

**CONSPECIFIC KILLING BY A WILLIE WAGTAIL.** From 1973 to 2000 we have made 290 visits to the Aldinga Reef Aquatic Reserve (35°16'S, 138°25'E) at Port Willunga c. 40 km S of Adelaide. On most visits and in all seasons, we recorded 1–4 Willie Wagtails *Rhipidura leucophrys* on the fringing shore or rocks near shore, often in two pairs at least 0.5 km apart. On 11 May 1997 we observed 5–7 minutes of a conflict between two Willie Wagtails in adult plumage at the back of the beach near dunes. The following details were recorded at the time:

After a number of flutterings close together, which included spiralling to as high as 2 m, the larger of the two stood on top of the other on the sand delivering a few pecks. There followed short flights near each other, and repetition of the above behaviour. At times the smaller bird lay sideways on the sand, and once or twice the larger bird lay for several to eight seconds alongside, but giving no pecks.

The interaction was not notable for pecking by the assailant but rather by the latter standing on the smaller bird. Our suspicion of aggression was clouded by their elegance and lack of furious movement.

Once aware that the interaction was serious, we ran to break up the fight from our observation distance of about 15 m, but found the

smaller bird dead, with one eye closed but no other external sign of injury—no absence of feathers on the head and no sign of blood. We do not know how long the conflict had been going on before our arrival, but it would seem that the smaller bird at times laid on the ground exhausted and that exhaustion likely caused its death. We have not previously witnessed a territorial dispute (the usual cause of conflict) between conspecific birds which ended in death.

The writers have not previously observed significant conspecific aggression by this species. For example, in 1984 we monitored as many as 17 active Willie Wagtail nests within 15 ha of the Aldinga Scrub Conservation Park (Ashton 1987) without an observation of hostile interaction. In light of that recorded above it is possible this can occur and be mistaken by the observer as 'play' or ritual.

#### REFERENCE

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**FIRST RECORD OF A SOUTH GEORGIAN DIVING-PETREL FROM SOUTH AUSTRALIA.** The nominate subspecies of the Common Diving-Petrel *Pelecanoides urinatrix* breeds on islands off Victoria, Tasmania and New Zealand (North Island and Cook Strait), with other subspecies breeding elsewhere (Bourne 1968). In South Australia it is found occasionally as a beach derelict, and there are six specimens in the collection of the South Australian Museum, from the South-East, Coorong, Adelaide region and Kangaroo Island.

The South Georgian Diving-Petrel *P. georgicus* breeds on subantarctic islands in the Atlantic, Indian and SW Pacific Oceans and Codfish Island, New Zealand (Marchant and Higgins 1990). The species is very similar to *P. urinatrix*

and therefore so difficult to identify at sea that its pelagic distribution is not well known. To date only one beach derelict specimen has been reported from Australia, at Bellambi Beach, New South Wales, 28 December 1958; the bird was a female of unspecified age (Gibson and Sefton 1959).

On 13 January 1985 P. Coulls collected a freshly dead, beach-washed diving-petrel at the mouth of the Eleanor River in Vivonne Bay, south coast of Kangaroo Island (35°58'30"S, 137°12'0"E). The specimen was forwarded to the South Australian Museum where it was identified as *P. urinatrix*. The record was reported by Coulls in the SAOA Bird Notes (SAOA 1985), and was listed as the first record of this species for Kangaroo Island by Baxter (1995). A year after its collection, the specimen was

Table 1. Measurements of specimen B39696 and comparison with measurements of *P. urinatrix* and *P. georgicus* (Marchant and Higgins 1990).

Feature	Measurement	Comment
Wing length (maximum chord)	111.0 mm	Much smaller than in all subspecies of <i>P. urinatrix</i> ; smaller than or near bottom of range of measurements for <i>P. georgicus</i> .
Tail length	36.0 mm	Much smaller than in all subspecies of <i>P. urinatrix</i> except <i>P. u. exsul</i> (at bottom of range); smaller than or mid-range for <i>P. georgicus</i> .
Bill length	15.7 mm	Much smaller than in <i>P. u. urinatrix</i> from New Zealand, at bottom of range for <i>P. u. urinatrix</i> from SE Australia and for <i>P. u. exsul</i> , and near top of range for <i>P. u. chathamensis</i> ; near top of range for <i>P. georgicus</i> .
Bill width	8.3 mm	Mid-range for or greater than in <i>P. u. exsul</i> , and greater than in <i>P. u. urinatrix</i> and <i>P. u. chathamensis</i> ; near bottom of range for <i>P. georgicus</i> (data for skins of females from South Georgia, from Murphy and Harper 1921).
Tarsus length	23.9 mm	Much smaller than <i>P. u. urinatrix</i> and <i>P. u. exsul</i> (no measurements given for female <i>P. u. chathamensis</i> ; mid-range for <i>P. georgicus</i> ).
Middle toe and claw length	28.1 mm	Middle toe much smaller than in all subspecies of <i>P. urinatrix</i> ; near bottom of range for or smaller than in <i>P. georgicus</i> .

prepared as a study skin with the trunk preserved in spirit, registration number B39696, and at that time it weighed 72 g. The specimen was an adult female with a convoluted oviduct; the largest oocyte was about 1.5 mm in diameter.

In July 1996 K. Bartram visited the South Australian Museum and on looking through the collection of *P. urinatrix* suspected that B39696 was a mis-identified *P. georgicus*. On taking the specimen to the Museum of Victoria he confirmed its identity as *P. georgicus*.

Specimen B39696 is significantly smaller than *P. urinatrix* and is identifiable as *Pelecanoides georgicus* on the basis of measurements listed in Table 1. Marchant and Higgins (1990) give ranges of measurements of skins of females for all subspecies of *P. urinatrix* within the Australia–New Zealand–Antarctic region and for populations of *P. georgicus* from Heard Island and Iles Kerguelen, and the measurements of B39696 are compared with these in Table 1.

The only measurement for which B39696 is larger than the average *P. urinatrix* is bill width. Comparing the two species, bill width is about

the same or averages larger in *P. georgicus* (Payne and Prince 1979; Marchant and Higgins 1990), consistent with the different shape of the bill which in *P. georgicus* is proportionately wider at the base and tapers more sharply towards the tip (see also 'Rami of lower mandible' below). Other features of specimen B39696 include:

**Nostrils:** the paraseptal processes of B39696 are near the middle of the nostrils, as opposed to being near the proximal end in *P. urinatrix*, and the nostril openings are shorter.

**Rami of lower mandible:** curve gently towards the bill tip so that the mandibular arch is fairly pointed, unlike *P. urinatrix* in which the rami are parallel for the most of their length, then curve inwards abruptly near the bill tip, giving a more rounded mandibular arch.

**Primaries:** inner edges whitish, unlike *P. urinatrix* in which the primaries are uniformly grey-brown.

**Underwing coverts:** white, except for dark grey marginal coverts. In *P. urinatrix* with the palest underwings at least the greater coverts

and some lesser coverts are grey, but more often in this species the underwing coverts are heavily streaked grey throughout.

**Scapulars:** predominantly white or whitish, with pale grey subterminal band, as opposed to predominantly dark grey with narrow white tip as in *P. urinatrix*.

**Tarsus:** in *P. georgicus* the tarsus is blue with a black line along the hind edge. In *P. urinatrix* the tarsus is usually blue, although sometimes with a black patch above the hind toe. A few individuals of *P. urinatrix* have been noted with a grey-black hind edge to the tarsus (Marchant and Higgins 1990), and one of us (K.B., with R. O'Brien) found a beach-washed specimen (at Thirteenth Beach near Barwon Heads, Victoria, 12 November 1999) with a complete black stripe along the hind edge; in all other respects it was a typical *P. urinatrix*. Unfortunately the tarsus colour was not noted in the freshly dead or frozen specimen B39696, but the tarsus has dried with the dull black hind edge clearly demarcated from the pale front edge. (In skins of *P. urinatrix* the tarsi have dried variably from mostly pale to mostly dull black, but if there is a significant amount of black on the hind edge it is not as clearly demarcated from the pale front.)

Specimen B39696 was an adult female that had previously bred, as evidenced by the convoluted oviduct, but it died in January during the species' breeding season (on South Georgia and Isles Crozet eggs hatch during January; Marchant and Higgins 1990). It is interesting that the only other Australian record of the species was also in summer; possibly both were the result of severe navigational errors while the birds were searching for their breeding grounds. According to reports published in *The Advertiser*, the weather had been mostly fine and mild to hot with moderate winds in the few days before B39696 was collected. But on 5 January 1985 there had been strong to gale force southerly winds with moderate to rough seas along southern coasts of South Australia; this may have contribut-

ed to the northerly location of the bird. Although this bird's recorded weight of 72 g is artificially low because of dehydration after a year in the freezer, the bird was emaciated and when collected would still have weighed significantly less than breeding adults, which weigh about 120 g (Marchant and Higgins 1990). This suggests that starvation was likely as the final cause of death.

This is the first record of *Pelecanoides georgicus* for South Australia and only the second for Australia. *P. urinatrix* has since been recorded from Kangaroo Island (fresh, beach-washed specimen collected P. Seager, Seal Bay, 9 October 1990, B46483).

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