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SHORT COMMUNICATION

# The type locality of the South American Tern, *Sterna hirundinacea* (Aves: Charadriiformes: Sternidae), with designation of a lectotype

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ABSTRACT. The type locality of the South American Tern, *Sterna hirundinacea*, has long been considered to be the state of Santa Catarina in South Brazil. This conclusion was probably based on two syntypes, from the Muséum national d'Histoire naturelle in Paris, France, one from Laguna and the other from an unspecified locality. The latter was probably shot on the coast of Rio de Janeiro. A recent molecular study has shown that Brazilian and Patagonian populations of *S. hirundinacea* are not completely panmictic, though genetic differentiation between them is low. No data from the Falkland Islands and Pacific coast populations have been available for comparison. If future analysis shows that Pacific and/or Falkland/Malvinas populations are genetically isolated from the Brazil-Patagonian ones, the name *S. hirundinacea* would apply only to birds from the latter populations. Given that the two syntypes were collected at two widely spaced localities, doubts exist as to the precise locality where one syntype was taken, and to clear up uncertainties, a lectotype of *S. hirundinacea* is herein designated.

KEY WORDS. Brazil; nomenclature; seabirds; taxonomy.

Lesson (1831), in his 'Traité d'Ornithologie', p. 621, described *Sterna hirundinacea*, the South American Tern, and reported the type locality as 'Côtes du Brésil' (coasts of Brazil). This author provided no details on the respective type specimens, except that they were deposited at the Muséum national d'Histoire naturelle (MNHN) in Paris, France. Although brief, Lesson's description is sufficient to identify the bird as a breeding adult: 'gris-blanc; calotte noire; tarse jaune; bec rouge corail (white and grey; black cap; tarsus yellow; bill coral red).' Breeding South America Terns exhibit a vermillion bill and a black cap, which contrasts with the pale-grey upperparts. Non-breeding individuals, in contrast, have a white forehead and crown and a blackish to dull-red bill (Harrison 1983, Gochfeld & Burger 1996).

Three specimens upon which Lesson supposedly based his description were examined by Pucheran (1850). According to him (p. 541), one of them is a breeding-plumaged, red-billed adult collected by the French botanist and traveller, Augustin François César Prouvençal de Saint-Hilaire (1779-1853), in the Province of St. Catherine (modern-day State of Santa Catarina) in south Brazil. The remaining two were collected by the French naturalist and explorer Pierre Antoine Delalande (1787-1823) at an unspecified locality in the same country. One of these is a breeding adult, while the other is a black-billed, non-breeding bird. The latter was, thus, not likely used by Lesson (1831) to describe *S. hirundinacea* (Voisin & Voisin 2011). We do not know exactly how many adult birds Lesson (1831) had at his disposal when writing his description.

Identification by Pucheran (1850) of Santa Catarina as the origin of Saint-Hilaire's specimen promptly led subsequent authors (e.g., Saunders & Salvin 1896, Murphy 1936, Peters 1934, Hellmayr & Conover 1943, Pinto 1978, Gochfeld & Burger 1996) to consider this state as the type locality of *S. hirundinacea*. However, since Lesson (1831) did not expressly designate a holotype in his original description, both Saint-Hilaire's specimen, and at least the breeding adult bird taken by Delalande, must be regarded as syntypes (Art. 73.2 of the *Code* (ICZN 1999) and, consequently, be taken in account when discussing the precise type locality of the species.

Voisin & Voisin (2011) provided detailed information about the two specimens in question. Specimen MNHN C.G. 2011-144 (Fig. 1) was collected in 1820 at Laguna (28°29'S, 48°47'W), a city located on the southern coast of Santa Catarina. The other, MNHN C.G. 1989-278, has no information on collection locality except for a label containing 'Brésil' (Brazil) attached to it.

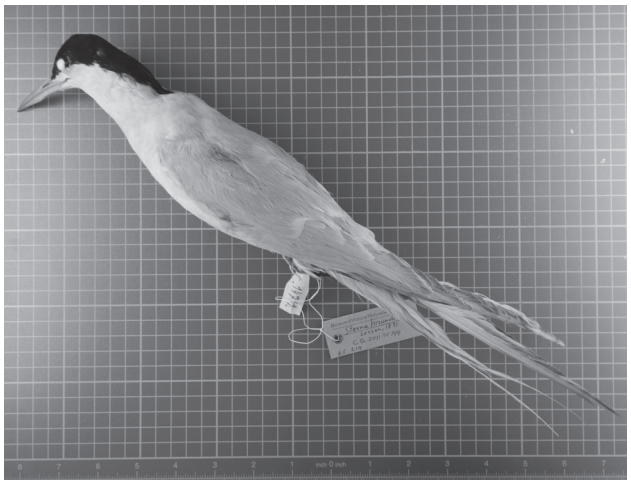

Figure 1. South American Tern *Sterna hirundinacea*, lectotype MNHN C.G. 1989-278 collected by Augustin de Saint-Hilaire at Laguna, Santa Catarina. Photograph: Anne Préviato.

During his 1816-1822 trip to South America, Saint-Hilaire travelled *ca*. 9,000 km across nine Brazilian states and Uruguay. He passed Laguna in May 1820, just before entering the southernmost State of Rio Grande do Sul. Delalande came to Brazil with Saint-Hilaire but returned to France after a short trip, June-December 1816, throughout the Province of Rio de Janeiro (modern day State of Rio de Janeiro), carrying with him the collections obtained (Saint-Hilaire 1936, Papavero 1971). Therefore, one can assume that the specimen MNHN C.G. 1989-278 was shot on the coast of the State of Rio de Janeiro or its sea approaches, where the South America Tern breeds on a number of coastal islands (Alves *et al*. 2004, Carlos 2009).

The South American Tern breeds on coastal islands of southern Peru and southeast Brazil, south to Tierra del Fuego, Argentina and Chile, and the Falkland/Malvinas Islands (Gochfeld & Burger 1996). During the austral winter, birds breeding in the extreme south move north to Uruguay and Brazil. The species also winters north to Ecuador on the Pacific coast. On the Atlantic coast, Brazilian and Patagonian populations of *S. hirundinacea* have different breeding phenologies; i.e., austral winter and summer, respectively (Gochfeld & Burger 1996, Carlos 2009). A recent study by Faria *et al*. (2010), based on mitochondrial DNA and microsatellites sequences, has shown that genetic differentiation between Brazilian and Patagonian birds is low, indicating that despite distinctive breeding phenologies, gene flow is high enough to prevent genetic isolation. No data from the Falkland/Malvinas and Pacific coast populations have been available for comparison. If future analysis shows that Pacific and/or Falkland/Malvinas populations are genetically isolated from the Brazil-Patagonian ones, and warrant specific or subspecific status, the name *S. hirundinacea* would apply only to birds from the latter populations.

Given that the two syntypes were collected at two, widely spaced (> 1,000 km) locations, doubts exist as to the precise locality where specimen MNHN C.G. 1989-278 was taken, and to clear up uncertainties, we follow Art. 74.1 of the *Code* (ICZN 1999) and designate specimen MNHN C.G. 2011-144 (Fig. 1), collected by A. Saint-Hilaire in 1820 at Laguna in the State of Santa Catarina, south Brazil, as the lectotype of *S. hirundinacea*.

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## LITERATURE CITED

Alves, V.S.; A.B.A. Soares, & G.S. Couto. 2004. Aves marinhas e aquáticas das ilhas do litoral do Estado do Rio de Janeiro, p. 83-100. *In:* J.O. Branco (Org). **Aves marinhas e insulares brasileiras.** Itajaí, Univali, 266p.

Carlos, C. J. 2009. Seabird diversity in Brazil: A review. **Sea Swallow 58**:17-46.

Faria, P.J.; F.P. Campos; J.O. Branco; C. Musso; J.S. Morgante & M.D. Bruford. 2010. Population structure in the South American Tern *Sterna hirundinacea* in the South Atlantic: two populations with distinct breeding phonologies. **Journal of Avian Biology 41**: 378-387. doi: 10.1111/j.1600-048X.2009.04902.x.

Gochfeld, M. & J. Burger. 1996. Family Sternidae (terns), p. 572-623. *In:* J. del Hoyo; A. Elliot & J. Sargatal (Eds). **Handbook of the birds of the world.** Barcelona, Lynx Edicions, vol. 3, 821p.

Harrison, P. 1983. **Seabirds: An identification guide**. Boston, Houghton Mifflin, 448p.

Hellmayr, C.E. & B. Conover. 1948. Catalogue of birds of the Americas and the adjacent islands, 1(3). **Field Museum of Natural History, Zoological Series 13**: 1-383.

ICZN. 1999. **International code of zoological nomenclature.** London, The International Trust for Zoological Nomenclature, The Natural History Museum, 4th ed., XXIX+336p.

Lesson, R.P. 1831. **Traité d'Ornithologie, ou Tableau méthodique des ordres, sous-ordres, familles, tribus, genres, sous-genres et races d'oiseaux.** Paris, Levrault, vol. 1, XXXII+659p.

Murphy, R.C. 1936. **Oceanic birds of South America.** New York, Americam Museum of Natural History, vol. 2, VII+602p.

Papavero, N. 1971. **Essays on the history of Neotropical dipterology, with special reference to collectors (1750-1905).** São Paulo, Museu de Zoologia da Universidade de São Paulo, vol. 1, 216p.

Peters, J.L. 1934. **Check-list of birds of the world.** Cambridge, Harvard University Press, vol. 1, XVIII+401p.

Pinto, O.M.O. 1978. **Novo catálogo das aves do Brasil. Primeira parte: aves não Passeriformes e Passeriformes não Oscines, com exclusão da família Tyrannidae.** São Paulo, Empresa Gráfica da Revista dos Tribunais, XVI+446p.

Pucheran, J. 1850. Etudes sur les types peu connus du Musée de Paris. **Revue et Magazine de Zoologie 2**: 534-552

Saint-Hilaire, A. de 1936. Viagem à Província de Santa Catarina (1820). São Paulo, Companhia Editora Nacional, 252p.

Saunders, H. & O. Salvin. 1896. **Catalogue of birds in the British Museum.** London, Trustees of the British Museum (Natural History), vol. 25, XV+483p.

Voisin, C. & J.-F. Voisin. 2011. List of type specimens of birds in the collections of the Muséum national d'Histoire naturelle (Paris, France). 22. Charadriiformes (Part 1: Stercorariidae, Laridae, Sternidae, Alcidae). **Journal of National Museum (Prague), Natural History Series 180**: 39-56.

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