

Nest No.	Site	Height	Date	Remarks
8	?		Aug. 17	Found nest. No records kept.
9	Christmas tree	?	Aug. 18	Found nest in same tree as nest 5, which had disappeared—probably used in making this nest.
			Oct. 7	Bird sitting on three eggs.
			17	Bird sitting.
			20	Two young and one egg.
			29	One egg, two young—colours like adult : down on breast.
			Nov. 5	Birds flew when disturbed. One egg unhatched.
10	Prickly-leaved Banksia	15 feet	Sep. 24	Nest found in inaccessible position.
11	Narrow-leaved Banksia—up-right fork	8 feet	Oct. 1	Found nest containing three eggs.
			4 & 7	Eggs.
			11	Two young and one egg.
			14	Two young and one egg.
			23	Two young flew when disturbed. One egg still unhatched.
12	Narrow-leaved Banksia—vertical fork	20 feet	Oct. 2	Nest found.
			19	One young being fed near nest.
13	Narrow-leaved Banksia—three-pronged vertical fork	25–30 feet	Oct. 7	Discovered nest containing young. (A few days later I noticed two young being fed. These were later brought near to the house and learned to feed from my hand.)
14	Prickly-leaved Banksia	15 feet	Oct. 1	Nest discovered.
			14	Bird sitting.
			26	Young in nest.
			Nov. 5	Young in nest.
			9	Nest empty.

A Note on Louse-flies.—Some years ago our fellow-member, Michael Sharland, photographed a White-backed Swallow (*Cheramœca leucosterna*) at its nesting tunnel in a sand-pit at Menangle Park, near Sydney. In two of the resultant photographs a fly was clearly outlined against the white feathers on the back of the bird : from its flattened shape the insect appeared to be a louse-fly. Shortly afterwards I wrote to Mr. E. O. Edwards, on whose property the birds were nesting, suggesting that if some of the birds were caught and examined it might be possible to secure examples of the fly. Subsequent happenings are revealed in a letter from Mr. Edwards—

I have four louse-flies from the White-backed Swallows. We collected them from five birds 'midst great excitement this evening.

Believe me they are active brutes. The nest Sharland photographed had mostly fallen in, due to rain, so I decided to try my luck at one of the three other nests in the sand-pit. I had hardly got the net in place when five birds tumbled into it (two adults and three children). Being dark we brought them home. Honour goes to my wife who unearthed the lot (three on one bird and one on another). They were located on the back of the neck towards the shoulder in each case, and were extremely active and difficult to catch. The birds were duly returned to their burrow, and, I hope, are none the worse for their adventure (*in litt.*, 3/12/40).

The specimens were sent to the Australian Museum and were found to be louse-flies.

Louse-flies (Family Hippoboscidae) have a world-wide distribution. They are external blood-sucking parasites on birds and animals and may sometimes occur in such numbers on an individual bird as to weaken it seriously, or even to cause its death. In habits and structure they are highly specialized, having rather flat, leathery bodies, and feet with well-developed claws, enabling them to cling to the fur or feathers of their hosts. Some forms are wingless; others can fly quite well. Certain species appear to be confined to a specific host; others may 'parasitize' several host species.

Instead of laying eggs like the majority of the Diptera, the female produces, at each birth, a single full-grown larva, or grub, nourished within her body and which pupates immediately after extrusion.

The habits of a number of species occurring in the northern hemisphere have been studied in some detail, particularly so in the case of the grouse-fly (*Ornithomyia lagopodis*). In Australia little work has been carried out on the group though it may be mentioned that louse-flies have been collected from such birds as the Owllet-Nightjar, Tawny Frogmouth, Galah, Jackass, Fairy Martin, Emu-Wren, and some hawks and owls. An early account of louse-flies is given by Gilbert White in a letter to the Hon. Daines Barrington (letter no. 53, Selborne, July 8, 1773). Interesting notes on the group will be found in the following contributions—

1932—Austen, E. E., 'Some Curious Bird Parasites,' *Natural History Magazine* (London), vol. 3, no. 23, July, pp. 209-214.

1933—Besselberger, H., in Stresemann, E., *Handbuch der Zoologie* (Aves), pp. 720-1.

1939—Reichert, Alexander, 'Lausfliegen,' *Natur und Volk*, February, pp. 82-6, figs. 1-12.

1942—McKeown, Keith C., *Australian Insects* (1st edn.), p. 237.—K. A. HINDWOOD, Sydney, N.S.W., 7/7/47.



White-backed Swallow, showing louse-fly on its back.

Photo. by Michael Shariand.