Notes on types and early specimens of *Bombycivora japonica* von Siebold, 1824, and of *Bombycilla phoenicoptera* Temminck, 1828

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Roselaar & Prins (2000) indicated there were two syntypes of *Bombycivora japonica* von Siebold, 1824; a 1st-winter female in the collection of the Zoologisch Museum Amsterdam, while the other, a male, was considered lost. However, in a letter to Temminck, von Siebold made clear that the species was described on the basis of one specimen. His description is clearly taken from a 1st-year male. Temminck (1828) described *Bombicilla phoenicoptera* based on the same ZMA specimen and an adult female specimen in the National Museum of Natural History in Leiden, collected by von Siebold, which arrived in Leiden in 1827. The latter species is a synonym of the former. Because it is a female, the ZMA specimen cannot be the holotype of *Bombycivora japonica.* However, a 1st-year male that arrived in Leiden in 1829 answers to von Siebold's description and this might be the holotype of *B. japonica.*

Introduction

In the 19th century taxonomists often were not specific about the number of specimens upon which the descriptions of new species were based. Philipp von Siebold, a naturalist, rather than a taxonomist, was no exception. In his description of *Bombycivora japonica,* the Japanese Waxwing, the number of specimens was not stated, nor the collection that held or was to hold the specimen(s). Two specimens figure as types at the moment, one in the Zoological Museum of Amsterdam (Roselaar & Prins, 2000), the other in the National Museum of Natural History (Naturalis) in Leiden (Dekker, 2003). In this article we investigate the origin of these specimens and whether these are acceptable as types of *Bombycivora japonica* von Siebold, 1824, and/or *Bombycilla phoenicoptera* Temminck, 1828.

The original description of *Bombycivora japonica*

The Japanese Waxwing, *Bombycilla japonica* (von Siebold, 1824), was described as *Bombycivora japonica* by Ph.F. von Siebold in 1824. When von Siebold arrived in Japan, he was shown the natural history collection made by the chief of the Dutch trading post of Deshima, J. Cock Blomhoff (Holthuis & Sakai, 1970: 51). This collection prompted von Siebold to write a paper on the natural history of Japan. The manuscript, containing short descriptions of 11 new species, was finished by von Siebold on 11 November 1823,

less than three months after his arrival in Deshima. He probably entrusted the manuscript to Cock Blomhoff, who returned to Java in December with the ship that had brought von Siebold to Japan. In 1824 the MS was published in Batavia as a 16 page pamphlet. This paper is full of typographical errors, even von Siebold's initials being incorrectly given as G.T.(!). As the Dutch ships next arrived in Deshima in August/September 1824 and returned to Batavia only in 1825, it is certain that von Siebold did not see any proofs. The paper was republished in 1826 in his native town Würzburg, Germany, probably at his own request, with most of the typographical errors corrected, but otherwise with the same text. The only birds mentioned in this paper are *Bombycivora garrula* (Linnaeus, 1758) and *B. japonica.* In both publications the latter is described in a footnote. The complete descriptions (1824 and 1826) read as follows:

G.T. de Siebold, 1824. "*B. Japonica.* Occipite cristato e rubescente cinereo, pennis nasalibus, mento lineâque oculari nigrâ, fronte badiâ; corpore supra badio cinerio; postice cinereo laetiori, pectore e rubescente cinereo, abdomine pallido; remigibus nigris, 2 prioribus unicoloribus, insequentibus 7 margine exteriori absolete albis, insequentibus 2 integris, insequentibus 5 margine exteriori maculâ aterrimâ in apicem coccineum terminante; tectricibus 7 margine exteriori dilute sanguineis; rectricibus nigris, basi cinereis, apice coccineis. Longitudo 7 poll. parisiens, 1 lin."

B. garrula modo primo visu appendicibus cartilagineis deficientibus, rectriciumque apicibus coccineis differt. Utraque species in provincis [sic] Fyko [sic] ac Tsikuzen habitat."

Phillippo Franc. De Siebold, 1826. "B. Japonioa [sic]. Occipite cristato erubescente cinereo, pennis nasalibus, mento lineaque oculari nigra, fronte badia, corpore supra badio cinereo, postice cinereo laetiori, pectore erubescente, abdomine pallido; remigibus nigris, a prioribus unicoloribus, insequentibus 7 margine exteriori absolete albis, insequentibus 2 integris, in sequentibus 5 margine exteriori macula aterrima in apicem coccineum terminante; tectricibus 7 margine exteriori dilute sanguineis; rectricibus nigris, basi cinereis, apice coccineis. Longitudo 7 poll. parisiens 1 lin.

B. Garrula modo primo visu appendicibus cartilagineis deficientibus, rectriciumque apicibus coccineis differt. Utraque species in provinciis Tyko ac Tsikuzen habitat."

Sexing and ageing of the Japanese Waxwing *Bombycilla japonica*

For a correct interpretation of the description by von Siebold, knowledge of the age and sex of the described specimen is important. From a study of 80 skins of Japanese Waxwings in the collections of Leiden, Amsterdam, Tring, Berlin, and Moscow sexing and ageing seems straightforward. Ageing is possible by the same character as in use for theBohemian Waxwing *Bombycilla garrulus* (Warga, 1939; Cramp, 1988; Svensson, 1992): 1st-year birds have the white on the tip of the outer seven functional primaries restricted to a short white streak, not extending onto the tip of the inner web. Adult birds (after the first complete moult at an age of approx 14 months) have a white fringe extending along the whole feather-tip, including the inner web, forming an arch instead of a streak. As in Bohemian Waxwings, this arch is broader in males than in females, but

overlap in size is considerable. In contrast to the latter species, a yellow tinge to the white is absent, but instead a pink dot is often shown at the terminal end of the white arch (this spot appears to be absent in females at an age of 14-26 months). For sexing, a number of characters are available, but proper ageing has to be done beforehand because some overlap exists between 1st-year males and adult females, some adult females (probably older ones) acquiring some male-like characters. All males at any age have a distinct cerise-red terminal spot on the tip of the outer web of the black-tipped secondaries, varying in length from one to six mm; females generally lack this spot, only showing deep grey to black tips to the secondaries, but some adults (probably older ones) have a trace of a red spot, similar in size to some 1st-year males. Under tail-coverts of males at all ages are cerise-red, with some rufous-cinnamon of feather-bases shining through. Under tail-coverts of 1st-year females are rufous-cinnamon without red. Adult females show a varying amount of cerise-red wash on the tips of the coverts, but cinnamon predominates. Other sexing characters comparable to those of *B. garrulus* exist, e.g., the dark bib on the throat of males is deep black and sharply defined, that of females shows a partial grey tinge with a less sharply defined lower border, and the cap of the male is extensively rufous, of females more grey, but these characters are also influenced by bleaching and abrasion and less suitable for sexing, unless series of specimens in similar stage of wear can directly be compared.

From von Siebolds text " remigibus nigris … insequentibus 7 margine exteriori absolete albis", it is clear that he had a 1st-year bird before him, because the white margin covered only the outer webs ("margine exteriori") of the inner seven primaries, not the inner web; from the presence of red spots ("apicem coccineum") on the black tips of the outer five secondaries it is clear that this 1st-year bird was a male, because all 22 1st-year females examined in collections (and 9 of 14 adult females) lacked red, whereas all 32 1st-year males had it.

The specimen in Amsterdam

The type catalogue of the Zoological Museum of the University of Amsterdam (Roselaar & Prins, 2000; also <http://ip30.eti.uva.nl/zma3d>) lists one specimen of Japanese Waxwing, ZMA 2461, as "syntype", "male", Japan, undated, collected between 1816 and 1823 by Jan Cock Blomhoff when he was 'opperhoofd' (chief) on Deshima (Nagasaki, Japan). After Blomhoff's return to the Netherlands, this bird was in his private possession until his collection was presented to the predecessor of the ZMA in 1844 or shortly thereafter (Artis-Archief in Amsterdams Gemeente-Archief, GAA 395, item 1878). This was the only specimen then in Blomhoff's collection, as is apparent from a letter, dated 15 November 1824, written by von Siebold to Temminck [translated from German]:

"Last year I described some new species of crustaceans from the collection that was made here by the chief, Mr Blomhoff. He also possesses a specimen of a new species of Bombycivora that I have described as B. Japonica. When he [Blomhoff] returns to the Netherlands, you must take the trouble, to examine his collection some day, because it contains a lot of material that I have not been able to collect. The specimen of Bombic. Japonica he possesses is rather badly preserved, but still good enough to have a painting made of it, which you possibly will have to have done, because till now I have not

Fig. 1. Female of *Bombycilla japonica* (von Siebold, 1824), from Temminck, 1828, plate 450. Original caption: Jasseur *phoënicoptère,* male.

been able to collect any specimens myself because it is very rare here."

The poor state of preservation of the ZMA bird is indeed evident from the specimen, but nevertheless Temminck managed to depict it (Temminck, 1828). The curious fact is, however, that neither the bird in theZMA nor the picture in Temminck's plate 450 (Fig. 1) shows cerise-red spots on the secondaries, in contrast to the original description of *Bombycivora japonica* by von Siebold: the skin from the Blomhoff collection is obviously a 1st-year female, as is evident from the pattern and colour of the primary-tips and the colour of the under tail. The plate and the written description supplied by Temminck (1828) are also clearly referable to a female, no red spots being shown or mentioned on the secondaries. Thus, though von Siebold had not yet obtained any Japanese Waxwing himself (see the letter), he must have seen at least one other bird, the 1st-year male of the original description. Apparently, Blomhoff's collection in Japan

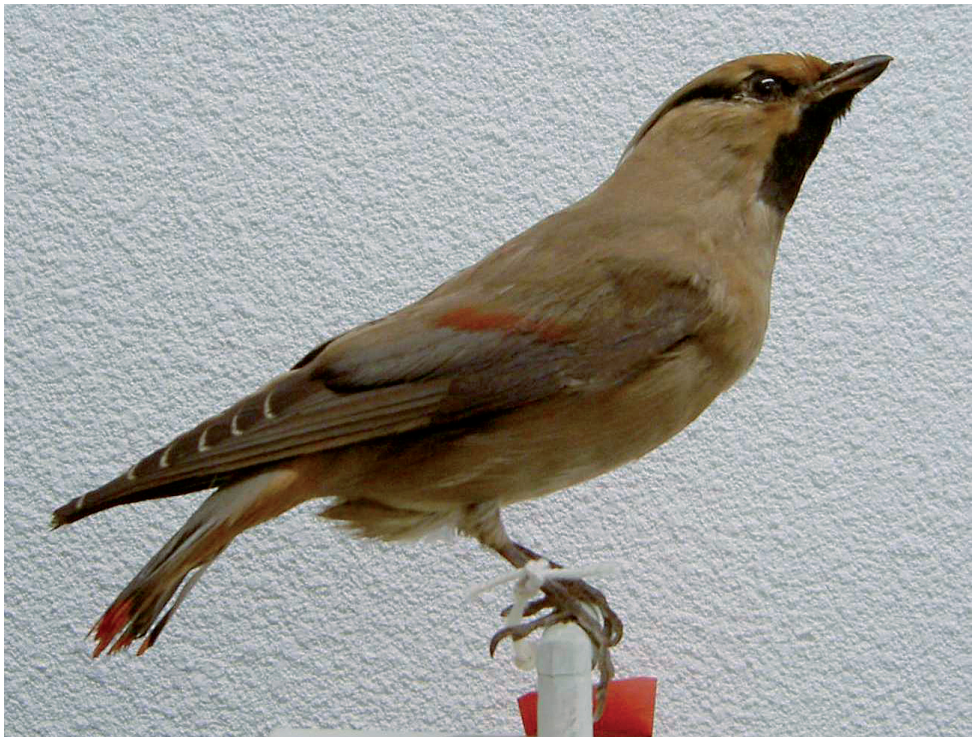

Fig. 2. RMNH 89171, *Bombycilla japonica* (von Siebold, 1824). Syntype of *Bombycilla phoenicoptera* Temminck, 1828, adult female.

included a male, which either was not preserved, or which Blomhoff kindly presented to von Siebold for the latter's own collection. In any case, von Siebold does not state the number of specimens examined in his original description, but at least two must have been present, a 1st-year male and a 1st-year female. As the female is not mentioned in the original diagnosis (Siebold, 1824), the bird in the ZMA has no type-status as far as the name *Bombicivora japonica* is concerned, in contrast to the conclusions of Roselaar & Prins (2000).

The specimen in Leiden

RMNH 89171, formerly RMNH cat. 1, 'male', is listed in the first shipment of specimens sent by von Siebold to 's Rijks Museum van Natuurlijke Historie, (= National Museum of Natural History) Leiden, arriving on 27 May 1827 (Dekker et al., 2001: 204). The bird shows full white arches on the primary tips and lacks red spots to the tips of the secondaries, and thus is undoubtedly an adult female (Fig. 2). Whether the absence of red spots on the secondaries in this and in the only other specimen known to Temminck (that of Blomhoff now in the ZMA) prompted him to describe *Bombycilla phoenicoptera* as a new species different from von Siebold's *Bombycivora japonica*, or whether he disliked naming new taxa by geographic names as suggested by E.C. Dick-

Fig. 3. Male and female of *Bombycilla japonica* (von Siebold, 1824), plate XLVI in Fauna Japonica Aves. Original caption: *Bombycilla phoenicoptera*.

inson (in lit.), is unknown. Both the specimen in the RMNH collection and the bird in the Blomhoff collection are mentioned in the description (Temminck, 1828), thus RMNH 89171 and ZMA 2461 are both syntypes of *Bombycilla phoenicoptera* Temminck, 1828. The existence of RMNH 89171 was overlooked by Roselaar & Prins (2000). A curious fact is that it is not clear whether the ZMA or the RMNH bird figured in the description and plate of *B. phoenicoptera*: Temminck fails to give details of the pattern of the primary-tips in the text, and the plate shows something like a combination of characters of adult and 1st-year birds, as if the artist, knowing both specimens, tried to depict something in between: the tip of the outer web shows a short and broad white streak, as in 1st-year female ZMA 2461, but the tip of the inner web shows a narrow grey border, a character absent in any Japanese Waxwing examined but resembling the white border of RMNH 89171 and other adult females in shape.

Birds depicted in Fauna Japonica, Aves

In the Fauna Japonica, Aves (Temminck & Schlegel, 1844-1850), a male and female of *Bombycilla japonica* are described and figured under the name *B. phoenicoptera* Tem-

Fig. 4. RMNH, cat. 2, 1st-year male of *Bombycilla japonica* (von Siebold, 1824).

minck, 1828 (Fig. 3). The text and figure of the female are rather imprecise as far as the wing-tip pattern and colour are concerned, and can not easily be traced back to a specimen, similar to the situation of the female in Temminck (1828). The male described and depicted closely agrees with mounted specimen RMNH cat. 2. (Fig. 4). The label on the front of the mount says: "*Bombycilla phoenicoptera*, mas ad., 1845 Japon", but on the underside of the mount is written in pencil: "*Bombycilla phoenicoptera*, ♀ Temm pl. col. 450, dernière expédition". According to Dekker et al. (2001: 202) "Dernière expédition" refers to the last shipment of specimens from Japan collected by von Siebold. This collection arrived in Leiden in 1829. As the data in pencil on the underside of the mount always pre-date those on the label, this must be considered the true date. The sex of the specimen might have been wrongly stated to be female because it differed from the specimen in the Blomhoff collection. The information on the front of the mount would appear to have been added in 1845 when the specimen was illustrated and its correct sex was identified, thus it both corrects the sex and dates the change. The white streaks on the primary tips and the red spots on the tips of the secondaries clearly identify it as a 1st-year male. One may wonder whether this specimen could be the holotype of *Bombycivora japonica*, temporarily withheld by von Siebold, or just a new specimen obtained between 15 November 1824 (the date of von Siebold's letter referred to above) and the time of departure of the last shipment.

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