

Gyldenstolpe (1945) reported specimens of an additional four species from northern Bolivia that I did not record and that Meyer de Schauensee (1966, 1970) does not include for Bolivia. The species and the localities from which they were collected are:

Deconychura longicauda. Long-tailed Woodcreeper. Cachuela Esperanza, Department of Beni; Victoria, Department of Pando.

Thamnomanes caesius. Cinereous Antshrike. Victoria, Department of Pando.

Serpophaga hypoleuca. River Tyrannulet. Victoria, Department of Pando.

Elaenia pelzelni. Brownish Elaenia. Victoria, Department of Pando.

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LITERATURE CITED

- BOND, J. 1955. Additional notes on Peruvian birds I. Proc. Acad. Natl. Sci. Philadelphia 107:207-244.
- BOND, J., AND R. MEYER DE SCHAUENSEE. 1942. The birds of Bolivia. Part I. Proc. Acad. Natl. Sci. Philadelphia 94:307-391.
- BOND, J., AND R. MEYER DE SCHAUENSEE. 1943. The birds of Bolivia. Part II. Proc. Acad. Natl. Sci. Philadelphia 95:167-221.
- CHAPMAN, F. M. 1926. The distribution of bird-life in Ecuador: a contribution to the study of the origin of Andean bird-life. Bull. Amer. Mus. Nat. Hist. 55:1-784.
- GYLDENSTOLPE, N. 1945. A contribution to the ornithology of northern Bolivia. K. Sven. Vetenskapsakad. Handl. 23:1-300.
- LÉVÊQUE, R. 1964. Notes on Ecuadorian birds. Ibis 106:52-62.
- MEYER DE SCHAUENSEE, R. 1964. The birds of Colombia and adjacent areas of South and Central America. Livingston Publ. Co., Wynnewood, Pa.
- MEYER DE SCHAUENSEE, R. 1966. The species of birds of South America and their distribution. Livingston Publ. Co., Wynnewood, Pa.
- MEYER DE SCHAUENSEE, R. 1970. A guide to the birds of South America. Livingston Publ. Co., Wynnewood, Pa.
- O'NEILL, J. P. 1969. Distributional notes on the birds of Peru, including twelve species previously unreported from the republic. Occas. Papers Mus. Zool., Louisiana State Univ. 37:1-11.
- O'NEILL, J. P., AND D. L. PEARSON. 1974. Un estudio preliminar de las aves de Yarinacocha, Departamento de Loreto, Perú. Publ. Mus. Hist. Nat. Javier Prado, Ser. A. Zool. 25:1-13.
- PEARSON, D. L. 1972. Un estudio de las aves de Limoncocha, Provincia de Napo, Ecuador. Bol. Inform. Cient. Nac., Quito, 13:335-346.
- PEARSON, D. L. 1975. Un estudio de las aves de Tumi Chucua, Departamento de Beni, Bolivia. In press.
- SCLATER, P. L., AND O. SALVIN. 1873. On the birds of eastern Peru. Proc. Zool. Soc. London, p. 252-311.
- ZIMMER, J. T. 1932. Studies of Peruvian birds. No. 6. The formicarian genera *Myrmoborus* and *Myrmeciza* in Peru. Amer. Mus. Novitates 545:1-24.
- ZIMMER, J. T. 1939. Studies of Peruvian birds. No. 31. Notes on the genera *Myiotriccus*, *Pyrrhomyias*, *Myiophobus*, *Onychorhynchus*, *Platyrinchus*, *Cnipodectes*, *Sayornis*, and *Nuttallornis*. Amer. Mus. Novitates 1043:1-15.
- ZIMMER, J. T. 1947. Studies of Peruvian birds. No. 52. The genera *Sericossypha*, *Chlorospingus*, *Cnemoscopus*, *Hemispingus*, *Conothraupis*, *Chlorornis*, *Lamprospiza*, *Cissopsis*, and *Schistochlamys*. Amer. Mus. Novitates 1367:1-26.

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INTRASPECIFIC AGONISTIC BEHAVIOR OF OSPREYS (*PANDION HALIAETUS*)

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During the 1971 nesting season, the senior author kept three active Osprey nests under periodic surveillance to gain information on the behavior and food habits of Ospreys. Behavior at or near each nest was recorded from dawn to dusk. Nest 24, located on a piling in southern Lake Coeur d'Alene, Kootenai County, Idaho, was observed on 1 and 16 July. Nest 301, located on a piling near Sandpoint in Bonner County, was watched on 15 July, 4 and 11 August. Nest 512, located in a live conifer about 7 km up

the Selway River from Lowell in Idaho County, was observed on 7 and 27 July.

Several instances of intraspecific agonistic behavior involving the nesting pairs, their nestlings, and intruding Ospreys were observed. On 1 July 1971 at 08:45, the male of nest 24, which contained 3-month-old young, returned with a kokanee (*Onchorhynchus nerka*), closely followed by a strange Osprey. The intruder hovered just above the nest before departing. At 09:07, the male landed on the nest and was followed closely by a strange Osprey that appeared to be preparing to land also but veered away at the last moment. The sex of the intruding birds could not be determined. At 09:52, the male again returned to the nest, followed by an intruder. This intruder appeared to be the male from an active nest (no. 57) located 0.6 km southwest of nest 24.

At 05:31 on 16 July 1971, a strange Osprey of unknown sex ventured near nest 24 and was pursued by the nesting male. At 14:22, a strange Osprey of unknown sex circled close above nest 24 and the male from nest 24 called, but did not leave his perch

in a shoreline conifer tree. The young crouched low in the nest and the female watched the circling bird closely, ruffed her dorsal feathers, and emitted a steady, loud, shrill call. This behavior pattern was elicited by intruding Ospreys in all females under observation in 1971. At 18:14, both adults at nest 24 were on their nest when two strange Ospreys approached. The strangers, apparently a male and female, swooped within a meter above the nest for 6 min. All birds called loudly during this period. Ospreys on the nest did not take flight. Observations of intraspecific agonistic behavior were made on nest 301 during all 3 days of study. On 15 July one instance was recorded and on 4 and 11 August, two and three, respectively. This nest contained two young.

Intraspecific behavior was observed in vicinity of nest 512 only on 27 July. This nest contained two young of about 6 weeks of age. A pair of strange Ospreys swooped within 0.5 m of the female on the nest and then swooped both below the level of the nest and at a position very close to, but level with, the nest. At 08:55, the male of nest 512 followed

a pair of strange Ospreys which had been harassing his nest. He was not seen again until 12:22, but may have been perched out of view upstream.

We agree with Abbott (The home-life of the osprey, Witherby and Co., London, 1911) that the activities of a male Osprey pursuing a strange Osprey which ventures too near his nest perhaps have territorial implications. We cannot adequately explain why intruding single Ospreys and pairs swoop near active nests and appear to attempt landings. We were unable to identify firmly the origin of any attacking birds except one, which appeared to be a male from a nearby successful nest. In 7 days of observation, watching one nest per day, the senior author recorded 16 instances of intraspecific agonistic behavior. In a separate observation, Melquist observed another attack made by a female that approached from an area containing two unsuccessful nests. At this time, any explanation for such behavior would be premature. We have found no report in the English literature of intraspecific agonistic behavior of this type in Ospreys.

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ARCTIC TERNS FROM THE PHOENIX ISLANDS AND AT SEA IN THE CENTRAL PACIFIC

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On 7 June 1973, while walking along the south shore of the lagoon on Sydney Island (3° 27' S, 171° 15' W), I found the mummified carcass of a species of tern that had not been previously recorded from the Phoenix Islands. The specimen (USNM 566868) was in remarkably good condition, with most of the plumage intact, and it still exhibited almost natural colors on the bill and feet. Roxie C. Laybourne and I later identified the bird as an Arctic Tern (*Sterna paradisaea*) in breeding plumage.

As far as I am aware, only three specimens have been reported previously from the central Pacific: one "assuming full nuptial dress" from Hilo, Hawaii, 9 May 1891 (Henshaw 1902); another, a male in breeding plumage, from Kahuku, Oahu, 30 April 1902 (Bryan 1902); and the third, a fragmentary specimen found dead 29 July 1968 on Green Island, Kure Atoll, in the northwestern Hawaiian Islands (Woodward 1972).

King (1967:74) stated that this species "occurs regularly in the Central Pacific as far west as the Hawaiian Islands in moderate numbers during April and May on its northward migration." This observation is apparently based largely on data later reported by King (1970), who noted that 45 of these terns, or possibly Common Terns (*Sterna hirundo*), were observed at sea during the period 21 April 1964 to 30 May 1965 around and to the east of the Hawaiian Islands, from 10° to ca. 27° N and from 148° to 157° W. Personnel of the Smithsonian Institution's Pacific Ocean Biological Survey Program (POBSP) have also seen other birds even further to the west, although considerably less frequently.

In addition, two previously unreported specimens, both immature males, have been collected at sea by POBSP personnel. Huber and Heiden (1967) saw one feeding in shallow water just inside the reef off Ahua point in Keehi Lagoon, Oahu, 29 October 1966, but did not mention that they had collected the bird (USNM 497116). The other specimen (USNM 496215) was collected from a feeding flock of seabirds on 23 October 1965 at 1° 52' S, 172° 53' W, approximately 90 nautical miles NW of Canton Island in the Phoenix Islands. These records are of interest since they are the only indisputable ones for this species from the central Pacific during the fall migration.

The 1973 collection was made during my participation, as an employee of the Bureau of Sport Fisheries and Wildlife, in the Anglo-Smithsonian Phoenix Islands Expedition. This is Paper No. 97, Pacific Ocean Biological Survey Program, Smithsonian Institution, Washington, D.C.

LITERATURE CITED

- BRYAN, W. A. 1902. The Arctic Tern in Hawaii. *Auk* 19:394-395.
- HENSHAW, H. W. 1902. Occurrence of the Arctic Tern (*Sterna paradisaea*) in the Hawaiian Islands. *Auk* 19:195.
- HUBER, L. N., AND R. S. HEIDEN. 1967. Field notes. *Elepaio* 27:83.
- KING, W. B. 1967. Seabirds of the tropical Pacific Ocean. Preliminary Smithsonian Identification Manual. Smithsonian Inst., Washington, D.C.
- KING, W. B. 1970. The trade wind zone oceanography pilot study. Part VII: Observations of sea birds March 1964 to June 1965. U.S. Dept. Interior, Bureau of Sport Fisheries and Wildl., Spec. Sci. Rept., Fisheries No. 586.
- WOODWARD, P. W. 1972. The natural history of Kure Atoll, Northwestern Hawaiian Islands. *Atoll Res. Bull.* 164.

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