

The Migration of Swallows in South Australia.

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Four swallows inhabit South Australia. They are the Welcome Swallow (*Hirundo neoxena*), the Tree Swallow (*Hylodichelidon nigricans caleyi*), the Fairy Martin or Bottle Swallow (*Lagenoplastes ariel*), and the White-breasted Swallow (*Cheramaea leucosternon stonei*). None is confined to South Australia; the first three have been recorded from every part of the Australian Commonwealth, the fourth from every State except Tasmania, which it does not visit.

Authorities differ considerably in their opinions as to the migratory habits of these birds on the Australian Continent. As regards Tasmania, all are agreed that they are purely migratory, leaving in the winter, and returning next summer to nest. The fairy martin is probably only an occasional visitor, since Littler (*Birds of Tasmania*) has not seen it.

Gould (*Handbook of the Birds of Australia*) says of the welcome swallow:—"The arrival of this bird in the southern portions of Australia is hailed as a welcome indication of the approach of spring, and is associated with precisely the same ideas as those popularly entertained respecting our own pretty swallow in Europe. The two species are, in fact, beautiful representatives of each other, and assimilate . . . in their migratory movements." Quoting Caley, he says further, "the earliest period of the year that I noticed the appearance of swallows was July 12th, 1803, when I saw two . . . The latest period I observed them was 30th May, 1806, when a number of them were flying high in the air." Gould also says, "a few stragglers remain in New South Wales during the winter, but their numbers cannot for a moment be compared with those observed in the summer."

Of the tree swallow he says, "It is a very common summer visitant to the southern portion of Australia and Tasmania, arriving in August, and retiring northward as winter approaches.

Of the fairy martin that "It is dispersed over all the southern portions of Australia, and like every other member of the genus, it is strictly migratory."

Of the white-breasted swallow, "It is a very wandering species, never very numerous."

North (Nests and Eggs of Birds found breeding in Australia and Tasmania) says of the welcome swallow, "After the breeding season to a large extent it forsakes the streets of Sydney during the day, congregating in large flocks about Hyde and Cook's Parks and the Sydney Domain. These flocks may be seen, more particularly during dull weather, from February to July, in some seasons returning to the city about dusk, and perching for the night in a sheltered situation on some large building." He says further, "At one time I regarded these flocks as pre-migration meetings, but for many years past I have noticed the birds remain here in flocks throughout the winter, and then associate in pairs as the spring ensues." In the same work Dr. W. McGillivray says that they are present throughout the year at Broken Hill.

Mr. T. Parish says that is a stationary species at Cobbara, N.S.W., and the late Mr. K. H. Bennett says it is stationary at Moolah, in Central N.S.W.

North (*op. cit.*) says of the tree swallow that "it is freely distributed from the end of March or April, but in mild winters stragglers can be obtained throughout the year."

Mr. Thos. P. Austin (*op. cit.*) says, "*P. nigricans* is very plentiful about this district during the latter part of the year, and usually departs again about the end of January."

Dr. W. McGillivray (*op. cit.*), of Broken Hill, says, "*P. nigricans* is a very common bird in the spring. . . . It arrives early in the spring or late winter, August being the usual month . . . a few birds remain throughout the winter, but most leave here late in April or early in May."

Mr. J. W. Mellor, of Fulham, S.A., says, "*P. nigricans* is migratory, but owing to putting up a number of nesting places many remain with us all the year round. Generally large flocks congregate, and are often seen on the ground just prior to leaving in the late autumn months, and they return in large numbers about the end of July."

Of the fairy martin North says, "In the neighbourhood of Ashfield, five miles W. of Sydney, it usually arrives early in August, and departs again about the end of April. It is not, however, a strictly migratory species, for in very mild winters it remains throughout the year."

Hall (Insectivorous Birds of Victoria), says of the welcome swallow, "This beautiful creature of the air was quite content, on account of the mild season of 1896, to remain in Victoria." Of the fairy martin he says, "This fairy-like swallow arrives in Victoria towards the end of August, and leaves again after the summer. If the winter is mild many flocks will stay throughout the year." Of the tree swallow he says, "*P. nigricans*, as well as I know, stays for the winter, and breeds in the holes of trees," but in the next sentence he says, "In a way it is a migratory bird, leaving after February, and returning in August and September."

Campbell (Nests and Eggs of Australian Birds) says of the welcome swallow, "At such times (the breeding season) the birds are more numerous in the southern parts of Australia and Tasmania, moving, of course, to more northern climes on the approach of winter. At Cardwell, which is well within the tropics, Mr. K. Broadbent states it is a stationary species, but their numbers must be considerably augmented by southern birds . . . However, in many southern parts they do not always retire northwards, individuals and small families remaining in their breeding places during winter." He gives instances of such. Of the tree swallow he says, "It is a common visitor in summer to the southern parts of Australia and Tasmania." Of the fairy martin he says, "It is more strictly migratory than the two other swallows above mentioned, for after February or March the birds are rarely seen except in the northern parts of the Continent." Of the black-and-white swallow he says, "This is a stationary species."

Belcher (Birds of Geelong) says of the welcome swallow, "The name welcome rather suggests return after a migration, but the result of my observations goes to show that the swallows never leave us at all, and are just as plentiful at one time of the year as another." Of the tree swallow he says, "It is of that class which I have 'infra Australian migrants.' . . . My earliest note of their arrival is of a flock of a dozen or two . . . on September 8th, 1912." Of the fairy martin he says, "Odd birds may be seen in any

month of the year, but the majority are true 'infra Australian migrants,' coming to us to breed in September, and retiring to more northern parts of the country (just how far north they go is not known) about April."

Leach (*An Australian Bird Book*), treating the swallows as a group, says, "Migration is not complete," and "that in 1910 (on account of the mild winter) there was probably little migration."

Mr. F. L. Berney (*Emu*, Vol. IV., p. 45) records the welcome swallow from Richmond, Flinders River, North Queensland, as a winter visitor, but says he has records from October to March. This may be meant for from March to October. He says the black-and-white swallow is present at almost any time; it is irregular and uncertain, and does not nest there. He says there are two lots of the fairy martin, a summer and winter lot. The summer residents go north in winter, and their place is taken by visitors from the south. Both lots nest from December to February, and July to August.

Mr. Mattingly (*Emu*, Vol. VI., p. 130) records a pair of birds remaining in the same situation throughout the year for twelve years, in North Melbourne.

Mr. C. A. Barnard (*Emu*, Vol. IX., p. 92) records fairy martins building at Coomoboolaroo, Queensland, in May, then leaving off on account of cold weather, returning to occupy them in August.

Dr. McGillivray records all four species from the gulf country of North Queensland; the black-and-white in March and June, the others without dates.

The results of my own observations for South Australia are that the welcome swallow is less numerous about Adelaide in the winter. They certainly do not all leave, nor by any means all, for birds are quite commonly seen in all months of the year. With the exception of the black-and-white swallow they are, locally, the least numerous of the family. They breed in separate pairs, and leave their nesting places as soon as the last brood is reared, all circumstances which would lead one to believe that they have migrated or partly migrated. I have never seen them gather in flocks, as recorded by Mr. North for New South Wales, though in the autumn months one may sometimes see as many as 20 or 30 skimming the water in search of insects. Not only do a considerable number of birds remain with us throughout the

winter, but they even breed at that season. . Mr. Justice Murray found young birds in a nest in his stable at Magill in June, and I saw birds building a nest under a verandah in King William Street South on 1st April, 1911. These birds remained about the spot, but did not finish the nest until September. In 1910 the same pair of birds built in the middle of July. Capt. S. A. White has twice recorded them building about the end of July at Fulham. I should say, without looking up records, that July is our coldest month, and if the birds can maintain themselves and feed young in that month they would have no difficulty in staying the whole winter. I remember having seen, many years ago, numbers of swallows roosting in the reeds on Lake Alexandrina, but could not remember the time of year or the species, so Capt. White, at my request, wrote to Mr. F. G. Ayers, of Narrung. He replied as follows, "Referring to your enquiries about swallows. I do not remember ever seeing tree swallows roosting in the reeds. The ordinary swallows almost invariably roost on the drooping reeds on the lee side of the reed bunches, and in the winter months, after a frosty night, I have often seen up to eight and ten dead swallows on the water beneath their roosting places. This often occurs when food is scarce, *i.e.*, when the Lakes are salt and few aquatic insects are about." Which goes to show that there, at any rate, swallows remain throughout the winter in considerable numbers. I am convinced that the tree swallow does not leave the plains at any time of the year. A small colony of eight birds nest under the roof of my neighbour's house, the common hole of entrance being opposite my dressing room window, so that I have the opportunity of observing them every morning. During the last three winters these birds have remained in the neighbourhood, and used the nesting place for roosting, though they do not begin to carry nesting material until the middle of July. I was formerly of opinion that these birds migrated from the fact of their gathering in large flocks upon the ground during February and March. One such gathering place used to be on the North Park Lands, where the Corporation nursery now is. I observed this flock for three years in succession, and found that they did not leave in a body, but that the flocks dwindled away gradually till about the end of March, when none were left. They begin to gather about the end of January, quickly increasing in numbers, until the end of February, and then, as above. . Since the Nursery and University Oval have been established they no longer gather there, but on any day of the year numbers may be seen in the

air or skimming the water of the Torrens' Lake or the ponds in the Botanic Gardens. These swallows breed in companies when the circumstances are favourable, such as a large gum tree with many small hollows, a house with convenient holes under the eaves, or where nesting places have been provided for them, as at "Holmfirth," the residence of Mrs. Mellor. For the most part these companies split up after the nesting season, re-unite in larger groups, and leave the immediate locality, which circumstance has given rise to the common belief that they are migrating. The fairy martin, in my experience, is a purely migratory bird in the southern parts of South Australia. They arrive in September, the earliest date I have record of is September 13th, 1914, when numbers of them were busy building new nests and repairing old ones. They had not returned on September 5th, 1915. I have no exact record as to when they leave, but have never seen a bird after the 1st April. I do not know of any breeding place on the plains at the present time, though they are said to have nested near Morphettville in days gone by, but they breed in numbers in many of the gullies of the Mount Lofty Range, wherever they can get water and suitable nesting sites. At Laura they were purely migratory. However, they did not visit that town every year, but at Wirrabara, 11 miles north of Laura, they were regular visitors, and were there purely migratory. Indeed, I think they would perish if they remained through an average winter, for the late Mr. Malcolm Murray informed me that he found dozens dead in their nests, where they seem to have crowded for warmth, after a late frost at the end of September in, I think, 1894. In the Gawler Ranges in August, 1902, though there were plenty of old nests, not a single bird was seen from Yardea to Port Augusta, though I saw them near Mount Gunson on August 6, 1900, flying over a waterhole, but they had not yet started nesting.

The white-breasted swallow is at any time an uncommon bird in the Adelaide district, so it is difficult to say whether they are here migratory or not. I have never seen a bird in this locality earlier than September or later than April. At Laura, 140 miles north of Adelaide, they were purely migrating, coming to breed in September and leaving in March. At Port Augusta, about 60 miles further north, they are a resident throughout the year. Laura is 700 feet above sea level, and has a very cold winter. Port Augusta is not so cold. They were also said to be resident at Mount Gunson, but I have no accurate winter observations for there.