

LITTLE PIED CORMORANTS
Phalacrocorax melanoleucos BREEDING
ON THE RIVER TORRENS, ST PETERS.

Little Pied Cormorants range over most of South Australia, are a common breeding resident of the southern parts of the state and frequent a large range of coastal and freshwater habitats (Parker *et al.* 1979). They have been recorded breeding in mangroves, tea-tree *Melaleuca* spp. and river red gums *Eucalyptus camaldulensis* and on rocky islands. The birds breed from early September to early January in inland areas and from January to May in coastal waters (Parker *et al.* 1979). They breed mostly in colonies ranging from less than five to 1000+ nests, although there are records of solitary nesting (Marchant and Higgins 1990).

In early November 2002 a single nest (Nest 1) of this species was noted in a river red gum along the River Torrens just upstream of the swing bridge linking St Peters and Gilberton (about 2 km NE of the CBD of Adelaide). By 23 November three juvenile birds could be seen in the nest, which was 3 m above the water level, in a 12 m tall tree growing on the edge of the river. In early January 2003 three more nests (Nests 2–4) were observed about 300 m downstream of Nest 1

and on 17 January regular weekly observations of Nests 2–4 began, until the last young had fledged in mid-February. Prevailing weather conditions over this period were hot to very hot, with several days of 40°C or more in late January–early February.

Of Nests 2–4, one was built in a fork of a river red gum, and the other two on horizontal or near horizontal branches in a South Australian blue gum *Eucalyptus leucoxylon*. Both trees were part of a group planted when the River Torrens Linear Park was constructed in the mid-1980s and the nests were about 8–10 m above the river level. These three nests were untidy bulky structures of sticks and branches with leaves still attached and spaced about 3–4 m apart. There was considerable whitewash on the common reed *Phragmites australis* beds below the nests.

On 17 January adult Little Pied Cormorants were sitting on Nests 2–3, while three juvenile birds were sitting near Nest 4. In addition there were two or three adult Little Pied and six Little Black Cormorants *P. sulcirostris* sitting in this group of trees. One week later the three juvenile birds were still in the trees and Nest 3 contained very young chicks. By 1 February Nest 3 had two

large chicks and Nest 2 at least one small chick, while an adult was sitting tightly on Nest 4, presumably re-nesting. Eight days later, three half-sized chicks could be seen in Nest 2, two large chicks were in Nest 3 and at least two small chicks were in Nest 4. On 17 February, Nest 3 was empty, Nest 2 still contained three big chicks and Nest 4 contained four chicks that were about 75% of the size of the adult birds. Birds were last observed in any of the nests on 22 February when Nest 4 contained four almost full-sized chicks and Nests 2–3 were empty.

In summary over the period of the January–February 2003 observations, Nest 2 produced three chicks, Nest 3 produced two chicks and Nest 4 produced four chicks. An additional three juveniles fledged before nests were assigned a number, but probably came from Nest 4, so in all 12 young were produced (with an another three from the November Nest 1). The three chicks in Nest 2 on 9 February were about half the size of the adults and were black all over, except for a pinky-yellow face. They were covered in down but pin and unsheathing pin feathers could be seen in their wings. On the same day, the two older young in Nest 3 were similarly coloured except for some white streaking on their chests. Chicks were seen to play with sticks in the nest and on a mild day of about 22°C at 1720 h the chicks' gular pouches were flapping.

When the young birds fledged they seemed to sit close to the nests for a time and could be differentiated from adults, as the black on their caps extended below the eye. Their white plumages also appeared whiter than the adults', which may result from the adults feeding in the murky River Torrens water. On one occasion, two juveniles sitting near the nests were actively preening and playing with each other's bill, as well as vocalizing. Adult birds fed chicks in the nest as well as fledged juveniles and it seems that feeding of juveniles may occur for some time after birds leave the nest. On 9 February, when Nests 2–4 still contained chicks, an adult fed one of two juveniles in the tree upstream of the swing bridge—the site of the November nest (Nest 1). These juveniles were most likely to be those birds sitting near Nests 2–4 on 17 January, so they had fledged at least three weeks previously. They could also have come from Nest 1, in which case they would have been out of the nest about eight

to nine weeks. According to Marchant and Higgins (1990), contact between adults and fledged young is lost a few weeks after fledging.

In over twenty years observing along the River Torrens in the Gilberton area, small numbers of Little Pied Cormorants (usually two or three birds) have been recorded regularly and sometimes larger numbers of Little Black Cormorants (up to 40 birds, but more generally about 10 birds). However, breeding by Little Pied Cormorants and Little Black Cormorants has not been recorded along the River Torrens (e.g. Whatmough 1978; Parker *et al.* 1979; Paton and Pedler 1999; R. Whatmough, pers. comm.). As the River Torrens locality would be considered an inland location, the January–February breeding in 2003 is slightly later than the breeding season given for such locations in Parker *et al.* (1979). The other new information gained from these observations is that re-use of nests is likely to have occurred, as juvenile birds were observed near Nest 4 on 17 January and were probably from this nest, and by 1 February an adult bird was sitting on this nest, which later produced four young. Marchant and Higgins (1990) state that there is no information on replacement laying or second clutches.

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