

A review of the origin, European discovery, and first descriptions of the red shining-parrot (*Prosopeia t. tabuensis*) on 'Eua, Kingdom of Tonga

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Abstract Evidence from Cook's voyages supports the late prehistoric human introduction of the red shining-parrot (*Prosopeia tabuensis tabuensis*) from Fiji into the Tongatapu group, Kingdom of Tonga. It appears that a wild population of red shining-parrots was established on 'Eua by the time of Cook's visits to the Tongatapu group in the 1770s. Latham used specimens obtained at 'Eua in 1777 for the 1st published description of the species. However, the correct type locality of the taxon is Fiji. A red shining-parrot specimen used by Latham is in the Naturhistorisches Museum in Vienna. It is 1 of the few bird specimens that survive from Cook's voyages.

Medway, D.G. 2010. A review of the origin, European discovery, and first descriptions of the red shining-parrot (*Prosopeia t. tabuensis*) on 'Eua, Kingdom of Tonga. *Notornis* 57(3): 128-134.

Keywords Tonga; 'Eua; Cook's voyages; red shining-parrot; *Prosopeia t. tabuensis*; origin of population; first descriptions; type specimens

INTRODUCTION

Tongatapu and 'Eua are in the Tongatapu group of the Kingdom of Tonga. Tongatapu (259 km²) is a mainly flat island with a few small hills rising to c. 30 m. It has been densely populated for the last 3 millennia. Little native forest remains on Tongatapu (Steadman 2006: 187). 'Eua (81 km²) is c. 20 km southeast of Tongatapu. By local standards it is a high and rugged island, with a maximum elevation of 312 m. Unlike Tongatapu, 'Eua sustained substantial tracts of rain forest into the 1990s (Drake *et al.* 1996). Tongatapu and 'Eua were visited in 1773 in the course of James Cook's 2nd voyage around the world (1772-1775), and again in 1777 in the course of his 3rd voyage (1776-1780) (Beaglehole 1961, 1967). During Cook's visit in 1777, Samwell (in Beaglehole 1967 (2): 1051) observed that 'Eua

was high and of "a very beautiful appearance; the Hilly part is covered with Verdure & the skirts of the Island along the Sea Shore covered with Cocoa nut, Breadfruit & other Trees".

The red shining-parrot *Prosopeia tabuensis tabuensis* (Gmelin, 1788) was 1st collected and described by Europeans during Cook's visits to the Tongatapu group in the 1770's. A population of red shining-parrots has persisted on 'Eua to the present day. In 1983-1986, it was widespread and common in forested areas of the island from the shoreline to the summit (Rinke 1987; Gill 1987). Hay (1986) thought that the core habitat of the species might be protected by a proposed national park. 'Eua National Park was created in 1992 (Hutching 1995).

ORIGIN OF RED SHINING-PARROT ON 'EUA Burney (in Beaglehole 1967 (1): 112n) observed that red feathers were "a valuable article of traffic" when Cook was at the southern Tongan islands in 1777.

Received 3 Sep 2010; accepted 27 Nov 2010

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Several participants in the voyage recorded what they learned from the Tongans about the source of those red feathers. Samwell (in Beaglehole 1967 (2): 1014) noted that, although red feathers were so plentiful at the southern Tongan islands, "these people get them from another Island". Cook (in Beaglehole 1967 (1): 164,171) understood that the red feathers all came from Fiji, and that the Tongans "had little or no traffick either amongst themselves or with any other islands except Fidjee from which they get red feathers and a few other articles". Anderson (in Beaglehole 1967 (2): 958) thought that when the people of Tonga and Fiji were at peace intercourse between the islands seemed "pretty frequent". He learned that the Tongans sometimes ventured to skirmish with the Fijians on their own ground and "carry off red feathers as their Booty, which are found in great plenty there and highly valued at Tonga". It appears that the red feathers of "parakeets" were the most highly valued. Cook (in Beaglehole 1967 (2): 117) recorded that a Tongan chief brought him one of their caps "made of the tail feathers of the Tropic bird with the red feathers of the Paroquets worked upon them or in along with them". Bayly (1776-1779: 167-168) thought the Fijians "must have great numbers of Parraquets as the Tongi men get all their red feathers for making their ornamentsof them". All the red feathers still present on extant decorative girdles obtained in the southern Tongan islands during Cook's visits (Kaeppler 1978: 213-214) may have come from Fiji.

There is first-hand evidence that live parrots with red plumage were transported from the Fijian islands to Tonga at the time of Cook's visits. Latham's 1787 description of the "Solitary Parrot" (= collared lory *Vini (Phigys) solitarius*) was based solely on Anderson's unpublished manuscript description in Latin of *Psittacus solitarius* obtained at Tongatapu in 1777 (Latham 1781-1802: Suppl.1: 65-66). Anderson (1776-1778: 11) recorded that this bird inhabited Fiji and was brought to Tonga for the sake of its red and yellow feathers that were much prized. Anderson said it was tame but rare at Tongatapu. Among several birds purchased from the natives at Tongatapu when Labillardiere was there in 1793 was "a beautiful species of lory, which they informed us had been brought to them from Feejee" (Labillardiere 1800: 109). This "lory" cannot be positively identified, but it was probably a collared lory.

The red shining-parrot and the collared lory, both of which came from Fiji, and the locally-native blue-crowned lorikeet (*Vini australis*), are the only parrots known to have been present in the Tongatapu group at the time of Cook's visits in the 1770's (Anderson 1776-1778: 11; Forster in Lichtenstein 1844: 159-160). The blue-crowned lorikeet, which has red feathers on its throat and belly, appears to have been plentiful

and easily-procured there at that time. When the Forsters were at Tongatapu in Oct 1773 they were offered "very many" live blue-crowned lorikeets which the natives, who seemed to be very expert fowlers, brought to them perfectly tame (Forster in Lichtenstein 1844: 160; Forster in Kahn 1968: 259-260, 277). Red feathers from blue-crowned lorikeets were used by Niueans to decorate their girdles and headwear (Smith 1902; Loeb 1926: 93), and those feathers have been identified on ethnographic artifacts from Niue (Dove 1998). The blue-crowned lorikeet is the only parrot known from Niue (Worthy *et al.* 1998). It would have been the only source of red "parakeet" feathers on the island. It is possible that the Tongans, when the red feathers of various parrots became available to them at Fiji, favoured those red feathers over the red feathers of the locally-available blue-crowned lorikeet. Perhaps the Tongans particularly favoured the maroon-coloured feathers of the red shining-parrot. For this reason, they may have intentionally released some of those parrots on 'Eua in the hope that in time they would provide a local source of highly-prized feathers. The taking of those birds may have been forbidden, at least initially, to enable them to establish in the wild. A century after Cook's visits, in 1874, the bird called the "Pompadour Parrot, from the peculiar purple red of its head and neck", (= red shining-parrot), was said to be abundant on 'Eua from whence the natives procured it alive (Moseley 1879: 292).

The taxonomic status of the various populations of *Prosopiea* has been reviewed most recently by Rinke (1989) who considered the maroon-plumaged red shining-parrots on 'Eua to be identical, as *Prosopiea tabuensis tabuensis*, with those on the Fijian islands of Vanua Levu, Kioa, Koro, and Ngau. It seems certain, for the reasons considered here and by Layard (1876a, 1876b), Amadon (1942), and Watling (1978), that prehistoric voyagers introduced birds of the nominate race of the red shining-parrot from Fiji into the Tongatapu group where they appear to have established a wild population on 'Eua by the time of Cook's visits to that island (see below). The introduction of the red shining-parrot into Tonga must have taken place in late prehistory if, as Anderson believed, Fiji and Tonga were "doubtless but lately known to each other" (Anderson in Beaglehole 1967(2): 958). *P. tabuensis* is absent among prehuman fossils on 'Eua, and from Lapita contexts in Ha'apai and Tongatapu (Steadman 1993; 2006: 349).

TONGATAPU AND 'EUA 1773

Reinhold Forster as official naturalist, and his son George as assistant naturalist and natural history draughtsman, accompanied Cook on his 2nd voyage (Beaglehole 1961; Hoare 1982). They

were anchored at Middleburgh (= 'Eua) for only one day, 2-3 Oct 1773. Excursions ashore on 2 Oct were limited to plantations in the general vicinity of the landing place. Before they left the island on 3 Oct, Reinhold Forster went ashore from whence he brought "a very fine live Parrot off. It is of a fine lively green, the wing & tailfeathers the brightest blue, the head & breast of a purple Chestnut, & the belly very deep purple: the feet & bill black, the tip of both mandibles yellow, the Iris black. It eats Bananas, is tame & lively, seems to be young & may perhaps be carried to England alive" (Forster in Hoare 1982: 382). This specimen was described by Reinhold Forster (1772-1775: II: 80) as *Psittacus hysginus* and it was drawn by his son. Forster's detailed Latin description was not published until Lichtenstein did so 71 years later (Lichtenstein 1844: 159), by which time Wagler had published Forster's name, with credit to him, together with Wagler's own description of the taxon (Wagler 1832: 540-541). Forster's description is clearly of the nominate race of the red shining-parrot *Prosopaea t. tabuensis* which he noted was known to the natives as *Kāghākā*. The bird described and illustrated by the Forsters did not have a blue nuchal collar, but Reinhold Forster said it had a few scattered red feathers on the rump. Neither the presence nor the absence of red or maroon rump feathers, nor the occurrence and extent of a blue nuchal collar, are of any diagnostic value in this species (Finsch 1877; Rinke 1989; *contra* Amadon 1942).

George Forster's painting is important because it depicts the type specimen of his father's *Psittacus hysginus*. The original painting is now in The Natural History Museum, London. A close copy of this painting appears in Steiner & Baege (1971; Pl.1). The original, folio 42, is dated in pencil "October 12. 1773", when the 2nd voyage ships were at sea 5 days after leaving Tongatapu. On the reverse it bears the pencilled locality "Tonga Tabboo" in a hand which Lysaght (1959: 282-283) took to be that of Reinhold Forster. However, neither Forster mentions the species in their narratives of the stay at Tongatapu. Indeed, Reinhold Forster refers to it being obtained only at 'Eua in both his journal entry of 3 Oct 1773 and in his description of the species where he said that it lived on the island of 'Eua where he bought a single specimen of it. Reinhold Forster (in Lichtenstein 1844: 165,166) gave both 'Eua and Tongatapu as localities for his *Certhia carunculata* = wattled honeyeater (*Foulehaio carunculata*) and *Columba globicera* = Pacific pigeon (*Ducula pacifica*), which probably indicates that those species were obtained and/or seen at both islands. It seems that Forster would also have given Tongatapu as a locality for his *Psittacus hysginus* had the species in fact been obtained and/or seen there. In light of this, it would be unsafe to rely on the

locality note of uncertain authorship which appears on the Forster painting as establishing a Tongatapu origin for the bird depicted. Therefore, it is not unreasonable to conclude that George Forster's painting was based on the bird purchased by his father at 'Eua on 3 Oct 1773. The subsequent history of Forster's specimen is not known. At the time he purchased the specimen, Reinhold Forster thought it might be possible to carry it alive to England, but there is no evidence that he did. There is nothing in the records of the Forsters to suggest that they saw any other individuals, wild or tame, during their short stay at 'Eua. William Anderson, who was on both the 2nd and 3rd Cook voyages, did not include the species among his 2nd voyage descriptions (Anderson 1772-1775).

TONGATAPU AND 'EUA 1777

The red shining parrot was the parrot "of an indifferent green on the back & wing, the tail blueish and the rest of a sooty or chocolate brown" which Anderson (in Beaglehole 1967 (2): 923) recorded when the ships of Cook's 3rd voyage were at 'Eua and Tongatapu in 1777. They were anchored at Tongatapu from 9 Jun-11 Jul 1777, but there is no evidence in the several journals kept during the voyage that the red shining-parrot was met with at Tongatapu during that time. The ships were anchored at 'Eua from 12-17 Jul 1777. Travels on the island were more extensive than were those of the Forsters 4 years earlier. On 13 Jul a party including Cook and Anderson made an excursion to the highest part of the island, and on 14 Jul Anderson and others went several miles along a valley running to the southward from near the landing place (Beaglehole 1967 (1): 157-158, (2): 960-965).

Anderson (1776-1778, Appendix: 5) referred to 2 parrots of the Friendly Isles (= Tongan islands) that he said had been described by Forster. One of them, which Anderson described as *Psittacus pipilans*, was the blue-crowned lorikeet which Reinhold Forster had described as *Psittacus euchlorus* (in Lichtenstein 1844: 160). The other was referred to by Anderson, without a description, as "*Psittacus montanus*. Habitat insulis amicabilibus sed tantum monticulosas." The blue-crowned lorikeet and the red shining-parrot are the only parrots that Forster described from the Tongan islands. Therefore, Anderson's *Psittacus montanus* must relate to the red shining-parrot. That he called it *Psittacus montanus*, mountain parrot, and noted that it lived in the Friendly Islands but only in the mountains, clearly indicates that the red shining-parrot inhabited the high island of 'Eua rather than the low island of Tongatapu. Anderson may have seen it in the course of his excursion to the summit of 'Eua on 13 Jul 1777. Reinhold Forster said that

Fig. 1. Painting by Sarah Stone of red shining-parrot in Leverian Museum. Courtesy of Dixson Library, Sydney.



the red shining-parrot lived on 'Eua, and the live bird that he bought on the island, which Forster thought was young, may have originated from a wild population of that species. These records strongly suggest that a wild red shining-parrot population of unknown size was living on 'Eua by the time of Cook's visits to that island.

Sir Joseph Banks was the principal recipient of bird specimens collected on Cook's 3rd voyage (Medway 1979, 2009). The 6 specimens identified as *Psittacus hysginus* which he received from the voyage were recorded as being from Middleburgh (= 'Eua). They are referred to in Solander catalogue (Medway 1979), entry no. 8 as "6. Ellis. *Psittacus*. Middleburgh". The reference to Ellis is to his painting, folio 11, which was said to be of a bird "From Middleburgh" (Lysaght 1959: 323). Ellis's original painting is now in The Natural History Museum, London. The Banks specimens are described briefly in Manuscript Lists 2 and 3 (Medway 1979), entry no. 19 as "*hysginus* Ps. macr. viridis, capite, collo, et corpore subtus rubris. Sol. cat. 8. Forster. Middleburgh. 2." It appears from the Manuscript Lists that Banks may have given away several of his specimens of the red shining-parrot before early 1792 when he divided his remaining zoological collections between the surgeon-anatomist John Hunter and the British Museum (Medway 2009). None of the red shining-parrot specimens received by Banks from Cook's 3rd voyage are known to survive.

TYPE LOCALITY OF RED SHINING-PARROT

Latham's original description and illustration of the "Tabuan Parrot" were published in 1781 (Latham 1781-1802:1(1): 214, Pl. VII). Latham indicated that specimens of the "Tabuan Parrot" were in his own collection and that of the Leverian Museum. The ships of Cook's 3rd voyage had returned to London in Oct 1780. No specimens of the red shining-parrot are known to have reached England from Cook's 2nd voyage visits to the southern Tongan islands. Therefore, the specimens used by Latham when preparing his description of the "Tabuan Parrot" must have been collected during Cook's 3rd voyage visit to the Tongatapu group in 1777. Latham's description became the sole basis of *Psittacus tabuensis* of Gmelin (1788-1793: I (1): 317). Latham and the Leverian Museum are not known to have received any specimens of the red shining-parrot after Latham described his "Tabuan Parrot" in 1781.

Latham said that his "Tabuan Parrot" was to be found at Tongatapu, and the other Friendly Islands. It would perhaps be surprising if specimens of the red shining-parrot were not at least sometimes available on Tongatapu at the time of Cook's visits, if only as captive birds. Nevertheless, as mentioned, Reinhold Forster obtained his only known specimen at 'Eua, and all the 3rd voyage specimens received by Banks were said to be from that island, as was the bird depicted in the Ellis painting. Anderson's *Psittacus montanus* apparently lived only in the "mountains" of 'Eua. Therefore,

'Eua can be accepted as the place of collection of all specimens of the red shining-parrot obtained on Cook's visits in 1773 and 1777. However, those specimens came from a population that had been introduced from Fiji into 'Eua. Because of this, the correct type locality of *Prosopiea t. tabuensis* (Gmelin, 1788) is Fiji from whence the wild progenitors of the 'Eua population began their unnatural journey (ICZN Art. 76.1.1).

FATE OF THE SPECIMENS USED BY LATHAM

A "fine" specimen of the red shining-parrot was still in Latham's collection in 1789 (Phillip 1789: 153). Latham recorded in a letter of 1831 that when he left Kent in 1796, where he had a large museum, his birds were in general dispersed, but he preserved his "Tabuan Parrot". He said that he later exchanged it for something else, and that at the time he wrote it was to be seen at Leadbeaters, London natural history dealers (Mathews 1931). It is not known what became of it thereafter. Latham's original drawing of the "Tabuan Parrot", which was probably based on his own specimen, is in the collection of his drawings in The Natural History Museum, London (Latham n.d., f. 102). There is also a print of the drawing, apparently coloured by Latham's own hand (Latham 1773-1798: CR2017/TP277/7), in a copy (CR4761) of the 2nd edition of Pennant (1781) held by the National Library of Wales at Aberystwyth.

The previously unpublished painting of a red shining-parrot reproduced here (Fig. 1), although unsigned and undated, is almost certainly by Sarah Stone (Jackson 1998). It depicts a red shining-parrot which was then in the Leverian Museum. The painting was probably completed by Stone in the 1780s, obviously at some time after the return of Cook's 3rd voyage ships to England in Oct 1780. The painting is in the Dixon Library, Sydney. It is tipped in at p.333 of vol. 1 (Q77/35) of a set of the 2nd edition of the official account of Cook's 3rd voyage (Cook & King 1785) which was formerly owned by Thomas Pennant, the Welsh traveller and naturalist.

The history of the Leverian Museum has been well documented (e.g. Mullens 1915; Whitehead 1969, 1978; Jackson 1998). In 1792-1796, James Parkinson, who had become the owner of the museum in 1786, published descriptions by George Shaw of "select specimens from the Museum of the late Sir Ashton Lever". Among them was a description of the "Pompadour Parrot *Psittacus atropurpureus*" which Shaw identified with Latham's "Tabuan Parrot" (= red shining-parrot). Shaw correctly considered this bird to be a distinct species from Latham's varieties of the "Tabuan Parrot" (= King parrot *Aprosmictus scapularis* of eastern Australia) (Shaw 1792-1796: I: 140-143; II:

30). Shaw's description of the "Pompadour Parrot" was accompanied by a painting by C.R.Ryley. What appears to be the original of this painting, signed by the artist, is folio 51 in a collection of original drawings now in the Blacker-Wood Library, McGill University, Montreal. The published illustration has been reproduced by Finney (1984: 60). Ryley's painting, although Wagler (1832: 540) thought it was "bad", is important because it depicts a red shining-parrot which was then in the Leverian Museum. This specimen apparently did not have a blue nuchal collar, whereas the Leverian Museum specimen depicted by Sarah Stone did. This may indicate that at least 2 specimens of the red shining-parrot were in the Leverian Museum when those paintings were executed.

The Leverian Museum was sold by public auction in London in 1806. The compiler of the sale catalogue followed Shaw (1792-1796) in using the names "Tabuan parrot *Psittacus tabuanus*" for the King parrot and "Pompadour-fronted parroquet" for the red shining-parrot. At least 3 lots - 1829, 4747, and 6170 - were described as being "Pompadour-fronted parroquet, S.Seas" (Donovan 1806: 78, 220, 271). The ultimate fate of the birds included in Lots 1829 and 6170 is not known. However, annotations in extant copies of the catalogue confirm that Lot 4747 - "Pompadour-fronted parroquet, South Seas, in fine plumage" - was sold on the 40th day of the sale (20 Jun 1806) to Leopold von Fichtel of Vienna for £2.3/-. The specimen is still in the Naturhistorisches Museum in Vienna as NMW 50.243 (Medway 1979; Schifter *et al.* 2007: 178-179). Pelzeln (1873) and Pelzeln & Lorenz (1888) identified it as *Platyercus tabuensis*, and considered it to be the type of the descriptions and figures of Latham (1781-1802) and Shaw (1792-1796). Most recently, Schifter *et al.* (2007: 178-179) consider the specimen to be the holotype of Latham and Shaw, but it is clear that more than 1 specimen was available to Latham, and probably to Shaw also, when describing and illustrating their "Tabuan Parrot" and "Pompadour Parrot" respectively. Therefore NMW 50.243 is, in the absence of evidence to the contrary, the only surviving syntype of *Psittacus tabuensis* Gmelin, 1788 and *Psittacus atropurpureus* Shaw, 1792. It was collected at 'Eua, Tongatapu group, Kingdom of Tonga during Cook's visit to that island in Jul 1777, and is 1 of the few bird specimens that survive from his voyages.

ACKNOWLEDGEMENTS

I am grateful to Dr Herbert Schifter for his assistance during and since my visit to the Naturhistorisches Museum in Vienna. I am also grateful to the Staatsbibliothek Preussischer Kulturbesitz in Berlin for providing a microfilm of the original manuscript of Reinhold Forster's *Descriptiones Animalium*. I thank the Dixon Library, State Library of New South Wales, Sydney for permission to

reproduce the Sarah Stone painting of a Leverian Museum specimen of the red shining-parrot. I continue to be grateful to various members of the library staff at the Museum of New Zealand Te Papa Tongarewa, most recently to Martin Lewis, for their willing and efficient provision of material required for this and other research.

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