# The history of the sole surviving mount of Tahiti Sandpiper Prosobonia leucoptera

Authors: Jansen, Justin J. F. J., Kamminga, Pepijn, and Argeloo, Marc

Source: Bulletin of the British Ornithologists' Club, 141(2) : 127-132

Published By: British Ornithologists' Club

URL: https://doi.org/10.25226/bboc.v141i2.2021.a3

# The history of the sole surviving mount of Tahiti Sandpiper *Prosobonia leucoptera*

*by Justin J. F. J. Jansen, Pepijn Kamminga & Marc Argeloo*

*Received 7 July 2020; revised 5 May 2021; published 15 June 2021*

*http://zoobank.org/urn:lsid:zoobank.org:pub:53192F0F-988E-4AA1-864E-D7F059584319*

Summary.—The only known museum specimen of Tahiti Sandpiper *Prosobonia leucoptera*, held at Naturalis, Leiden, until now has been considered to be the type collected by J. R. Forster during the second voyage of Captain James Cook (1772–75). However, using archival and published sources, we were able to trace the specimen only back to 1848. Nevertheless, based on a comparison of its taxidermy with material of known provenance, we conclude that it is likely that Anders Sparrman, a member of Cook's second voyage, was involved in mounting the specimen.

Tahiti Sandpiper was first mentioned by Latham (1785: 172–173, pl. LXXXII) who examined at least two 'specimens', prepared a description in English and named the species White-winged Sandpiper. Gmelin applied a scientific name (*Tringa leucoptera*, J. F. Gmelin 1789: 678, no. 35) and added a description in Latin. Today, one specimen of *Prosobonia* survives from Tahiti / Moorea (Sharpe 1906), RMNH.AVES.87556, at the Naturalis Biodiversity Center, Leiden, the Netherlands; it has no original label, but was subsequently labelled as being from Tahiti. Zusi & Jehl (1970) made an extensive study of the Naturalis specimen (including X-rays), but did not publish their X-rays, nor did they search the museum's written archives. Here we explore additional historical material, to shed light on the possible provenance of Leiden's Tahiti Sandpiper. A new X-ray was taken of the specimen's internal contents to reveal the shape of the metal wires inside it, the presence of heavy metals used for preparation (outside or inside the skin) and the skeletal remains. The Naturalis specimen's X-ray was compared to material at the Naturhistoriska Riksmuseet, Stockholm, Sweden (NRM) and Georg-August-Universität Göttingen, Germany (GAU). This approach was in line with previous examinations (Jansen & Steinheimer 2017, Jansen 2018: 202–204).

## History of the Naturalis *Prosobonia*

No written record for this specimen can be traced in the Naturalis archives. It is also not mentioned by Temminck (1807, 1820–40). The specimen's presence in the museum was first noted by Westerman (1848: 51–52). He described it as having arrived with the collection of Coenraad Jacob Temminck. The latter's collection was archived in batches between 1820 and 1838 (Holthuis 1995: 18), but no contemporaneous inventory of its contents was made. The *Prosobonia* was illustrated (Fig. 1) in Westerman (1848) by Hermann Schlegel and reproduced in Schlegel (1857) (Finsch & Hartlaub 1867: XXIX), but in a pose different compared to the mounted specimen. Schlegel (1864: 18–19) also mentioned the specimen without information as to its origin. Van den Hoek Ostende *et al*. (1997: 76) designated it a syntype of the species.

The following description of the specimen is based on Zusi & Jehl (1970) and our own examination (see also Figs. 2–4). ***Size and structure***: a rather plain-coloured bird (pale and dark sooty brown and russet) except barring on the tail. Six primaries extend beyond the



ISSN-2513-9894 (Online)

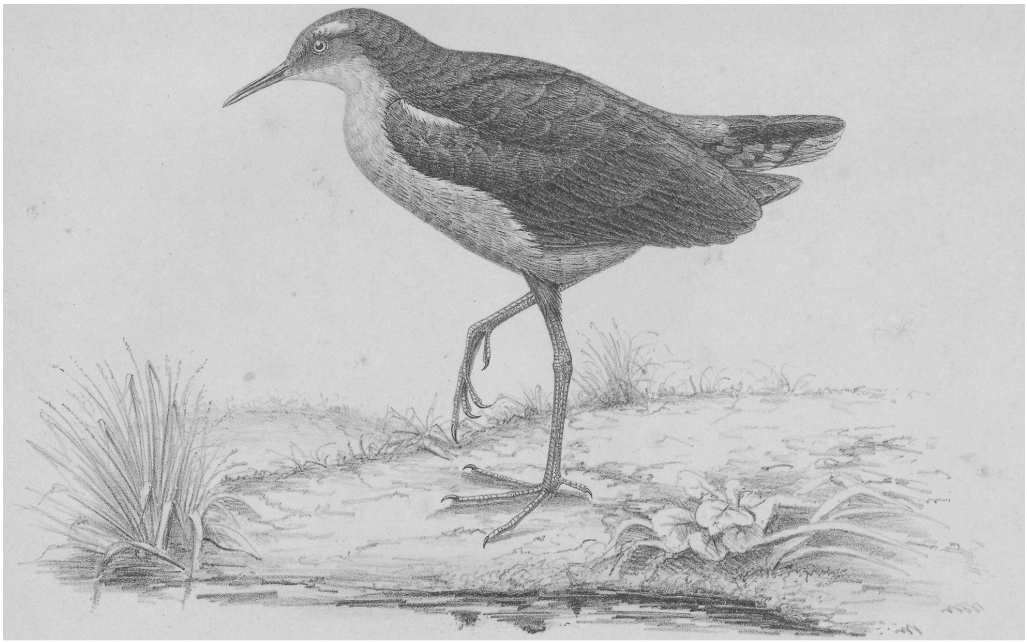

Figure 1. Tahiti Sandpiper *Prosobonia leucoptera*, from Westerman (1848), by Hermann Schlegel; note the different posture of the bird compared to the specimen at Naturalis (see Fig. 4).

Figure 2. Tahiti Sandpiper *Prosobonia leucoptera*, RMNH.AVES.87556; note the gap in the bill, the shape of the nostrils, and the feathering on the mandible (© Naturalis Biodiversity Center, Leiden)

tertials. Wings level with the tail tip. ***Head***: russet-coloured from submoustachial region to breast. Bill base, throat and part of lores buff. Narrow eye-ring also buff. A small curved supercilium partially coloured (buff-)white (5–6 feathers) behind the eye. Crown, hindneck and neck-sides pale sooty brown. ***Upperparts***: upper mantle similar to hindneck, sooty brown, lower mantle and back dark sooty brown, and rump and uppertail-coverts russet / ferruginous (like underparts). ***Underparts***: breast to undertail-coverts russet-



ISSN-2513-9894 (Online)

Figure 3. Tahiti Sandpiper *Prosobonia leucoptera*, RMNH.AVES.87556; note the minimal supercilium in this species, and the pale bill base (© Naturalis Biodiversity Center, Leiden)


Figure 4. Tahiti Sandpiper *Prosobonia leucoptera*, RMNH.AVES.87556; note the pale head compared to Fig. 1 (© Naturalis Biodiversity Center, Leiden)



ISSN-2513-9894 (Online)

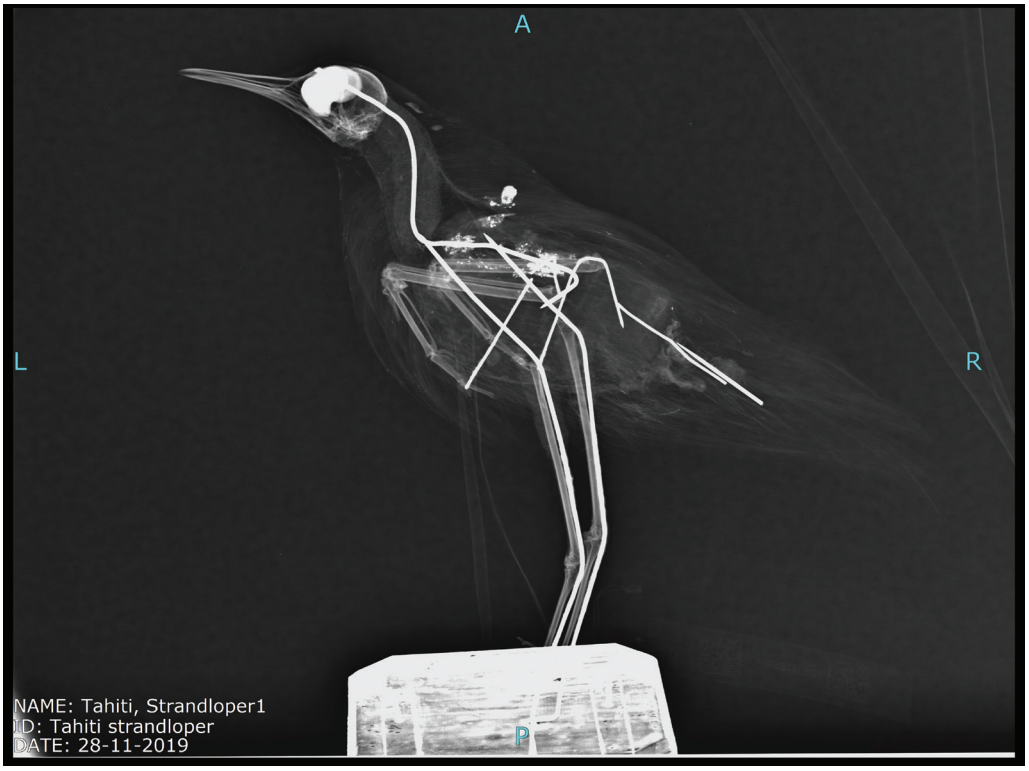


Figure 5. Tahiti Sandpiper *Prosobonia leucoptera*, RMNH.AVES.87556; note the dense substance on the outside of the skin, and clearly visible is the complete tibiotarsus (rare in specimens from this era). L = left, R = right, and P + A = postero-anterior; the latter indicate the angle at which the X-ray passed through the body. Between the skull and body, the neck has a filling, and the body also contains a second (larger wad) of artificial stuffing (© Naturalis Biodiversity Center, Leiden)

coloured (uniform). Tibia unfeathered. ***Wing***: crescent-shaped patch of white on lesser coverts, the rest sooty brown. Remainder of coverts dusky brown, some with russet edges, especially prominent on greater coverts. Underwing-coverts have pale edges, rest of underwing sooty brown. ***Tail***: rounded, 12 rectrices. Central feathers sooty brown with russet tips, others have prominent russet tips and become progressively more heavily barred russet towards the lateral pair. In 2020 only five tail feathers remained. ***Bare parts***: bill straight (thicker at base) with a gap near bill tip. Maxilla blackish, mandible slightly paler, with feathering on the underside of the basal 30% of the mandible. Egg-shaped nostrils. Feet / legs (now) straw-coloured, slightly greenish. The anisodactyl toes are short, especially in toe one, longer in four, two, and toe three is longest. Toe one has two joints, toe two has three joints, toe three four joints and toe four five joints. No webbing between toes two and three, and slight membrane between three and four. Claws now look brownish, laterally compressed, sharp and curved. Borders of scutes dark and clear. Tibiotarsus has 22–23 scutes.

X-ray (see Fig. 5). ***Skeleton***: the radius, ulna, carpometacarpus and wing phalanges are present, as well as other bones such as tarsometatarsus, pedal phalanges and the complete skull. Also, part of the synsacrum and pygostyle are present. Surprisingly (as nearly all specimens prior to the 1820s have this part broken) the tibiotarsus is complete, but no femur is present. ***Wires***: the longest pin is bent in the neck and extends from the skull midway down the back. ***Filling***: the cervical vertebrae are replaced by a hard filler, similar to the rest


ISSN-2513-9894 (Online)

of the body. These form two separate stuffed body parts. ***Eyes***: the concave glass lenses are joined by some dense material (probably clay or wadding).

***Measurements***: see Zusi & Jehl (1970: 769). ***DNA***: Genbank JQ012744 (ND2) / JQ12743 (Cyt*b*) (Cibois *et al*. 2012: 766, De Pietri *et al*. 2020).

***Provenance of the sole specimen***.—Two origins for the Naturalis specimen are possible. (1) The style of its taxidermy resembles that of a White Tern *Gygis alba* (NRM A569927) collected by Anders Sparrman (a participant on the second Cook voyage, 1772–75). Likewise, a Tui *Prosthemadera novaeseelandiae* (NRM A533743; ex-Museum Paykull), Piopio *Turnagra capensis* (NRM A568806; coll. A. Sparrman) and Red-crowned Parakeet *Cyanoramphus novaezelandiae* (NRM A569923; coll. A. Sparrman) (Jansen & Steinheimer 2017, Jansen 2018) show similarities in their taxidermy. Finally, it resembles the taxidermy of an I'iwi *Drepanis coccinea* (GAU 345) (Jansen & Steinheimer 2017). However, the latter is from the third Cook expedition (1776–80). All birds collected during Cook's second voyage were probably taken by Johann & Georg Forster. We consider it likely that Georg Forster donated some (duplicates) to Sparrman when he left the *Resolution* on 21 March 1775. We also consider it probable that these specimens were then mixed with others Sparrman collected in South Africa. When Sparrman arrived in Gothenburg (Sweden), the majority were donated to the Swedish Academy (Åhlander *et al*. 1997; E. Åhlander *in litt*. 2019). There is a chance that the specimen now in Naturalis arrived via exchange or purchase with the Swedish Academy. Many specimens, particularly from the third Cook circumnavigation, were traded (Whitehead 1978, Jansen & Steinheimer 2017).

(2) At the Bullock auction in London in 1819, we know that Temminck bid for lots on behalf of both Leiden University and his private collection (Jansen & van der Vliet 2015: 115), but there was no specific mention of a *Prosobonia* in the Bullock Museum (King & Locheé 1979, *contra* Walters 1991: 219, van Lynden-de Bruïne 2001: 56). Not only was the Bullock auction attended by Temminck, but he might also have been at other auctions during this period, such as those by J. Hullet and George Reddell (Steinheimer 2011: 90–91).

It seems probable that, like the Naturalis and Vienna Hawaiian Rails *Porzana sandwichensis* (Jansen & Roe 2013: 66), which are likely to have been collected during one of Cook's voyages, the ultimate provenance of this specimen must remain uncertain.

**Acknowledgements**

We thank Dirk van der Marel for taking the X-rays. Murray Bruce, Vanesa De Pietri and Rick Roe commented on an earlier version. Paul Scofield and Guy Kirwan improved the manuscript dramatically, and our sincere thanks go to them.

References:

Åhlander, E., Kullander, S. O. & Fernholm, B. 1997. Ichthyological collection building at the Swedish Museum of Natural History, Stockholm. Pp. 13–25 *in* Pietsch, T. W. & Anderson, W. D. (eds.) *Collection building in ichthyology and herpetology*. Spec. Publ. 3. American Society of Ichthyologists & Herpetologists, Austin, TX.

Cibois, A., Dekker, R. W. R. J., Pasquet, E. & Thibault, J.-C. 2012. New insights into the systematics of the enigmatic Polynesian sandpipers *Aechmorhynchus parvirostris* and *Prosobonia leucoptera*. *Ibis* 154: 756–767.

De Pietri, V. L., Worthy, T. H., Scofield, R. P., Cole, T. L., Wood, J. R., Cibois, A., Jansen, J. J. F. J., Zhang, G., Mitchell, K. J., Feng, S., Chen, W., Tennyson, A. J. D. & Wragg, G. M. 2020. A new extinct species of Polynesian sandpiper (Charadriiformes: Scolopacidae: Prosobonia) from Henderson Island, Pitcairn Group, and the scolopacid affinities of *Prosobonia*. *Zool. J. Linn. Soc*. doi:10.1093/zoolinnean/zlaa115.

Finsch, O. & Hartlaub, G. 1867. *Beitrag zur fauna Centralpolynesiens. Ornithologie der Viti-, Samoa- und Tonga-inseln*. H. W. Schmidt, Halle.

Gmelin, J. F. 1789. *Systema naturae per regna tria naturae*, vol. 1(1). Georg Emanuel Beer, Leipzig.

van den Hoek Ostende, L. W., Dekker, R. W. R. J. & Keijl, G. O. 1997. Type-specimens of birds in the National Museum of Natural History, Leiden. Part 1. Non-Passerines. *NNM Tech. Bull*. 1: 1–248.

Holthuis, L. B. 1995. *1820–1958 Rijksmuseum van Natuurlijke Historie*. Nationaal Natuurhistorisch Museum, Leiden.



ISSN-2513-9894 (Online)

Jansen, J. J. F. J. & Roe, R. S. 2013. Tracking Cook's third voyage (1776–79) Hawaiian Rails *Porzana sandwichensis*, with some comments on their type status. *Bull. Brit. Orn. Cl*. 133: 59–67.
Jansen, J. J. F. J. & Steinheimer, F. D. 2017. The authenticity of 'I'iwi *Drepanis coccinea* (G. Forster, 1781) skins from Cook's third voyage: what taxidermy can add to the discussion. *Bull. Brit. Orn. Cl*. 137: 246–260.
Jansen, J. J. F. J. & van der Vliet, R. E. 2015. The chequered history of the Chattering Kingfisher *Todiramphus tutus* on Tahiti. I: type specimens. *Bull. Brit. Orn. Cl*. 135: 108–120.
Jansen, J. J. F. J. 2018. *The ornithology of the Baudin expedition (1800-1804)*. Privately published, Grave.
King, T. & Locheé, J. 1979. *Sale catalogue of the Bullock's Museum*. Privately published, London.
Latham, J. 1785. *A general synopsis of birds*, vol. 3. Benjamin White, London.
van Lynden-de Bruïne, A. M. 2001. *In vogelvlucht door Europa. De reisjournalen van Dionysia Catharine Temminck-Cau (1807-1824)*. Walburg Pers, Zutphen.
Schlegel, H. 1857. *Handleiding tot de beoefening der dierkunde*. Gebroeders Nys, Breda.
Schlegel, H. 1864. *Revue méthodique et critique des collections déposées dans cet établissement*. Monogr. 27 Scolopaces. E. J. Brill, Leiden.
Sharpe, R. B. 1906. Birds. Pp. 79–515 *in* Günther, A. (ed.) *The history of the collections contained in the Natural History Departments of the British Museum*, vol. 2. Trustees of the Brit. Mus., London.
Steinheimer, F. D. 2011. Martin Hinrich Carl Lichtenstein and his ornithological purchases at the auction of William Bullock's museum in 1819. *Archiv. Nat. Hist*. 35: 88–99.
Temminck, C. J. 1807. *Catalogue systématique du Cabinet d'ornithologie et de la collection de Quadrumanes*. C. Sepp, Amsterdam.
Temminck, C. J. 1820–40. *Manuel d'ornithologie*. Chez H. Cousin, Paris.
Walters, M. 1991. *Prosobonia ellisi*, an extinct species of sandpiper from Moorea, Society Islands. *Boll. Mus. Reg. Sci. nat. Torino* 9: 217–226.
Westerman, G. F. 1848. Beschrijving van *Tringa leucoptera*. *Bijdr. Dierk*. 1: 51–52.
Whitehead, P. J. P. 1978. A guide to the dispersal of zoological material from Captain Cook's voyages. *Pacific Stud*. 2: 52–93.
Zusi, R. L. & Jehl, J. R. 1970. The systematic relationships of *Aechmorhynchus*, *Prosobonia*, and *Phegornis* (Charadriiformes; Charadrii). *Auk* 87: 760–780.

*Addresses*: Justin J. F. J. Jansen, c/o Naturalis Biodiversity Center, Postbus 9517, 2300 RA Leiden, the Netherlands, e-mail: justin.jansen@naturalis.nl. Pepijn Kamminga, Naturalis Biodiversity Center, Postbus 9517, 2300 RA Leiden, the Netherlands, e-mail: pepijn.kamminga@naturalis.nl. Marc Argeloo, Lange Annastraat 10, 2011 XH Haarlem, the Netherlands, e-mail: marcargeloo@gmail.com


ISSN-2513-9894 (Online)