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## **The ornithology of the Baudin expedition (1800-1804)**

Jansen, J.J.F.J.

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**Author:** Jansen, Justin J.F.J.

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## Chapter 3.8

### The 'new and singular' bird of St Peter Island

*Andrew Black, Jean Fornasiero, Justin Jansen and Philippa Horton*

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**Abstract** - Mystery has surrounded the identity of a ground dwelling bird collected in February 1803 on St Peter Island in Denial Bay, Eyre Peninsula by Charles-Alexandre Lesueur, one of two surviving artists of the Baudin Expedition. Despite the existence of its illustration and supporting descriptive notes, contained among the large residual Lesueur Collection in Le Havre, the collected specimen has not been located and the bird was never described scientifically. We recognise features of the bird consistent with either a scrubbird or bristlebird but conclude that it was most likely a Rufous Bristlebird of an undescribed and extinct subspecies.

### INTRODUCTION

During Nicolas Baudin's 1800-1803 exploration of the coasts of southern and western Australia the French expeditioners twice visited the region of Nuyts Archipelago off Eyre Peninsula, South Australia (SA). Towards the conclusion of the expedition scientists from Baudin's corvette *Le Géographe* achieved landings on the mainland at Denial Bay and on St Peter Island

**Fig. 3-053** | WESTERN EYRE PENINSULA, South Australia, showing Nuyts Archipelago including St Peter Island.



(Cornell 2003, 2006). On the island they reported seeing and collecting a specimen of an unusual bird whose identity has been the subject of much speculation.

Nuyts Archipelago was discovered in 1627 during the voyage of the ship *Gulden Zeepaert* and was named after its most important passenger, Pieter Nuyts (Manning 1986). At the time the archipelago marked the eastern limit of European exploration of the southern Australian coast and beyond it lay a portion of the continent of interest to both Britain and France. Of the archipelago's two largest islands, St Francis Island is well offshore and St Peter Island is close to the mainland. The latter was referred to as Ile St Pierre during the Baudin Expedition but subsequently renamed Ile Eugène (the inshore group as Iles Joséphine) among the many short lived Napoleonic revisions promulgated by Péron and Freycinet (1816).

François Péron, the surviving naturalist of Baudin's expedition, reported that on 10 February 1803 three scientists explored St Peter Island: Charles-Alexandre Lesueur, who went inland to collect animals, Jean-Baptiste Leschenault de la Tour, the expedition's botanist, who examined its vegetation, and Péron himself, who, accompanied by a crew member named Lefebvre, remained close to the shoreline, his interests lying almost exclusively with marine invertebrates (Cornell 2003). Lesueur was one of two artists in Baudin's party but by this time was also the expedition's prime bird collector, following the deaths of both designated naturalists, René Maugé and Stanislas Levillain (Jansen 2014c).

Péron's account (Péron and Freycinet 1807-1816: p. 119) of the bird collected on St Peter Island is cited in full below.

*“La stérilité profonde qui caractérise les îles Joséphine, semble en avoir repoussé l'espèce volatile. Les oiseaux de terre y sont presque inconnus, et nos collections en ce genre se réduisent à une espèce de Muscicapa nouvelle et singulière, qui vit sous les broussailles, et se nourrit plus particulièrement des fourmis qui pullulent sur ces bords. Avec ses ailles basses et traînantes, sa queue relevée, étalée, et les plumes de son croupion hérissées sur son dos, ce petit animal figure assez bien, et comme en miniature, un coq-d'inde de nos basse-cours faisant la roue.”*

**Cornell (2006: p. 95) translated the description:**

*“The extreme barrenness that characterises the St Peter Islands seems to have repelled the winged species. Land birds are almost unknown there; and our collections in this field are reduced to a new and singular kind of flycatcher that lives under bushes and feeds mostly on the ants that swarm on these shores. With its low, trailing wings and the ruffled-up feathers of its rump, this little animal looks rather like a miniature of one of our farmyard turkey cocks fanning out its tail.”*

Because of the differing roles of the scientists it may be inferred therefore that only Lesueur observed the bird and could have provided the description above, and not Péron himself. Lesueur also collected a specimen and completed a drawing of it (Figure 3-053), with an additional annotation (Bonnemains, Forsyth and Smith 1988: p. 306):

*”Ile St Pierre et St François – Toujours à terre et sous les arbustes, avec un air toujours content de lui, traînant ses ailes à terre de manière à laisser leurs traces qu'imite fort bien ce que pourraient faire les roues d'une petite voiture.”*

**This translates as:**

*“St Peter and St Francis Is, - Always on the ground and under the bushes, always looking pleased with himself, dragging his wings along the ground in such a way as to leave tracks very much like the wheels of a small carriage might make.”*

No bird specimen resembling Lesueur's field notes or drawing has been discovered during recent searches in Muséum national d'histoire naturelle, Paris or other European museums containing material from the Baudin Expedition (J.J.F.J.Jansen personal data). Likewise, an enquiry posted on the electronic Bulletin for European Avian Curators (eBEAC) dated 25 October 2015 provided no information about a missing specimen of the kind illustrated. Furthermore, in an undated catalogue of specimens and their localities prepared by Péron in the later period of the voyage (Collection Lesueur, MHNH 21002), no such bird is listed, either from St Peter Island or elsewhere. However, that document is known to be incomplete (see below).

In this review we present earlier opinions on the identity of the mystery bird and offer our own conclusion.

### Speculation based on Péron's description

Cleland (1937) appears to have been the first to write in English of the unidentified small bird seen and collected on one of the Isles of Joséphine early in 1803 by members of the Baudin Expedition. He thought that the bird might be a Grey Fantail *Rhipidura albiscapa*.

Stresemann (1951), diverted from his attempts to determine type localities for species described from among the Baudin Expedition collections, cited the original French description and believed that it applied to the Shy Heathwren "*Hylacola cauta* Gould."<sup>1</sup>

Whittell (1954) also noticed the interesting account and commented on "considerable speculation among ornithologists regarding the identity of this bird" with "suggestions rang[ing] from the Grey Fantail, *Rhipidura fuliginosa*, to the Ground Wren, *Hylacola cauta*."

Neither Cleland, Stresemann, Whittell nor any contemporaneous Australian ornithologist would have known of Lesueur's drawing of the bird in question because it remained unpublished until 1985. Furthermore, despite the record that a specimen of the bird was collected, it appears not to have been the subject of formal description.

### Opinions based on Lesueur's drawing

Bonnemains and Chappuis (1985: p 67) included Lesueur's bird among paintings and manuscripts of the Lesueur Collection contained in Muséum d'histoire naturelle, Le Havre (MHNH) but inexplicably identified the drawing as "Lalage suerii" [= *Turdus suerii* Vieillot, 1818, now White-shouldered Triller *Lalage sueurii*, which in 1985 included the Australian species, White-winged Triller *Lalage tricolor* as a subspecies]. Vieillot mistakenly assumed that the type specimen had come from Australia, but it is the other species, as shown in Figure 3-055, and must have been collected in Timor. It bears no resemblance to the St Peter Island bird.

Shortly afterwards Bonnemains, Forsyth and Smith (1988) published in English an appreciation of the Baudin Expedition, based primarily on the works of its artists that are contained in the Lesueur Collection in Le Havre. Included in their publication was a reproduction of Lesueur's pencil and wash drawing of the unidentified bird together with his annotation.

The authors had obtained opinions on the identity of the bird from Belinda Gillies, then Assistant in Ornithology at Museum Victoria, and Shane Parker, then Curator of Birds at the South Australian Museum, who appear each to have suggested that the drawing might be of a bristlebird *Dasyornis* sp.

More recently Baglione and Crémère (2009), in their biography of Lesueur, reproduced this same image and annotation, but reverted to identifying the bird as "Echenilleur de Lesueur, *Lalage suerii*".

### A composite appraisal of Péron's account and Lesueur's field notes and drawing

In the combined field notes we read of a ground dwelling bird of the understorey, the size (presumably) of an old world Muscicapid flycatcher with a diet predominantly of ants. Its tail was seen to be held elevated and spread while it trailed its wings along the ground, perhaps an elaborate example of the rodent run, a form of distraction display found among many birds and especially small Australian passerines (Rowley 1962). An uncommon but additional observation was the ruffling of its rump feathers, a feature sometimes evident as a result of the body and tail shaking that may accompany a rodent run display.

Lesueur's drawing (figure 3-054) illustrates many of the features of posture and behaviour described. It is a plump bird with a broad and graduated tail of twelve rectrices. The wings are short, barely reaching the base of the tail, with little variation in the length of primaries and secondaries, thus the typical rounded wings of a bird of limited flight. The bill is slightly decurved but large, both long and deep, the upper mandible strongly convex. It has a relatively small dark eye, apparently short legs (although it is difficult to determine what is hidden by the wings), but exceptionally large feet and toes. Distinctive scutellation of the legs and feet is shown. There are no noteworthy features of plumage such as supercilium, eye ring, wing bar or body patterning. Also depicted is what may have been designed to illustrate the ruffling of the bird's evidently rather long and loose rump feathers as it [presumably] shook, while fanning its tail.

## DISCUSSION

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It is apparent that Cleland (1937), Stresemann (1951a) and Whittell (1954) were intrigued by the description of the mystery bird. Whether the opinions offered by Gillies and Parker related only to Lesueur's annotated drawing or took account of the additional published field notes is not recorded.

In considering the identity of the mystery bird most Australian species can be readily eliminated. It is neither a grasswren *Amytornis* nor any scrubwren, fieldwren or heathwren (Acanthizidae). Apart from other considerations they are eliminated by the particularly robust bill and exceptionally powerful feet. A fantail *Rhipidura* or Australian robin or flycatcher (Petroicidae, Monarchidae) can also be set aside on many grounds including its small wings.

There are several features that are consistent with that of a bristlebird: its short wings, large graduated tail and terrestrial lifestyle, but known bristlebirds have longer legs than are evident and smaller bills. The Rufous Bristlebird *Dasyornis broadbenti* in particular also has a relatively distinctive facial pattern, while only the Eastern Bristlebird *D. brachypterus* lacks obvious patterning to its body feathers.

We rather find a resemblance between this bird and a scrub-bird, genus *Atrichornis*. Scrub-birds have short, powerful feet and toes, shorter legs and shorter plumper bodies than bristlebirds, and show subtle barring but otherwise no patterning of body feathers other than on the throats of adult males.

There are however three aspects to the record of Lesueur's bird that are not typical of a scrub-bird. On the upper mandibles of scrub-birds is a keel that rises towards the crown, giving the head a triangular profile. If Lesueur's drawing is interpreted as showing a keel it lacks nonetheless that triangularity of profile and the consequently more rounded head is more consistent with a bristlebird than a scrub-bird. On the other hand, early illustrations of scrub-birds did not always depict the keel anatomically (see watercolor of the Rufous Scrub-bird by E. E. Gostelow reproduced by Olsen 2015). The bill is larger than that of either scrub-birds or bristlebirds and might not therefore be an accurate representation. Scrub-birds' (and bristlebirds') tails are more graduated than is shown and their famously loud song was not described.

One feature of the drawing that leads to an identification of bristlebird is the pattern of scutes on the legs and feet. The relatively large and clearly defined scutes on the feet with few, elongate scutes on the tarso-metatarsi match closely with the arrangement we observed in South Australian Museum specimens of Rufous Bristlebird, and a little less closely with specimens of Eastern Bristlebird. Photographs of scrub-birds in Danks (2004) show a different pattern of smaller, more numerous and less well-defined scutes.

We find therefore that there are several features that support an identification of scrub-bird but others that allow the alternative identification of a bristlebird to be more plausible. It must be observed here that Lesueur's drawing was a sketch that may not have included some plumage features, and the shape and proportions of legs, feet, bill and tail may not be accurate. Lesueur's other illustrations vary greatly in these attributes. The scutellation of legs and feet may also not be entirely accurate, as suggested by differences between the left and right legs in the drawing. We have canvassed this puzzle among a number of ornithologists, including those with particular field or museum expertise with scrub-birds and bristlebirds. Most favoured an identification of a scrub-bird but noted inconsistencies such that a bristlebird cannot be eliminated from consideration.

Two further questions need to be addressed in considering the identity of Lesueur's bird as a scrub-bird. First, whether the feeding and other behaviour described is consistent with it and second, whether the habitat on St Peter Island at the time might have satisfied the requirements of the species.

Higgins, Peter and Steele (2001) described the food of the Noisy Scrub-bird *Atrichornis clamorosus* as mainly macroinvertebrates of the soil and litter, while Danks and Calver (1993) had found that Formicidae (ants) were taken selectively by adults, accounting for 22 of 53 prey items (41.5%).

In a display reported by Smith and Robinson (1976) a male was seen to lower the wings, fan and move the tail over and almost parallel to the back as the whole body and tail quivered rapidly. The same authors also observed a rodent-run display with body compact and low, neck and bill parallel to the ground, wings held horizontally and outer wings trailing. These



observations are remarkably similar to the drawing and brief accounts provided of the St Peter Island bird.

The food of bristlebirds is evidently less specialised than that of scrub-birds, consisting of both plant and animal material, including ants but with no especial preponderance (Higgins and Peter 2002).

Some descriptions of the behaviour of the Eastern Bristlebird suggest that its tail may be fanned and flicked but never raised more than 45° above horizontal (Higgins and Peter 2002 and references therein). Likewise, the tail of the Western Bristlebird *D. longirostris* is usually held horizontally, only occasionally erect and fanned, while that of the Rufous Bristlebird may be fanned but not generally raised above 30° (*loc. cit.*). On the other hand, Gregory (2007) reported that tail cocking is frequent among bristlebirds and shaking of the wings and body may be seen during song production but with the head raised. He showed a Rufous Bristlebird with a fully cocked tail (p. 537), as in Lesueur's drawing.

We have not found a report of the rodent run among bristlebirds. Serventy (1982) published an observation of the Rufous Bristlebird by A.J. Campbell. "One par which had a large young one running with them were quite pugnacious. The male, with spread wings and tail, approached to within three feet."

Robinson *et al.* (1996) reported severe modification to the vegetation of St Peter Island from clearance for sheep grazing over the period 1859 to 1987. The two dominant vegetation types at the time of survey were an introduced grassland and a tall shrubland (to 2 metres) of native juniper (*Boobialla*) *Myoporum insulare*. They reasoned that Coastal Mallee *Eucalyptus diversifolia* and Dryland Tea Tree *Melaleuca lanceolata* open scrubs would have provided much of the island's original cover.

Remnant Noisy Scrub-birds in southwest Western Australia occur chiefly in damp and dense vegetation, including low closed eucalypt forest of up to three metres (Smith and Robinson 1976, Johnstone and Storr 2004) but the species was previously found in drier and less closed habitats (Higgins, Peter and Steele 2001 and references therein). It is perhaps unlikely that the formerly widespread, relatively open Coastal Mallee and Dryland Tea Tree scrubs of St Peter Island would have suited a remnant population of scrub-birds. On the other hand, the structure of *Boobialla* shrubland can be dense and tangled and might more plausibly have supported the species. Such vegetation would certainly suit the Rufous Bristlebird whose subspecies *D. broadbenti broadbenti* occurs among *Boobialla* and Coastal Wattle *Acacia sophorae* in the Coorong and South-East of SA (Higgins and Peter 2002).

In reviewing this record a further essential consideration is that the reporting of Lesueur's mystery bird, whether bristlebird or scrub-bird, might have been misplaced retrospectively onto St Peter Island from King George Sound, Western Australia (WA), *Le Géographe's* next port of call after Denial Bay. While this is a pertinent question, since both the Noisy Scrub-bird and Western Bristlebird occur in the immediate vicinity, it seems an unlikely error.

First the observation's locality was provided by two corroborating sources. Lesueur's drawing was annotated with the names of the islands of St Francis and St Peter and with brief descriptive notes of the bird's behaviour, and Péron's account was placed squarely in his report of the exploration of Denial Bay. In describing the vegetation of the area Péron's opinion was uncomplimentary. "Of the countless plants of New Holland only a few species" were present and "all languish on the dry surface" (Cornell 2003). It was in this context that Péron reported collecting just one species, the "new and singular kind of flycatcher".

Second, he subsequently wrote that land birds were rare at King George Sound and that those taken there "belonged to the same species as have been mentioned successively in the course of this work" (Cornell 2003). It appears therefore that, apart from specimens of Musk Duck *Biziura lobata* (MNHN-ZO-2014-397, 398) that Lesueur took there, as recorded by Péron in his account of the voyage (Cornell 2003) but not in his catalogue (Collection Lesueur, MNHN 21002), the birds obtained during the expedition's twelve-day stay at King George Sound were not felt to have been especially noteworthy.

Had Lesueur discovered the Noisy Scrub-bird or any bristlebird there it would not have escaped the attention of Péron who provided a detailed account of the harbor's bays, streams, swamps, diverse but barren bushland and bare hills.

Many birds with populations on Eyre Peninsula are representatives of western species. Some such as the Rufous Treecreeper *Climacteris rufa* and Copperback Quailthrush *Cinlosoma clarum* are distributed continuously between Eyre Peninsula and WA. Others, including the

Western Yellow Robin *Eopsaltria griseogularis*, Blue-breasted Fairywren *Malurus pulcherrimus* and Western Grasswren *Amytornis textilis*, occur on Eyre Peninsula as isolated populations. Therefore, a scrub-bird on St Peter Island would almost certainly be a Noisy Scrub-bird *Atrichornis clamosus*, a species confined to the most humid southwest of WA and, since the 1960s, restricted to the extreme east of its range (Johnstone and Storr 2004). If the ruffled rump feathers were as long as Lesueur showed in his drawing, this might suggest phenotypic differentiation from the WA population although rump feathers of Noisy Scrub-birds in WA are certainly long and loose (Alan Danks pers. comm.). Given that the WA population occurs over 1400 km west of St Peter Island, isolation is likely to have been prolonged and subspecific differentiation is possible. On the other hand, Rufous Bristlebirds also have long and fluffy rump and flank feathers (P. Horton pers. obs.)

The alternative identification as a bristlebird requires consideration of three species although the Eastern Bristlebird of wet heaths and rainforest margins of subcoastal eastern Australia is an unlikely candidate as an outlier on western Eyre Peninsula. Its western equivalent the Western Bristlebird is considered unlikely to be the bird represented in Lesueur's drawing by those experienced with it in WA, and the larger and more robust Rufous Bristlebird appears therefore to be the most likely possibility apart from Noisy Scrub-bird. Two Rufous Bristlebird subspecies, *D. b. broadbenti* and *D. b. caryochrous* occur in subcoastal south-eastern SA and western Victoria and a third subspecies *D. b. litoralis* is extinct in south-western WA. A fourth population on a western Eyre Peninsula island would most likely represent another extinct subspecies.

Extinctions on St Peter Island include Tammar Wallabies *Macropus eugenii*, Brush-tailed Bettongs *Bettongia penicillata* and Brush-tailed Possums *Trichosurus vulpecula*. The direct effects of human activity, including sealing conducted between 1803 and 1836 or of any cat presence are not known. Goannas *Varanus* sp. were later introduced from the mainland to control snakes but foxes, rabbits and rats are not included in the island's fauna (Robinson *et al.* 1996). Habitat loss and degradation may have been the predominant cause of extinctions but other factors are not excluded.

## CONCLUSION

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The evidence presented here leads to a likely inference that, in February 1803, Baudin's artist and naturalist Charles-Alexandre Lesueur saw, described, drew and collected either a Noisy Scrub-bird or Rufous Bristlebird from a relict population on St Peter Island in Denial Bay, Eyre Peninsula. Neither species has been reported otherwise from Eyre Peninsula.

Whether that population, most likely an undescribed subspecies, was already verging on extinction at the time, it would most certainly have succumbed to the effects of European management, including sheep grazing and clearance, that followed colonisation.

Given the closer proximity of Rufous Bristlebird populations to St Peter Island, the habitat that would better suit this species, and the distinctiveness of scutellation on the legs and feet, we believe that Lesueur's record was of a Rufous Bristlebird. Confidence in the identification would be promoted if Lesueur's specimen can be found, perhaps as yet unrecognised in an incompletely documented collection, or if subfossil material of either putative species is discovered nearby.



Fig. 3-055 | WHITE-SHOULDERED TRILLER *Lalage sueurii*,  
3 April 2013, MNHN-ZO-2012-683 (Justin JFJ Jansen / © MNHN). Holotype.