

First record of the Andean Flamingo in the Brazilian Amazon

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ABSTRACT: On May 29th 2007, three fishermen observed an “unknown” bird, “swimming” on the Igarapé do Baré, a stream inside the Amaná Sustainable Development Reserve. Since they had never spotted that bird species before, they shot and donated it to the Mamirauá Sustainable Development Institute (IDSMM). The specimen is an Andean Flamingo *Phoenicoparrus andinus* and is housed at the Ornithological Collection of IDSMM. This is the first record of the Andean Flamingo for the state of Amazonas and the Brazilian Amazon.

KEY-WORDS: Amaná Reserve, Amazonas, *Phoenicoparrus andinus*.

There are four flamingo species recorded for Brazil: *Phoenicoparrus ruber* (American Flamingo), is the only species resident in Brazil, with reproductive colonies on the shores of the Amapá state (Sick 1997); *Phoenicoparrus chilensis* (Chilean Flamingo) has been recorded in the states of São Paulo and Rio de Janeiro; *Phoenicoparrus jamesi* (James's Flamingo) had its first and only occurrence in Brazil in 2005, in the state of Acre (Guilherme *et al.* 2005); and *Phoenicoparrus andinus* (Andean Flamingo), with records so far in the states of Rio Grande do Sul and Santa Catarina (Bege & Pauli 1990, Antas 1992, Bornschein & Reinert 1996). Here, we report on the first occurrence of the Andean Flamingo for the state of Amazonas and Brazilian Amazonia.

On May 29th 2007, three fishermen observed an “unknown” bird, “swimming” alone on the stream known as “Igarapé do Baré” at approximately 2°21'09"S 64°43'00"W, inside the Amaná Sustainable Development Reserve (ASDR), in the municipality of Maraã, state of Amazonas. Since they had never spotted such a bird before, they hunted and later donated it to the Mamirauá Sustainable Development Institute (IDSMM), where it was incorporated into the ornithological collection as IDSMM 00001.

The collected specimen is a young individual (Figure 1), with beige and brown feathers, with a small pink area under the wings, and flanks covered with dark striated feathers. As the bird was kept in formaldehyde, the color of the feathers, legs and bill have been altered. The specimen belongs to the genus *Phoenicoparrus* for showing

only three toes (Figure 2a), one of the main diagnosable characteristics of this genus.

The specimen was compared directly with two other flamingo specimens: a young *P. jamesi* deposited at the Museu Paraense Emílio Goeldi (MPEG 58950), and an adult *P. andinus* from the Museu de Zoologia da Universidade de São Paulo (MZUSP 84351). However, due to extreme similarities in juvenile plumage of both *Phoenicoparrus* species, it was not possible to determine the species to which IDSMM 00001 belonged based on plumage alone. Nevertheless, the bill of IDSMM 00001 presented 9 lamellas (comb-like or hair-like structure present on the mandible, serving for filtering food) per cm, as verified for the Andean flamingo, whereas the James's Flamingo has about 20 lamellas per cm (Mascitti & Kravetz 2002). This identification was confirmed with the assistance of the researchers Omar Rocha, Biologist from the Centro de Estudios de Biología Teórica y Aplicada (BIOTA), Bolivia, and Johnson K. Vizcarra, from the Grupo Aves del Perú (GAP).

The bill dimensions of IDSMM 00001 are as follows: exposed culmen and mandible with 104.63 mm and 67.07 mm, respectively (Figure 2b). It is a young specimen appearing between 4 and 6 months old (J. Vizcarra *pers. comm.*).

The Andean Flamingo occurs mainly in the high Andean plateaus of Peru, Chile, Bolivia, and Argentina, with a population estimated in 38,000 individuals (Marconi *et al.* 2011). It is listed as ‘vulnerable’ by the IUCN because its population has been decreasing quickly

due to exploitation and loss in habitat quality (Rocha & Quiroga 1997, BirdLife International 2014).

Andean Flamingos reproduce during the austral summer, from December to February, on the highest Andean regions, with altitudes between 3,500 to 4,500 m (del Hoyo 1992), and which are located at least 1,500 km on a straight line from where IDS0001 was found. Valqui *et al.* (2000) carried out a census of the species during the winter and only found half of the Andean Flamingos recorded that summer, which means that about half of its population is going to places still unknown. Caziani *et al.* (2007) recorded the increase in the abundance of *P. andinus* in low altitude flooded areas of Peru and Argentina during the austral winter.

Caziani & Derlindati (1999) concluded that drastic changes in the environment, such as severe droughts, may induce the flamingos to seasonal altitude relocation. If feeding areas next to the nesting areas are not enough in terms of quality or quantity, long distance movements in search of food sources may influence nest abandonment (Marconi *et al.* 2011). However, the factor that contributes the most for the erratic movements of *P. andinus* and *P. jamesi* seems to be the occurrence of great storms and cold fronts. These storms end up “dragging” flamingos to more distant regions since these birds usually cannot fly against strong air currents (Guilherme *et al.* 2005).

These birds generally live in groups. However, the fishermen only found one flamingo and did not see any



FIGURE 1. Dorsal view of the young *Phoenicoparrus andinus* (IDS0001), collected on May 29th 2007, at the Amaná Sustainable Development Reserve, municipality of Maracá, Amazonas state.



FIGURE 2. a) Detail of the three toes of the *Phoenicoparrus andinus* collected, main characteristic of the genus *Phoenicoparrus*. b) Head of the young specimen *P. andinus*.

other individual during the following three days of fishing in the area. This fact probably indicated that IDSM 00001 may have gotten lost from the group and been brought by an air current, until near where it was found. According to weather reports (CPTEC/INPE 2007), on the last week of May 2007, a new cold air mass advanced over the South American continent, causing strong temperature drops and historical records of minimum temperatures. Guilherme *et al.* (2005) also suggested that the arrival of the James's Flamingo in the state of Acre was caused by a cold front.

This is the first record of the Andean Flamingo for the state of Amazonas and the Brazilian Amazon.

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REFERENCES

- Antas, P. T. Z. 1992.** Novos registros para a avifauna do Rio Grande do Sul, p. 80-81. In: Anais do VI Encontro Nacional de Anilhadores de Aves. Pelotas: Universidade Católica de Pelotas, EDUCAT.
- Bege, L. A. R. & Pauli, B. T. 1990.** Two birds new to Brazilian avifauna. *Bulletin of the British Ornithologists' Club*, 110: 93-94.
- BirdLife International. 2014.** Species factsheet: *Phoenicoparrus andinus*. <http://www.birdlife.org> (access on 02 January 2014).
- Bornschein, M. R. & Reinert, B. L. 1996.** The Andean Flamingo in Brazil. *Wilson Bulletin*, 108: 807-808.
- Caziani, S. M., & Derlindati, E. J. 1999.** Humedales altoandinos del Noroeste de Argentina: su contribución a la biodiversidad regional. *Tópicos sobre humedales subtropicales y templados de Sudamérica. Oficina Regional de Ciencia y Tecnología de la UNESCO para América Latina y el Caribe-ORCYT-Montevideo. Uruguay.* <http://www.unesco.org/phi/aguaycultura/fileadmin/ciencias%20naturales/mab/1.pdf> (access on 03 January 2014).
- Caziani, S. M.; Rocha, O.; Ramirez, E. R.; Romano, M.; Derlindati, E. J.; Talamo, A.; Ricalde, D.; Quiroga, C.; Contreras, J. P.; Valqui, M.; & Sosa, H. 2007.** Seasonal distribution, abundance, and nesting of Puna, Andean, and Chilean Flamingos. *The Condor*, 109: 276-287.
- CPTEC/INPE [Centro de Previsão de Tempo e Estudos Climáticos, Instituto Nacional de Pesquisas Espaciais]. 2007.** <http://www.climanalise.cptec.inpe.br/~rclimanl/boletim/index0507.shtml> (access on 30 July 2013).
- del Hoyo, J. 1992.** Phoenicopteridae (Flamingos), p. 508-526. In: del Hoyo, J.; Elliott, A.; Sargatal, J. (eds.). Handbook of the birds of the world. Barcelona: Lynx Edicions.
- Guilherme, E.; Aleixo, A.; Guimarães, J. O.; Dias, P. R. F.; Amaral, P. P.; Zamora, L. M. & Souza, M. S. 2005.** Primeiro registro de *Phoenicoparrus jamesi* (Aves, Phoenicopteriformes) para o Brasil. *Revista Brasileira de Ornitologia*, 13: 212-214.
- Marconi, P.; Sureda, A. L.; Arengo, F.; Aguilár, M. S.; Amado, N.; Alza, L.; Rocha, O.; Torres, R.; Moschione, F.; Romano, M.; Sosa, H. & Derlindati, E. 2011.** Fourth simultaneous flamingo census in South America: preliminary results. *Flamingo*, 18: 48-53.
- Mascitti, V. & Kravetz, F. O. 2002.** Bill morphology of South American Flamingos. *The Condor*, 104:73-83.
- Rocha, O. & Quiroga, C. 1997.** Primer censo simultáneo internacional de los flamencos *Phoenicoparrus jamesi* y *Phoenicoparrus andinus* en Argentina, Bolivia, Chile y Perú, con especial referencia y análisis al caso boliviano. *Ecología en Bolivia*, 30: 33-42.
- Sick, H. 1997.** *Ornitologia Brasileira*. Rio de Janeiro: Editora Nova fronteira.
- Valqui, M.; Caziani, S. M.; Rocha, O. & Rodriguez, E. 2000.** Abundance and distribution of the South American altiplano flamingos. *Waterbirds*, 23: 110-113.

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