

# DISTRIBUTION AND HABITAT SELECTION OF THE BLACK-HEADED DUCK (*HETERONETTA ATRICAPILLA*)<sup>1</sup>

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From August 1964 through July 1965, I was engaged in a study of the Black-headed Duck in Argentina. Although most of the period from September through February was spent in the marshes near General Lavalle, Province of Buenos Aires, I traveled widely in central and northern Argentina during March to July. In all field work, records were kept of the distribution, abundance and habitat utilization of Black-headed Ducks and other species of marsh birds. In addition to my personal observations and collections, a survey was made of the literature, and skins were examined from 13 museums in North America, England, France, Germany, Chile and Argentina. I am indebted to many workers at these museums for their assistance, and to five associates in Argentina and Chile who aided in the field work: Peter Miles, C. Olrog, Maurice Rumboll and Philip Runnacles of Argentina and A. W. Johnson of Chile. This work was supported by NSF Grant N° GB 1067 and an Iowa State University Research Grant.

## DISTRIBUTION

The distribution of known records of the Black-headed Duck in South America is shown in Figure 1. The authority for each record is provided in the Appendix. Observations in most areas are documented with actual specimens, although sight records by competent ornithologists are included. Several specimens were taken in markets in large cities and do not represent precise collection sites. In these cases, there are other nearby records. The only unusual record not substantiated is that of Wace (1921) for the Malvinas (= Falkland) Islands. There is no specimen nor are there recent records (Cawkell & Hamilton, 1961).

According to the literature, collections of downy young, or sight records of eggs in hosts' nests, the breeding distribution is much less extensive than Figure 1 may suggest. Breeding is known to occur in the provinces of Buenos

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Aires (Map numbers 40, 44), Santa Fe (50), and Santiago del Estero (59) in Argentina; in central Paraguay (2); and in the Province of Santiago in Chile (14, 20). There are no breeding records for Uruguay, Brazil or Bolivia, and the range of the species in Bolivia is unknown. The remaining records are for isolated marshes in the dry pampas of central Argentina or in the dry foothills of the Andes. I suspect that many of these water areas are either rest stops during migration, or wintering areas.

In comparison with northern hemisphere ducks, this breeding distribution is unique in that there is no geographic separation between breeding and non-breeding areas.

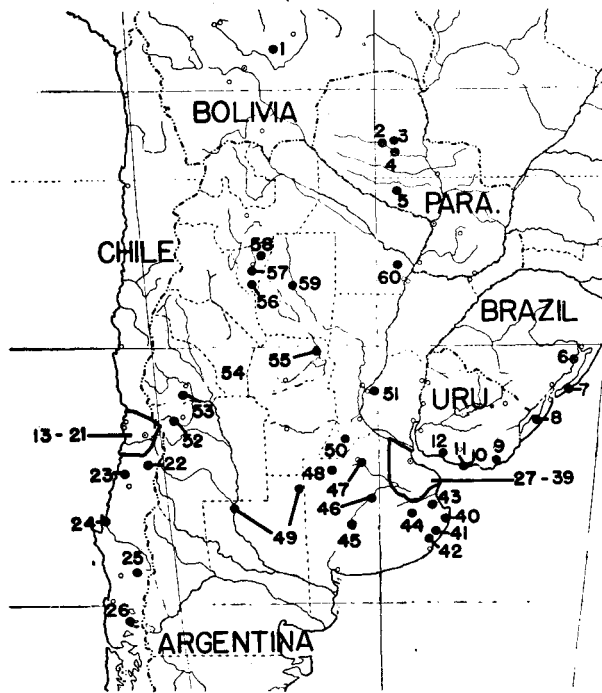


Figure 1. — Distribution of specimens and sight records of the Black-headed Duck in South America. Details for each observation number are presented in the Appendix

#### EVIDENCE OF MIGRATION

Although positive evidence is lacking, there seems a clear-cut population movement among Black-headed Ducks. Movement probably is influenced by water conditions, and some individuals are seen all winter even in the southern parts of the range. For example, near General Lavalle, birds have been seen and collected throughout the year, but numbers are much lower in fall

and early winter than in spring and early summer. During 1964-65, they became abundant in late July 1965 when water returned to winter-dry areas. Groups generally numbered less than six in spring (Oct.-Nov.) and summer (Dec.-Jan.), but groups of 10-24 were seen in February and early March. After March, numbers were much reduced.

Dr. C. Olrog (*pers. comm.* and 1963 b) reported similar groups in the Bañado de Figueroa in the Province of Santiago del Estero in May and trapped 46 birds there in May and June 1962 by using mist-nets at night. The only recovery to date was from a bird that moved to the southeast and was taken on January 28, 1963 in the Province and near the city of Santa Fe. Dr. Olrog and I saw flights of 20-40 birds at the Bañado in mid-March 1965 and Dr. Olrog reported several thousand Black-headed Ducks there in May 1965.

Groups of 25 to 40 birds, with total populations of 50 to 150, were common on the Iturralde Marsh near Murphy, Santa Fe, from April until August 1965. Such concentrations are greater than might be expected of a local resident population, and because this marsh had excellent water conditions when many other marshes were dry, it may have been a wintering area.

Some grouping of adults may result from evening flights of birds to favored "roosting" areas. It is well-known by hunters that birds fly well after sunset. Mr. Phillip Runnacles told me (*pers. comm.*) that his father's Labrador retriever once collected 13 Black-headed Ducks in late evening as they hit telephone wires near a marsh.

Because of the exodus of birds from breeding areas and conspicuous winter concentrations in other areas, migration seems likely. Northward and north-westward movement in the fall is suggested by the location of breeding areas in relation to winter concentration areas, but more positive data are needed. Without doubt, additional support and expansion of the banding program initiated by Dr. C. Olrog of the Lillo Institute of Tucumán will provide the data to clarify this and other problems of bird distribution in Argentina.

#### HABITAT SELECTION

The distribution map for the Black-headed Duck also outlines some of the major marsh areas. In Argentina, I was able to examine some of these marshes in the provinces of Buenos Aires, Santa Fe, Chaco, Santiago del Estero and Tucumán. In central Chile, I visited several areas where the species has been recorded as breeding.

In all cases observed, Black-headed Ducks frequented marshes which could be considered semi-permanent to permanent, of fresh water (although many of these marshes are slightly alkaline), and dominated by extensive stands of "juncos" or tules (*Scirpus californicus*). The seeds of this plant

were found as the major food item in 20 of 27 gizzards of Black-headed Ducks that I examined and were present in 24 of the 27. All these areas in Argentina also were utilized by Rosy-billed Pochards (*Metopiana peposaca*) and often by Fulvous Whistling Ducks (*Dendrocygna bicolor*).

The area of greatest concentration of these semi-permanent junco marshes is in the region of eastern Buenos Aires Province bordered by the cities of Chascomús, General Lavalle, Mar del Plata and Junín, and extending north-westward into southern Santa Fe near Venado Tuerto. I suspect that this area is the major breeding area for Black-headed Ducks as well as for other species that require deep, freshwater marshes.

Other junco marshes were seen in western Argentina in Santiago del Estero (59) and in Tucumán (56, 57, 58). These marshes were formed naturally along major streams or were formed artificially for water storage for irrigation and livestock.

Although the major marsh zone in Buenos Aires Province is in unwooded country, wooded areas are not completely avoided. One male was seen in the semi-open Chaco woodland marshes near Presidencia de la Plaza (60) where there were small patches of juncos. This area was frequented by Masked Ducks (*Nomonyx dominica*), Brazilian Ducks (*Amazonetta brasiliensis*) and Ringed Teal (*Calonetta leucophrys*).

Black-headed Ducks were common in the flooded fields of the Rio Salado in Santiago del Estero (59) even though these fields were fenced with thorny brush and small trees. The species also was seen in small numbers in an artificial lake, partly surrounded by trees near Tucumán (58). Thus, an open horizon seems to be less significant to the species than is the nature of the emergent vegetation.

#### SUMMARY

The Black-headed Duck is found in the temperate or, rarely, subtropical zones of South America, including most of central and northern Argentina, coastal Uruguay, the south coastal tip of Brazil, central Paraguay and central Chile. Only one record is known from eastern Bolivia. Breeding records are known only for Argentina, Chile and Paraguay. Unlike northern hemisphere ducks, there is no clear-cut geographic difference between breeding and non-breeding ranges.

Migration is probable, but its extent is uncertain. Although there is not a complete exodus from the breeding areas in Buenos Aires Province, concentrations are common in northwestern Argentina. Additional banding data are needed badly.

Throughout their range, Black-headed Ducks are found mainly in semi-permanent, fresh marshes dominated by juncos. Throughout Argentina, Rosy-billed Pochards frequented the same areas.

## RESUMEN

*Distribución y habitat del Pato de cabeza negra ("Heteronetta atricapilla").* — El Pato de cabeza negra se encuentra en la zona templada y, más raramente, en la zona subtropical de Sudamérica, incluyendo la mayor parte de la Argentina central y boreal, costas del Uruguay, extremo meridional de las costas del Brasil y región central del Paraguay y de Chile; sólo una cita se conoce del este de Bolivia. Registros de cría solamente se conocen de la Argentina, Chile y Paraguay. Al contrario de lo que ocurre con los patos del hemisferio norte, no hay una definida separación geográfica entre las áreas de cría y de invernada.

La migración es probable, pero su extensión es incierta. Aunque no hay un éxodo completo de las áreas de cría de la provincia de Buenos Aires, las concentraciones son comunes en el noroeste argentino. Datos adicionales de anillado son muy necesarios.

A través de toda su área geográfica, el Pato de cabeza negra se encuentra principalmente en lagunas semipermanentes dominadas por el junco. En la Argentina, el Pato picazo (*Metopiana peposaca*) frecuenta las mismas áreas.

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#### APPENDIX

Sources of data for figure 1. Specimens are indicated by name of institution where stored presently.

#### BOLIVIA

1. Buena Vista, Sara: Carnegie Mus. N° 81286.

#### PARAGUAY

2. 195-200 km west of Puerto Casado, Boquerón: Univ. Mich. Nos 93118-93120 (downy young), 93164, 93527, 93528, 96202, 98029.
3. 170 km west of Puerto Casado, Boquerón: Chicago Nat. Hist. Mus. Nos 13265-13269.
4. Near Islapoi (=Villa Militar), Boquerón: Chicago Nat. Hist. Mus. Nos 16527, 16528; M. C. Z. Harvard N° 275654; U. S. Nat. Mus. Nos 390661, 390662; Steinbacher, J. (1962).
5. 235 km west on Riacho Negro, Presidente Hayes: Chicago Nat. Hist. Mus. N° 14414.

#### BRAZIL

6. Tapes, Rio Grande do Sul: U. S. Nat. Mus. N° 461534.
7. Rio Grande do Sul: Weid, 1832.
8. Arroyo del Rey, Rio Grande do Sul: Amer. Mus. Nat. Hist. Nos 321550-321552.

#### URUGUAY

9. Department of Rocha: Cuello & Gerzenstein, 1962.
10. Department of Canelones: Cuello & Gerzenstein, 1962.

11. Montevideo (market?): Berlin Museum Nos 13851, 13852.
12. Department of San José: Cuello & Gerzenstein, 1962.

## CHILE

13. Lampa, Santiago: Museo Nacional de Chile, N° 1882; Dr. R. A. Philippi, B. N° 1813.
14. Batico (lake), Santiago: U. S. Nat. Mus. N° 337995 (downy young); Yale Peabody N° 22615; Chicago Nat. Hist. Mus. Nos 17416-17418; Los Angeles Co. Mus. N° 24877-24878; Dr. R. A. Philippi, N° 695; Goodall, Johnson y Philippi, 1951.
15. Quilicura, Santiago: Dr. R. A. Philippi, N° 1146.
16. Curacavi, Santiago: Amer. Mus. Nat. Hist., N° 424438; Yale Peabody N° 22619.
17. Colina, Santiago: Chicago Nat. Hist. Mus., N° 17419.
18. Laguna de Aculeo, Paine, Santiago: Yale Peabody N° 22617; Museo Nacional de Chile, N° 7061.
19. Laguna Matanzas, El Convento, Santiago: Sight records by Johnson, Goodall and Peter Scott, March 1953 (Scott, 1954).
20. Laguna del Rey, Bucalemu, Santiago: Eggs collected and hatched by Luis Peña, November 1963; Goodall, Johnson & Philippi, 1964.
21. Valparaíso, Prov. Valparaíso: Berlin Museum, Nos 17395-17397.
22. Hacienda de Cauquenes, Prov. Colchagua: Reed in Hellmayr, 1932.
23. Laguna de Vichuquen, Curicó, Prov. Curicó: Chicago Nat. Hist. Mus., Nos 17420-17421; Yale Peabody N° 22618; Museo Nacional de Chile, Nos 2501, 2504.
24. Concepción, Prov. Concepción: Amer. Mus. Nat. Hist., N° 424437.
25. Prov. Malleco. Museo de La Plata, N° 9995.
26. Río Pilmaiquén, Valdivia: British Mus., Nos 1892.2.10.1028, 1892.2.10.1034.

## ARGENTINA

27. Buenos Aires (market in most cases), Prov. Buenos Aires: Azara, 1805; Museum National d'Histoire Naturelle of France, 3 specimens collected by D'Orbigny in 1828-29; Burmeister, 1873.
28. Avellaneda or Barracas al Sud (suburban Buenos Aires), Prov. Buenos Aires: Hartert & Venturi, 1909; Museo Argentino de Ciencias Naturales, unnumbered specimen collected by Venturi; Museo del Instituto Miguel Lillo (Tucumán), N° 01070; Amer. Mus. Nat. Hist., Nos 732983, 732984.
29. La Plata (including Punta Lara), Buenos Aires: Museo de La Plata, Nos 01697, 01698, 01700, 6407 plus one unnumbered; Steullet & Deutier, 1936.
30. Abbott, Buenos Aires: Scott, 1954.
31. Rancho, Chascomús: Holland 1891, 1892; and British Mus. N° 1897.11.14.200.
32. Monte, Buenos Aires: Hartert & Venturi, 1909; Amer. Mus. Nat. Hist., N° 732985; adult male collected by M. W. Weller on May 6, 1965 and sent to U. S. Nat. Mus. for anatomical study.
33. 50 mi S. E. Buenos Aires, Prov. Buenos Aires: Scott, 1954.
34. Oliden, Buenos Aires: Museo Argentino de Ciencias Naturales, N° 8790.
35. Magdalena, Buenos Aires: Museo Argentino de Ciencias Naturales, N° 6413a.
36. Gándara, Buenos Aires: Museo Argentino de Ciencias Naturales, 8 specimens collected by J. B. Daguerre.
37. Escobar, Río Luján and Zelaya, Buenos Aires: Museo Argentino de Ciencias Naturales, Nos 858a (Zelaya), no number (Escobar). Probably also includes area of "Alvear" of Durnford, 1878 and British Mus. Nos 1885.11.26.123.
38. Quilmes, Buenos Aires: Museo Argentino de Ciencias Naturales, 2 unnumbered.

39. Baradero, Buenos Aires: Lynch-Arribáizaga, 1878.
40. General Lavalle (=Ajó), Buenos Aires: British Mus., Nos 1903.12.18.31, 1903.12.18.34, 1903.12.18.37, 1908.12.8.44, 1908.12.8.48, 1908.12.8.58, 1910.7.2.160, 1910.12.22.650, 1910.12.22.651, 1920.9.30.66; U. S. Nat. Mus., N° 284772; Grant, 1911; Gibson, 1920; Wetmore, 1926; Pereyra, 1937; M. W. Weller, Nos 201, 202 (downy young), 203 (downy young), 204 (downy young), 207, 211, 212, 217, 223, 226-230, 238-240, 261.
41. Gen. Madariaga, Buenos Aires: M. W. Weller, Nos 219, 220, 224. Sight records: Dec. 5, 1964 by Phillip Runnacles and M. W. Weller; Jan 8, 1965 by Maurice Rumboll and M. W. Weller.
42. Villa Gesell, Buenos Aires: Museo del Instituto Miguel Lillo, N° 12404; sight record by M. W. Weller and M. Rumboll, Feb. 5, 1965.
43. Guerrero, Buenos Aires: sight observation by M. W. Weller, May 31, 1965.
44. Las Flores and Rosas, Buenos Aires: Daguerre, 1922 at Rosas and Museo Argentino de Ciencias Naturales, Nos 8aSOP and 1117a, 2 specimens; sight observations by Phillip Runnacles, Peter Miles, Ian Gibson (eggs) for Las Flores.
45. Pirovano, Buenos Aires: Museo Argentino de Ciencias Naturales, unnumbered.
46. Cambaceres, Buenos Aires: Chicago Nat. Hist. Mus., Nos 2385-2389 (Hellmayr & Conover, 1948).
47. Junín, Buenos Aires: sight record by Peter Miles and M. W. Weller, July 7, 1965.
48. Ameghino, Buenos Aires: British Mus., N° 1920.12.11.11.
49. Santa Isabel and Trebolares, La Pampa: sight record by Olrog (1963a and personal communication).
50. Venado Tuerto area, Santa Fe: sight records by Peter Miles and M. W. Weller, May 18, 1965, July 1, 1965, and July 24, 1965; Sellick, 1962; Wilson 1923 (eggs).
51. Near Paraná, province of Entre Ríos: Olrog, 1963a and personal communication.
52. Mendoza, Prov. Mendoza: Slater & Salvin, 1876, and British Mus., Nos 1889.4.3.44, 1892.2.1.245, 1892.2.1.246, 1871.6.28.2, 1871.6.28.3.
53. Media Agua, San Juan: Amer. Mus. Nat. Hist., Nos 140465-140474.
54. Province of La Rioja: sight record by Giacomelli, 1923.
55. On Río Dulce near Mar Chiquita, province of Córdoba: Olrog, 1963a and personal communication.
56. Concepción, Tucumán: Museo Argentino de Ciencias Naturales, N° 1697a; MCZ Harvard Nos 99128-99130.
57. Famaillá, Tucumán: Lillo, 1902.
58. 25 km N. W. of Burruyacu, Tucumán: M. W. Weller, Nos 236, 237.
59. Bañado de Figueroa, 50 km east of La Banda, Santiago del Estero: Flightless young captured by Dr. C. Olrog; Museo del Instituto Miguel Lillo, Nos 7963, 12265; M. W. Weller, Nos 231, 232.
60. 15 km east of Presidencia de la Plaza, Chaco: sight record of a male by M. W. Weller, May 15, 1965.
61. Malvinas or Falkland Islands: sight record by Wace, 1921; no recent sight records and no specimens.

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