

PHOTOSPOT

Jouanin's Petrel *Bulweria fallax*

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The genus *Bulweria* belongs to the family Procellariidae (petrels) in the order Procellariiformes (albatrosses, petrels, northern and southern storm-petrels). *Bulweria* comprises two species, Bulwer's Petrel *B. bulwerii* and the larger Jouanin's Petrel *B. fallax* (first described by Jouanin 1955). Both species frequent warm waters of tropical and subtropical zones. Bulwer's Petrel breeds on islands across a wide geographic range, roughly incorporating the western and central Pacific, western Indian Ocean, and the central and eastern Atlantic. The only known breeding site for Jouanin's Petrel was recently discovered on the island of Socotra, Yemen (Taleb 2002). Jouanin's Petrel is suspected to breed in the Al-Hallaniyah islands c40 km off the southeastern coast of Oman (Carboneras *et al* 2017) and evidence suggests breeding has occurred inland in southern Oman (Gallagher 1985).

Jouanin's Petrel is treated as monotypic, although a population of a Jouanin's-like *Bulweria* petrel recently documented off the Comoros may warrant its own taxon (Shirihai & Bretagnolle 2015). Bulwer's Petrel is also treated as monotypic despite its widespread range, presumed geographic isolation of several populations, and apparent structural differences, observed by RLF in the field.

Not surprisingly, the recognised confusion species for Jouanin's Petrel is Bulwer's Petrel. Although the distribution of Bulwer's Petrel in the Indian ocean is poorly known, records suggest that it could wander into the gulf of Aden and the Arabian sea regions (Flood 2016) where birders traditionally look for Jouanin's Petrel. A good grounding in the defining characteristics of Jouanin's Petrel should ensure that *Bulweria* seen well are safely identified to one or the other species (Plates 1–6, all photos taken by RP off Mirbat, southern Oman, in early March 2017).

Bulweria have long slim wings, an elongated rear body, and an all-dark plumage aspect except for pale upperwing ulnar bars. Several key features separate the two species (also see Flood 2016):

- Strength of upperwing ulnar bars—Dull on Jouanin's Petrel, strong on Bulwer's Petrel, but much affected by light and wear of feathers. The ulnar bars on Jouanin's Petrel flash brightly when catching strong sunlight, on Bulwer's Petrel they are subdued in dull light. The ulnar bars are palest on worn birds.
- Bill—The bill is deeper and the plates better developed in Jouanin's Petrel, in particular with a deep latericorn and very swollen maxillary unguis. Females have less well developed bills than males and juveniles less well developed than adults, so caution is required with a suspected less robust Jouanin's Petrel. The bill on Jouanin's Petrel is more steeply dipped (held more perpendicular to the sea) than on Bulwer's Petrel in travelling flight.
- Wings and tail—The wings are broader and the tail is shorter and less attenuated on Jouanin's Petrel.
- Flight behaviour—In both species, low wing loading and very long flexible wings give an effortless buoyant flight. The main difference is the slower, typically floppier wingbeats of Jouanin's Petrel, versus the springier, faster wingbeats and greater manoeuvrability of Bulwer's Petrel (also see Shirihai & Bretagnolle 2015).



Plate 1 (above left). Jouanin's Petrel *Bulweria fallax* upperside, off Mirbat, southern Oman (4 March 2017). The upperwing ulnar bars on Jouanin's Petrel involve mainly paler greater secondary coverts. The ulnar bars are typically dull but strong light highlights them suggesting Bulwer's Petrel. Here, the heavy bill and broad wings dispel any doubt about the bird's identification. © René Pop/The Sound Approach



Plate 2 (above right). Jouanin's Petrel *Bulweria fallax* upperside, off Mirbat, southern Oman (4 March 2017). A classic dorsal shot showing long and broad wings, relatively short and less attenuated tail (cf Bulwer's Petrel), and a large robust bill. © René Pop/The Sound Approach



Plate 3 (right). Jouanin's Petrel *Bulweria fallax*, off Mirbat, southern Oman (4 March 2017). This ventral shot reveals an elongated and relatively slim bird, from bill tip to tail tip, and long broad wings, which combined give a low wing loading and effortless buoyant flight. Also note contrast between a slate-grey head and neck with the browner body. © René Pop/The Sound Approach



Plate 4. Jouanin's Petrel *Bulweria fallax*, off Mirbat, southern Oman (1 March 2017). The spread tail reveals long blunt-ended tail feathers. Again, note the robust bill, though remember that the juvenile bill is more slender and invites confusion with Bulwer's Petrel. © René Pop/The Sound Approach



Plate 5 (left). Jouanin's Petrel *Bulweria fallax*, off Mirbat, southern Oman (4 March 2017). Jouanin's Petrels typically sit upright on the sea surface with a long head-neck-breast curving into a long body-primaries-tail that point upward at the tail end. The overall look from a distance is a 'floating black banana'. The massive bill makes the bird look ridiculous – this surely is an adult male. © René Pop/The Sound Approach

Plate 6 (right). Jouanin's Petrel *Bulweria fallax* off Mirbat, southern Oman (1 March 2017). The relatively fresh look to this bird's plumage might suggest a juvenile. However, the date at the presumed start of the breeding cycle and the fact that petrels in general do not return to the breeding grounds for several years after fledging, precludes this. Further, birds at the start of the breeding season will have finished a complete prebasic moult (moult strategy typical of other petrels) and sport fresh/freshish feathers. This individual is thus an adult or an older immature. If not convinced, then look at the large bill the size of which belongs to an adult. © René Pop/The Sound Approach

Separating Jouanin's Petrel from the Jouanin's-like *Bulweria* off the Comoros poses a far harder challenge. Based on Shirihai & Bretagnolle's (2015) observations, distinguishing features of the Comoros' petrels are smaller size and lighter build, narrower bill, and well-developed upperwing ulnar bars – silver grey or slate-blue (beware of Bulwer's Petrel). Good quality photographs would be crucial if encountering a suspected Comoros' *Bulweria*.

The genus most likely to be confused with *Bulweria* is *Pseudobulweria*. The two species of all-dark *Pseudobulweria* are rare in absolute terms and their non-breeding ranges are unknown: Mascarene Petrel *P. aterrima* (c100 pairs, maybe more, breeding confined to Reunion, southwest Indian ocean) and Fiji Petrel *P. macgillivrayi* (<50 pairs, breeding confined to Gau island, Fiji). The non-breeding range of Jouanin's Petrel is poorly known, though a steady trickle of documented records indicate that they disperse widely across the Indian and Pacific oceans: off UAE (Campbell *et al* 2017), off Kenya (Cunningham-Van Someren 1987, Parker 1992), off Maldives (Anderson & Baldock 2001), off India (Praveen *et al* 2013, Ryan *et al* 2013, Vargiyra *et al* 2017), off Sri Lanka (Kotagama 1980, van den Berg *et al* 1991), off northern Australia (Carter 2003, Ryan *et al* 2013), off Midway Atoll, Hawaiian islands (Seto *et al* 1996), off Lisianski island, Hawaiian islands (Clapp 1971) and, peculiarly, off Italy in the Mediterranean (Giol 1957, Olson 1985). The at-sea ranges of Jouanin's, Mascarene, and Fiji Petrels might overlap and it is important to know the key points by which to separate them.

Pseudobulweria petrels are similar to *Bulweria* petrels, with a large bill, proportionately long wings, and elongated rear body and tail. However, they lack the variable pale ulnar bars characteristic of *Bulweria*. *Pseudobulweria* flight is consistently strong and steady with stiff wingbeats, most like a medium/large *Pterodroma*. *Bulweria* fly low over the sea

surface, zigzag or meander, frequently change height and direction, and make short glides and arcs. Compared to *Bulweria*, the head of *Pseudobulweria* is proportionately larger, less square, without a high forehead, and the bill is heavier (*Bulweria* has a storm-petrel-like head). The *Pseudobulweria* caudal projection is 30% longer than the front-end projection, whereas in *Bulweria* it is more like double the length. The at-sea separation of this trio is discussed in further detail by Shirihai *et al* (2009, 2014).

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