this probably determines the nesting cycle which differs from that of *Fulica gigantea*.

No definite information is available about the territorial behavior of *Fulica cornuta*. Goodall, Johnson and Phillipi (t. c.: 187) report 36 nests of *Fulica gigantea* on all parts of Lake Cotacotani. Neither Mr. Millie nor Mr. Peña have reported more than a single pair of *Fulica cornuta* on any one lake, though they have spoken of abandoned and old nest sites. From the meager evidence available, it would appear that *Fulica cornuta* tends to be territorial and ungregarious.

**Summary**

From the above observations it appears that the Horned Coot, unlike the Giant Coot, nests only once a year, from the end of November to the beginning of January, that its preferred nesting area is small lakes in northern Chile, southern Bolivia and northwestern Argentina above 12,000 feet, more commonly above 13,000 feet in essentially a xerophytic zone.

During the courtship period there is a considerable development in both sexes of elaborate frontal wattles with an associated local caruncle. Actual courtship behavior has not been observed, but must involve use of these highly developed appendages, as the frontal shield is used in other coots, described by Gullion (1953).

Unlike other birds, Bonaparte's Horned Coot builds its own Elba, a nest composed of an island of stones erected by the pair, and covered with a mass of plant material.

**Literature Cited**


