

Was Mascarene Grey White-eye *Zosterops borbonicus* introduced to Madagascar?

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Received 25 July 2008

SUMMARY.—A previously ignored or misinterpreted report from the 1830s of Mascarene Grey White-eye *Zosterops borbonicus* being introduced from Réunion to Île Sainte-Marie off north-east Madagascar is shown to be valid, based on the evidence of the original paper (Sganzin 1840) and the discovery of a specimen from Madagascar collected by Sganzin in 1831. There is evidence that the species was also introduced to Nosy Be (off north-west Madagascar) in the mid-19th century; it no longer survives at either locality.

Mascarene Grey White-eye *Zosterops borbonicus* is endemic to Réunion and Mauritius in the Indian Ocean, each island having a form generally considered a subspecies (Gill 1973, Warren *et al.* 2006), but sometimes treated as sibling species (e.g. Sinclair & Langrand 1998). Mauritian *Z. (b.) mauritianus* is grey above with a white belly, whereas nominate *Z. (b.) borbonicus* on Réunion possesses a range of plumage variation separable into four colour morphs (Gill 1973), grey or brown above, and generally grey (pale to dark) below. All forms have a conspicuous white rump. The species is common on both islands, and, unlike most native forest passerines, readily occupies anthropogenic habitats (Cheke 1987, Barré *et al.* 1996). It is well known to most inhabitants, and indeed was often eaten in the 19th and early 20th centuries (Schlegel & Pollen 1868, Lantz 1887, Milon 1951). Here I argue that birds from the French colony of Réunion were introduced to French-controlled islands off Madagascar in the 19th century. Where scientific names are cited from 19th-century usage, they are given in single quotes.

Sganzin's observations

In 1831 Victor Sganzin (1840) travelled from France via Réunion to become military governor of Île Sainte-Marie (=Nosy Boraha), off north-east Madagascar, which had been a French outpost since 1818 (Pitcher & Wright 2004). He remained there until 1832 (Rand 1936), observing and collecting mammals and birds in addition to conducting his official duties, reporting these in the first formal scientific paper published by a European visitor to have collected Malagasy wildlife in the field (Sganzin 1840). Amongst birds, he reported having collected on Sainte-Marie the 'petit simon de Buffon', i.e., if he identified it correctly, the Réunion race *borbonicus* of the white-eye (Cheke 1983). Furthermore, he believed, following Buffon (1770–83), that the species was not native to Réunion but had been introduced from Madagascar. He gave the bird's local name as 'thzeiri', and considered it quite rare on Sainte-Marie, unlike his 'chéric' (taken from Buffon 1770–83) or 'ramanzeri', i.e. the Madagascar White-eye *Z. maderaspatanus*, which he described as common. Richardson (1885, 'ramanjereky') and Langrand (1990, 'ramanjereka') confirm usage of similar names for the native white-eye, though Pollen reported 'souy' (Schlegel & Pollen 1868).

Subsequent workers appear to have ignored this record or considered Sganzin mistaken. The local name 'thzeiri' appears to be a variant of Brisson's (1760) 'tcheric' for *Z. maderaspatana* (the source of Buffon's 'chéric'), and even more closely resembles the name 'tséré' reported by Cowan (1881) and Richardson (1885) as in use by the Betsimisaraka tribe

for Common Jery '*Eroessa*' (= *Neomixis tenella*), a bird undescribed in Sganzin's day. 'Jery' is the current transliteration, used for all three modern segregates of *N. tenella* (e.g. Langrand 1990, Morris & Hawkins 1998). Indeed, apparently based on his use of 'thzeiri', but without explanation, Sharpe (1883) and Milne-Edwards & Grandidier (1885) assumed that Sganzin's 'petit simon' was *Neomixis tenella*, although Hartlaub (1866) mentioned neither Sganzin nor the local name in formally describing the genus and species from specimens collected by Edward Newton. Grandidier, collecting with Lantz (see below) in 1865–67, likewise made no mention of Sganzin in connection with '*Eroessa tenella*' (Grandidier 1867–68). Schlegel & Pollen (1868) and Hartlaub (1877) included Sganzin in their bibliographies, but not in discussing '*Eroessa tenella*' or '*Zosterops borbonica*'¹.

The assumption that Sganzin was referring to *Neomixis* appears to have effectively buried the record and prevented its re-appraisal. But did Sganzin misidentify the bird? Whilst no other bird in Sganzin's paper can be identified as a jery, *Neomixis* do not resemble *Z. borbonicus* in anything but size, and lack the conspicuous white rump. Another candidate, also without a white rump, might be a *Newtonia*, but Sganzin's 'souis gris' may represent this species-group, though the eye colour he cited is wrong. A grey *Newtonia* on Île Sainte-Marie can only be Common *Newtonia N. brunneicauda* (Goodman 1993). As Schlegel & Pollen (1868) noted, 'souy' is a generic Malagasy term for sunbirds, white-eyes and similar species. It is probable that the names 'thzeiri' / 'tséré' / 'tcheric' were (are?) also applied fairly indiscriminately to all small warbler-like passerines and cannot be considered species-specific; indeed, Richardson (1885) listed numerous synonyms for jerys, white-eyes and 'warblers'. Given the non-specificity of local names, and that Buffon's description to which Sganzin referred his specimen (see appendix) does not match any jery, there is no reason to uphold Sharpe's and Milne-Edwards & Grandidier's view, generally accepted since by default, that the bird was *Neomixis tenella*.

As Sganzin had visited Réunion, where *Z. borbonicus* is common, he should have been familiar with it before he reached Saint-Marie. Mentioning 'Bourbon' (=Réunion) as well as Madagascar in connection with the 'petit simon' suggests that he had probably also seen it there: for other species he only mentioned Réunion or Mauritius if he had noted them there, as well as on Madagascar. As he denied having seen on Madagascar Buffon's 'figuier bleu' (in part *Z. (b.) mauritianus* (Cheke 1983) but alleged by Buffon to be from Madagascar), his bird presumably did not resemble the white-bellied Mauritian form². Regrettably he did not describe his 'petit simon' specimen (see appendix), referring instead to Buffon's (1770–83) description, which despite being otherwise accurate did not mention the white rump, though it is clearly evident in Martinet's plate (*Planches Enluminées* 705: 2) which is referred to in the description. In general Sganzin's paper was strongly influenced by having read Buffon after returning to France, to the extent of emulating his style and very inconsistent

¹ *Zosterops* was, until 1974, considered feminine, hence 19th-century authors always cited its specific names in feminine form.

² Any inference from the 'figuier bleu' is possibly compromised, in that Buffon, Sganzin's only acknowledged source apart from his own observations, thought that the birds illustrated in plates 705: 1 and 705: 3 represented female and male of the same species. While 705: 1 is indisputably a *Z. (b.) mauritianus* and is indeed its lectotype (Cheke 1983), 705: 3, labelled 'figuier de Madagascar' in the *Planches*, is a grey bird with a white-edged, rather long tail (unlike the white-eyes), lacking a white rump, and resembles no known Malagasy species. In fact it is the lectotype of '*Motacilla livida*' J. F. Gmelin, Tropical Gnatcatcher from Middle and South America (now *Poliophtila plumbea*; see Penard 1923), although the plate appears to my eye to resemble more closely Blue-grey Gnatcatcher *P. caerulea*. Nonetheless, since plate 705: 1 is a grey white-eye from Mauritius, and Sganzin denied having seen it, it is likely he recognised the bird he collected as the Réunion form (illustrated on the same *Planche* as 705: 2).

usage of Linnaean binomials; however, at the time, Buffon's encyclopaedias were the only ready source on Malagasy fauna.

Malagasy specimens in Paris

The internal evidence in the paper, whilst strongly indicative, does not prove that Sganzin collected *Z. borbonicus* on Île Sainte-Marie. There the matter might have rested, but for the fact that Sganzin's specimen of *Z. (b.) borbonicus* survives in the Muséum Nationale d'Histoire Naturelle (MNHN), Paris, labelled 'pouillot gris—Madagascar', and dated 1831. There is no collector's name on the label, but the monogram 'VS' (i.e. Victor Sganzin) appears twice (J.-F. Voisin *in litt.* 2008), and there is also a number (236) on the reverse (pers. obs.), presumably referring to a specimen list. No such list survives (A. Préviate *per* J.-F. Voisin), but Sganzin (1840) stated that he had donated his most important Malagasy specimens to the Paris museum (*cf.* Valenciennes 1832), though he also gave 17 bird skins (not listed) to the natural history society in Mauritius on his return journey (Desjardins 1832).

There is a further Malagasy specimen of *Z. (b.) borbonicus* in MNHN, from a collection by Auguste Lantz received in 1868, and labelled 'Nossi Bé' (=Nosy Be, off north-west Madagascar), another island where the French long had a presence (from 1841: Pitcher & Wright 2004). Lantz was curator of the natural history museum in Réunion, which island served as the French base for colonial adventures in Madagascar, where Lantz frequently collected (Andriamialisoa & Langrand 2003). He was an exemplary collector and extremely unlikely to have made a locality error with a species so familiar from Réunion. Curiously, in their history of zoological exploration in Madagascar, Andriamialisoa & Langrand (2003) made no mention of Sganzin.

There appears to be no trace of these putative introductions in the subsequent literature (pers. obs.; R. Safford pers. comm.), and Pollen (Schlegel & Pollen 1868: 76) commented that he had never seen Grey White-eyes in Madagascar; he collected in 1864–66 mainly on Nosy Be (where he clearly did *not* find the species) and in north-west Madagascar, but apparently spent little or no time on Île Sainte-Marie. Mascarene Grey White-eye is certainly absent from Sainte-Marie today, as are *Neomixis* species, though *Newtonia brunneicauda* is still present (Goodman 1993). However, the island has been heavily deforested since Sganzin's day (Goodman 1993). Equally, there are no subsequent reports from Nosy Be (R. Safford pers. comm.). Surprisingly, only eight bird species are recognised as having been successfully introduced to Madagascar and its islands (Hawkins & Goodman 2003), in contrast to the numerous introductions on the region's oceanic islands (Skerrett *et al.* 2001, Hawkins & Goodman 2003, Cheke & Hume 2008).

Acknowledgements

Roger Safford's helpful comments and suggestions are much appreciated, as are those of David Wells and the editor. Jean-François Voisin kindly re-examined the Sganzin specimen for me, and Anne Préviate searched hard, albeit fruitlessly, for documentation of Sganzin's collections. Christian Jouanin facilitated my visit to the MNHN in 1976; I have only recently rediscovered my contemporary draft on which this note is based.

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Appendix. Sganzin's text (1840) on the 'petit simon', 'chéric' and 'soui gris', and Buffon's description of the 'petit simon' (translated by ASC)

p. 27. Le Cheric, Buffon (Ramanzeri à Sainte-Marie)

See Buffon for the description of this species. These birds fly in groups and eat insects. They pair up in the mating season, but otherwise live solitarily. They are tame and allow close approach. They are found in the forests and are common at Sainte-Marie, where they are known by the name of *ramanzeri*.

p. 28. Le Petit Simon de Bourbon, Buffon (Thzeiri, madag.); le Figuier de Madagascar

This bird is called *petit simon* on Bourbon Island [=Réunion], but is not native. It is naturalised there after having been brought from Madagascar. I obtained one at Sainte-Marie, where it is rather rare and known by the name of *thzeiri*. I have nothing to add to the description given by Buffon.

p. 30. Le Souis Gris

This bird, a little larger than the next one³, has ash-grey plumage, the tail tending to dark rusty colour. The beak is black, prominent and slightly down-curved. The feet are black; the eye is brown⁴. I was able to obtain this bird only once on Sainte-Marie.

Buffon (1770–83, original edition, vol. 5, pp. 280–81: Le Petit Simon*, third species [of 'figuier']

*See the *Planches Enluminées* 705, fig. 2, under the label 'figuier of Madagascar'. This bird is called 'petit simon' on the isle of Bourbon, but is not native to that island, and it must have been carried there from elsewhere, as we are informed by the reports of very reliable persons, and particularly those of M[onsieur] Commerson, that there were no quadrupeds or birds on the isles of Bourbon and of France [=Mauritius] when discovered by the Portuguese⁵ . . . This bird is precisely the same size as the previous one [the 'chéric']; its upperparts are a clear slate colour, the underparts whitish grey, the throat white, the tail feathers dark brown narrowly edged with slaty, the beak brown, pointed and tapering, the feet grey and the eyes black⁶, females, and even the young, have more or less the same plumage as males. It is found everywhere in large numbers on the Isle of Bourbon . . .

³ The subsequent bird on Sganzin's list, his 'soui à collier bleu', is, from the adequate description, Souimanga Sunbird *Nectarinia souimanga*.

⁴ All *Newtonia* species have white or pale yellow irises (Sinclair & Langrand 1998).

⁵ This is nonsense, see e.g. Cheke & Hume (2008).

⁶ The irides are deep chestnut.