

# Short Communications

## Unusual specimen of the Spoon-billed Sandpiper *Eurynorhynchus pygmeus*

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Keywords: Spoon-billed Sandpiper, *Eurynorhynchus pygmeus*, Red-necked Stint, *Calidris ruficollis*, presumed hybrid

Hybridisation among waders is rarely documented. Most reports are of intra-generic interactions, particularly between species of *Calidris sensu lato* sandpipers where hybrids involving nine species have been reported (e.g., Chandler 2009, Jonsson 1996, McCarthy 2006, Paulson 2005). Most common are hybrids of Curlew Sandpiper *C. ferruginea* and Pectoral Sandpiper *C. melanotos* (Christidis *et al.* 1996), to the extent that the products of these matings were for some time considered their own species, the “Cox’s Sandpiper” *Calidris paramelanotos* (Parker 1982). Inter-generic hybrids, though much less common, have also been reported among sandpipers, including hybrids between White-rumped Sandpiper *C. fuscicollis* and Buff-breasted Sandpiper *Tryngites subruficollis*, between Baird’s Sandpiper *C. bairdii* and Buff-breasted Sandpiper (*ibid.*), and between Surf-bird *Aphriza virgata* and Great Knot *C. tenuirostris* (Anonymous 2009). The latter two species, however, are suggested to be congeneric (Bahr 2011).

In 2010, an image of an unusual-looking small sandpiper (*Calidris* spp.), photographed somewhere in China on southward migration, was posted on the internet (<http://www.birdforum.net/showthread.php?t=184254>; last accessed on 26 April 2012). The bird’s plumage was typical of a juvenile stint but the tip of the bill was notably broadened similar to, but not to the extent of, that of a Spoon-billed Sandpiper *Eurynorhynchus pygmeus*. Most experts who viewed the image considered the bird a likely hybrid between a Spoon-billed Sandpiper and a Red-necked Stint *Calidris ruficollis*. This, however, was not the first record of suspected hybridization between these two sandpipers.

In 1978, Prof. V.E. Flint, of the former USSR Institute of Nature Conservation, received an abstract for a talk to be given by Victor G. Voronov in which was described a specimen suspected of being a hybrid between the two taxa. Voronov was asked to bring the specimen with him to the meeting so further assessments could be made. In the end, Voronov did not attend the meeting and thus Flint felt that, without others being able to view and evaluate the specimen, he could not in good conscience publish the account (Flint 1980). In the interim, Voronov’s manuscript describing the specimen was lost and the existence of this specimen faded from memory.

Fast-forward 32 years to 2010 when one of us (AIZ) brought to our attention a specimen of an unusual looking small wader from the bird collection of the Institute for Sea Geology and Geophysics, Russian Academy of Sciences,

Yuzhno-Sakhalinsk, Sakhalin Region, Russia. In 2010, another of us (YAR) visited the institution where he found the specimen and took measurements and photographs (Figs. 1, 3–5). There is no taxonomic name on the label suggesting there was uncertainty about its identification. On the front of the label are two numbers: 727 (possibly the collector’s number) and 264 (the inventory number). The specimen was noted as a male and in Russian, also on the front of the label, is the name of the collector (V.G. Voronov), the collection date (23.VII.67 [=23 July 1967]), and the location where the specimen was collected (Kamchatka, Kambal’naya Bay), a site on the south-west side of the Kamchatka Peninsula (c. 51°10’N, 156°43’E). On the back of the label are noted the following measurements: body mass 29.9, body length 145, tail length 43, wing length 97, wing span 320, bill length 19.5, bill depth 4.6, and tarsus length 21.0. Values are most likely in grams and millimeters and probably taken from the freshly collected bird. We are quite sure it is the same specimen briefly described in Voronov’s abstract and hereafter refer to it as the “specimen”.

YAR’s measurements (in mm) of the specimen were: tail length 39; wing length 99 (measured with calipers) and 101.7 (maximum chord measured with a ruler); and bill length 18.5 (for total culmen) and 17.8 (of lower mandible measured from the “corner” of the mouth). Four different measurements were taken of the breadth of the bill: 4.8 for the upper mandible at its base, 2.0 for the narrowest part of the bill, 2.8 for the broadest part of the bill tip, and 3.0 for the broadened part of the lower mandible. The specimen was an adult based on: 1) the extent of alternate plumage, 2) the worn primaries and wing coverts, 3) the date of collection (well prior to the migration of juvenile Arctic sandpipers in the Far East; Gerasimov *et al.* 1992, Tomkovich 1992), and 4) the collection location being well south of the breeding range of either of the species suspected in the hybridization. Brood patches were not found in the specimen. The webs of the 6 inner primaries have a rather wide white edge; that of the seventh primary was slightly brightened, while four outer primaries were uniformly coloured.

The specimen resembled both Spoon-billed Sandpiper and Red-necked Stint; however, at the same time it could not be assigned with certainty to either species, or to any other known wader species. Its most unusual character is the obvious broadening of the bill, especially at the tip that results in its spatula-shaped appearance (Figs. 1 & 3). The only species



**Fig. 1.** Ventral view of the subject specimen (left) and a Red-necked Stint *Calidris ruficollis* (right).



**Fig. 2.** Ventral view of a male Spoon-billed Sandpiper *Eurynorhynchus pygmeus* in the collection of the Zoological Museum of Moscow University.

of wader having a similarly shaped bill is the Spoon-billed Sandpiper (Fig. 2). However, the shape of the specimen's bill and the breadth of the spatulated portion of the bill (2.8 mm) are much smaller than found in living Spoon-billed Sandpipers (mean width  $11.03 \pm 0.49$  SD mm; range 9.6–12.8 mm,  $n = 64$ ; Tomkovich 1991). The bill length (18.5) is also significantly shorter than in Spoon-billed Sandpiper males (mean  $21.12 \pm 0.70$  SD; range 19.9–22.7 mm,  $n = 65$ ; *ibid.*), and slightly longer than in Red-necked Stint males from Far-Eastern Russia (mean  $16.87 \pm 0.73$  SD, range 15.0–18.2 mm,  $n = 28$ , measured in museum specimens) (Tomkovich 1986). Another unusual feature on the specimen is the broad base of its bill (Fig. 1; 4.8 mm), which is broader than the spatula of its bill tip. This could have resulted from preparation of the skin, but it is within the range of the same measurement taken on a series of adult male Spoon-billed Sandpipers in the collection of the Zoological Museum of Moscow University (ZMMU): 3.6–5.6 mm (mean  $4.56 \pm 0.47$  SD,  $n = 14$ ). However, it is wider than in any adult Red-necked Stint males: 2.6–4.4 mm (mean  $3.62 \pm 0.43$  SD,  $n = 32$ ).

The plumage of the specimen is patterned similarly to that of adults of both Spoon-billed Sandpiper and Red-necked Stint, however, the dark blotches on the sides of the specimen are common only in the former (Figs. 1 & 2). The specimen also shows an overall dark reddish colour dorsally, that is more typical of Spoon-billed Sandpiper than Red-necked Stint (Fig. 4). The mantle is also rather uniform in patterning as in both Spoon-billed Sandpiper and Red-necked Stint and lacks the prominent “white” V-shaped pattern seen in some other stints, for example Little Stint *C. minuta*. Also visible in Fig. 5 are the rather broad white outer webs of the inner primaries (1–6). This feature is not typical of most small sandpipers of the genus *Calidris*, but was noted on 3 of 22 (14%) adult Spoon-billed Sandpipers and 10 of 40 (25%) adult Red-necked Stints in the ZMMU collection, thus not



**Fig. 3.** Comparison between the head of the subject specimen (foreground) and that of a Red-necked Stint (background).

being specific to any of these species. The number of inner primaries having a white edge on the outer web was usually six and this varied slightly between 5 and 7. Other visible plumage characteristics as well as the body mass (29.9 g) are also within the range of variation of both Spoon-billed



**Fig. 4.** Dorsal view of the subject specimen (left) and of an adult Red-necked Stint (right).



**Fig. 5.** Side view of the subject specimen (left) and of an adult Red-necked Stint (right).

Sandpiper and Red-necked Stint. They both also have similarly coloured bare parts.

Based on the features we compare here, the specimen shows obvious characteristics of both Spoon-billed Sandpiper and Red-necked Stint, with those of the former being clearly more pronounced. We conclude that the specimen is either a Spoon-billed Sandpiper with a short and unusually-shaped bill, or the product of a mating between a Spoon-billed Sandpiper and a Red-necked Stint as originally suggested by Voronov. A molecular assessment would be needed to confirm either idea.

If hybridization does occur between Spoon-billed Sandpiper and Red-necked Stint it would be facilitated foremost through the species having partially sympatric breeding ranges in Chukotka, extreme NE Asia. In this region they generally use different habitats (e.g., Kistchinski 1988) but small numbers of Red-necked Stints sometimes breed on coastal spits among Spoon-billed Sandpipers. Because the population of the Spoon-billed Sandpiper has declined so dramatically (Zöckler *et al.* 2010) it is not unreasonable to expect birds to have problems finding mates. Indeed, in summer 2010 observers on Russkaya Koshka Spit, Anadyr District, Chukotka reported that unmated displaying male Spoon-billed Sandpipers outnumbered breeding pairs (Lars Jonsson, pers. comm.), while that same summer near Meinypilgyno, SE Chukotka, PST observed two solitary Spoon-billed Sandpiper males repeatedly chasing Red-necked Stints. Such situations could foster formation of mixed pairs or more likely extra pair copulations between the two species. These observations and the specimen described in this paper indicate that hybrids between Spoon-billed Sandpiper and Red-necked Stint may exist. If so the specimen indicates they are viable and likely return to their natal site. That said, the specimen may have been infertile since we could not discern any evidence of brood patches on the bird.

For several reasons it is difficult to compare the specimen and the putative Spoon-billed Sandpiper × Red-necked Stint hybrid photographed in 2010. However, it is clear that their bills are of different shape. The photographed bird has small side “flaps” on the bill tip, but these are less rounded than the edges of the specimen’s broadened bill tip. Unlike the specimen, the bill of the juvenile bird broadens gradually from the narrowest to the distal part of the bill, but then it looks like being almost cut off at the tip; the reason appears to be that its bill spatula is gently angled on the sides resulting in a much more similar shape to that of a Spoon-billed Sandpiper. Comparison of the bill shape indicates that the two birds do not represent a stereotyped deviation from a typical Spoon-billed Sandpiper and therefore their origin could be different.

We acknowledge the help of Pavel Kitorov, the avian collection manager, Institute for Sea Geology and Geophysics of the Russian Academy of Sciences, in Yuzhno-Sakhalinsk. Robert Gill and Kees Roselaar reviewed drafts of the paper; Robert Gill also helped with the English.

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