trampled reeds and scattered feathers testified. Her assailant must have been a cat or dog, but then a cat could hardly have got out in the water. The breast and neck of the dead bird were torn and gnawed, but her would-be eater had evidently been disturbed. The Duck was in splendid condition, linings of fat showing on her mangled frame. Quite safe in the nest were two eggs, cold, so the bird must have been dead some hours. eggs were quite fresh. The same date another nest containing three eggs was discovered. Of these it was interesting to note that two eggs were partly incubated; the third had the vein system just showing. This latter was the smallest of the three and an ordinary typed egg. The others were whiter, with a calcareous formation at smaller end. One naturally wonders if the fresher egg were an intrusive one. The next find was another nest of same species. It was interesting, owing to the fact that it contained four eggs. When lifting these out for examination one was noticed to be smelling so badly, though no crack was apparent, that it was set aside for inspection when away from the nest. The other eggs were apparently quite fresh, good examples of their kind, except that one was a trifle smaller than usual. When the fourth egg was opened it was found to contain a Duckling clothed in black down and with tiny black feet. Decomposition had set in. I suppose in this instance the Musk-Duck had repaired an old nest and laid her three eggs over the one. Later on, on the 22nd of November, two more nests were found, each containing two eggs; also a nest from which young had gone. All nests were in deep water, and were built in the tall reeds. The second nest with two eggs was cunningly hidden, with entrance hardly visible. Strange to say, on top of it a pair of Harriers (Circus gouldi) had a nest partly built. I wonder how the two would have lived together if the Duck had not finished incubation when the Hawk commenced to sit! Close by was the Harriers' nest of last year. I should have very much liked to watch these strange neighbours, but was unable to do so. Lagoon observations are very difficult; standing in the icy cold water with leeches as companions is certainly not very enjoyable. Most of my observations were made between 4 and 7 a.m., and as I always found the eggs of the Musk-Ducks well covered up, I suppose this early hour was the feeding time of the birds.

Stray Feathers.

STORM-PETRELS.—As an illustration of the manner in which errors in natural history are disseminated by popular writers, I may refer to a statement in "Creatures of the Sea," by Frank T. Bullen (1905). In his chapter on Petrels he describes Storm-Petrels (Mother Carey's Chickens) as never seeming to rest upon

the sea surface either by day or by night. When I was leading a seafaring life it was my experience that these birds did not follow a ship at night, but made their appearance an hour or two after dawn. I remember on one occasion, when our ship was tearing before a howling gale, we passed a little colony of Storm-Petrels floating on an oasis of oil, unbroken by a ripple, while all around were raging "white-caps." When I called the attention of an old sailor to this, he said he had several times seen them taking their ease in a similar manner, and he added that before arising on the wing again the birds would have drunk up all the oil.—Geo. Graham. Scott's Creek (Vic.)

GLADSTONE (Q.) NOTES.—I found a double set (four eggs) in the nest of the Brown Flycatcher (Micræca fascinans). The nest was built in a sapling at the height of about '12 feet. One bird was on the nest and another on the edge close to it. When the lad who was with me climbed the tree, two more birds (apparently males) came flying up and joined in the chorus of protest during inspection of the eggs. Two of these were of the usual steely-grey colour, but the other pair was more beautiful, being bluish-grey with a clearly-defined band of dark spots round the larger end.

Blood Honey-eaters (Myzomela sanguineolenta) were very numerous this year. They showed a partiality for clumps of scrub, patches of brigalow chiefly, dotted about the open country, and did not seem to care for the larger scrubs. I have never observed them here before, so their visit was a pleasant surprise. Two nests with eggs were seen, both in brigalows.

A pair of Brown Hawks (*Hieracidea orientalis*) nested this year in what appeared to me to be an unusual place—a huge clump of orchids growing on the trunk of an ironbark. The leaves of the plant at the top were tramped flat to make the nest, with a thick fringe left round the sides that effectually screened the sitting bird.—ERNEST D. BARNARD. Kurrajong, 4/12/08.

MOVEMENTS OF WOOD-SWALLOWS.—I quote a note taken at the time of observation last summer:—"What would seem to be a strange systematic trait of periodical changing of localities has taken place among the Wood-Swallows here. Last year these birds were represented by practically only one species—viz., the Wood-Swallow (Artamus sordidus). This season things have changed. Owing to the drought up north, the White-browed (A. superciliosus) and rarer Masked (A. personatus) species are here in considerable numbers, whilst a Wood-Swallow

(A. sordidus) is a comparative rarity. In October-November of this year I found White-brows and their nests (but no Masked)

in two or three distinct areas. Now (December-January) the White-brows have almost totally disappeared from these areas, and in their place the Masked species has proportionately increased. Query—Should this be regarded as an accidental happening, or an habitual trait? I think the former theory more probable among migratory birds such as these." After the sudden influx of Wood-Swallows detailed above, the birds have disappeared as suddenly as they came, and there are now but few of either species to be noted hereabouts, therefore if the strange locality-changing noted last summer were again going on it would hardly be noticeable. I have watched closely for any indication of the occurrence, but, seeing none, am convinced that the happening was accidental or capricious.—A. H. CHISHOLM. Maryborough (Vic.), 16/1/09.

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BRONZE-CUCKOOS AT DEVONPORT (TAS.)—This morning early, when out walking near the beach, I had the pleasure of seeing two young Bronze-Cuckoos (Chalcococcyx basalis, Hors.) getting their breakfast by the roadside; things were quiet, hardly anyone was about, and the number of caterpillars they extracted from among the coarse herbage was surprising. They were very tame, and allowed me to get so close that I could have touched one with my stick; it merely looked up at me with an expression of curiosity in its bright eye. The upper plumage was of a soft brown colour, slightly tinged with green, the latter tint being barely noticeable; under surface light grey, with just a faint indication of bars on the abdomen. A whitish curved mark extended from over the eye backwards and downwards towards The bright rufous tint on basal two-thirds of tail was very conspicuous when the bird opened its wings for flight, as were the dark and white bars on the outer tail feathers. note of these young specimens was a sort of "Cheep-cheepcheep," very different from the loud, penetrating call of the adult.

The Bronze-Cuckoo is rare about Devonport; I only remember seeing one previously in the district, although the Pallid (Cuculus pallidus) and Fan-tailed (Cacomantis flabelliformis) species are plentiful enough. As Gould surmised, this species (basalis) is the one of its genus which usually visits this island, but it prefers the country around Launceston to the coast.—H. STUART DOVE. West Devonport (Tas.), 1/3/09.

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DOTTRELS' NESTING PLACES.—The Black-fronted Dottrel (Ægialitis melanops) seldom nests away from the margins of rivers, billabongs, or waterholes, but a further instance to that related in *The Emu*, vol. vii., p. 157, has come under my notice

this season. One morning early this month, while crossing a bare gravelly hill close to the streets of Stawell, my attention was directed to the antics of a little Dottrel, which hobbled along in front, trailing an apparently broken wing. Watching it awhile from a distance, I found it made several runs towards a certain spot and away again. At this spot I discovered its nest, containing two young not long hatched and one egg. site of this nest was in a most daring position. The hill was one of those shaft-riddled ridges of silurian shale so characteristic of the gold-mining areas of Victoria, being practically in the town and almost bare of vegetable growth of any kind, from the trafficking of boys, dogs, goats, and cows. The spot was not 200 yards from a main thoroughfare, but at least a quarter of a mile from the nearest water, which was a hillside dam. A photograph shows the site of the nest, among hard quartz gravel and shaley rock,, with nestlings and egg resting upon a little platform of smaller particles, mostly ironstone pebbles, apparently carried together by the parent birds, thus raising the nest an inch above the immediate surface of the ground. nestlings were very quiet, and showed no inclination to run The under surface was conspicuously white, but was not seen as they crouched in the nest. The upper surface was a protective grey dappled with black, a white collar on the nape of the neck being distinctly seen in the picture.—A. G. CAMPBELL. Pomonal, January, 1909.

WATERFOWL AND WEATHER.—A very interesting example of bad-weather prediction by wildfowl came under my notice while residing at Essendon, Victoria. There is a fine lake in that district which is frequented by Swans and Ducks, and one afternoon a friend and myself were astonished at the eccentric evolutions indulged in by the former. The Black Swans were turning somersaults in the water, lying on their backs with the head, neck, and upper part of body completely immersed, kicking both feet in the air, then righting themselves, only to repeat the performance; this they kept up for about an hour; while the Black Duck were chasing each other on the wing round the lake. My friend, who owns land in various parts of Victoria and is naturally a keen observer, remarked to me-"We shall have bad weather before long." Next morning came a fierce wind from the north-west, accompanied by a terrific dust storm, which enveloped the country as in a thick fog, and, penetrating the houses, lay thickly upon furniture, books, and So strong were the squalls that a whole camp was overturned on the shores of Hobson's Bay. Shortly before noon the wind changed to south-west, the air became cool, and the dust settled down; then rain began, and lasted until early evening. Four days afterwards the Black Swans were again

indulging in their eccentric gambols, the day being agreeable, with a light south-westerly breeze. The same evening, however, the wind blew strongly in cold squalls, and next morning there was a high southerly wind, accompanied by a shower. morning after there was an extremely high, cold wind, with heavy showers, and the night was cold enough for winter, although the season was midsummer. Thus on both occasions was the prediction of the waterfowl amply fulfilled, although at the time they were exhibiting these queer gymnastics the weather was beautifully fine, there being nothing to indicate to the ordinary mortal that a severe change was shortly to take place.—H. STUART DOVE. West Devonport (Tas.), 23/2/09.

MIGRATORY NOTES FROM CLEVELAND, TASMANIA, 1908.— On the 20th February noticed a flock of seven Spine-tailed Swifts (Chætura caudacuta) flying across and travelling northeast. Cold, snowy-feeling winds prevailed during several days of April, so our migratory birds disappeared rather suddenly.

12th June. — A pair of Swallows (Hirundo neoxena) seen bathing in waterhole. These Swallows, I believe, have spent

the winter here, their chief haunt being some old stables.

16th August.—Fall of snow.

22nd August.—Many Swallows about.

29th August.—Tree-Martins (Petrochelidon nigricans) have returned.

and September.—Heard Pallid Cuckoo (Cuculus pallidus) for first time. Swallows nesting.

10th September. — Small-billed Cuckoo-Shrike (Graucalus parvirostris) back to this district.

17th September.—Wood-Swallows (Artamus sordidus) seen for first time.

20th September.—Heard and saw Fan-tailed Cuckoo (Cacomantis flabelliformis), also Bronze-Cuckoo (Chalcococcyx plagosus). 23rd September. — The White-fronted Chat (Ephthianura albifrons), which had been absent from district for a year, returned.

Notes on Flame-breasted Robin (Petræca phænicea).—As Mr. A. G. Campbell recently contributed a paper to *The Emu*, vol. viii., part 3, on the movements of the above bird, the two or three notes in my diary may be of interest:—12th June.—Flamebreasted Robins (P. phænicea) about. 23rd July. - Flamebreasted Robin in lovely plumage.

Brown Kingfisher (Dacelo gigas).—Re this acclimatized bird, I am pleased to state they have nested in this locality for the past two seasons. The flock now numbers about nine, and their merry laughter is frequently heard during the early morning and evening. — (MISS) J. A. FLETCHER.

WOOD-SWALLOWS AS HONEY-EATERS.—The following note on the Artamus family may be of interest, in view of the fact that it presents two members of the genus in the rôle of honeyeaters.* In the local Botanical Gardens there are growing several fine specimens of the silky oak (Grevillea robusta), and these plants began to break out into their pretty golden-yellow blossoms towards the end of November last. Early in December, when the handsome flowers had opened out into their full glory, I was surprised and interested to note quite a number of White-browed Wood-Swallows (Artamus superciliosus) in the trees, evidently in quest of some kind of food. This proved to be but the advance guard of what were to follow later, for within a few days the trees were swarming with the birds. Both the White-browed and Masked species were there, the former largely predominating; but, strange to say, not one representative of the usually plentiful A. sordidus was present. Neither were any of the Honey-eaters proper inclined to dispute the right of possession with the multitudinous Wood-Swallows. Lorikeets flew past, but never did they alight in the silky oaks. The only other birds present were a few stray members of the genus Meliornis, but these were scarcely noticeable in the dense Wood-Swallow assemblage. Noting at once the absence of the ubiquitous Honey-eaters, I hastily jumped to the conclusion that the trees were affected with some insect scale pest, which would account for the presence of the usually insectivorous Wood-Swallows, but this idea was quickly dispelled by a little closer study of the birds "at work"; and this, by the way, was comparatively easy, for the birds grew so bold in their eagerness to gratify their taste for honey that they took but the scantiest notice of mere human beings. It was a pretty sight to see these Swallows hanging, with all the grace and agility of the Lunulated Honeyeater, head downwards from a slender branch, their beautiful colours—ashy-grey and black, chestnut and bluish-grey standing out in vivid contrast to the pretty golden-coloured blossoms of the oak, their bills meanwhile being buried deep in the alluring honey-pots. Some of these blossoms I examined, and found the delicate-tinted calyx to be full, in each case, of a colourless, thick, extremely sweet liquid—the attraction which was responsible for the presence of such a large number of the sweet-tongued Wood-Swallows.

What serves to enhance interest in this avine visitation is the fact that, although these trees have been flowering year after year, we have never known the Wood-Swallows to frequent the blossoms before, nor is there—as might be expected—any apparent decrease in the usual abundance of insect life in the district. The birds were always more plentiful in the early

^{*} Previously noted in *The Emu* by Mr. F. L. Berney, Queensland, and Miss Bowie, Victoria.

morning than at any other period, when probably the coveted sweetness would be thicker and sweeter than in the full heat of the day. I have frequently speculated on the utility or necessity of the brush tongue with which these engaging birds are furnished, but never before have I noted them using it for practical honey-eating purposes.—A. H. CHISHOLM. Maryborough (Vic.), 16/1/09.

THE LYRE-BIRD AT POOWONG.—There is a matter in connection with the nesting habits of the Lyre-Bird that has completely baffled any attempt on my part at a solution. this: Is it regarded as an indisputable fact that each female bird has her individual nest and lays an egg each year? All the male birds that have come under my notice have invariably had two or three females as consorts, yet I can find no proof that all three build nests and lay. On the contrary, considerable evidence is forthcoming to show that of their number only one lays, though probably the others assist in incubation. I can form no opinion of any value as to whether the male bird sits or not, but hope to decide the matter next season by watching the nest from daylight till dark. I have never known a male bird to be flushed from a nest. A short distance from where I live there is a patch of about two acres of the virgin hazel scrub, and at least three Lyre-Birds live in it. Each year they breed, yet, search as I will, only one nest can I find. A little further off is another isolated patch of virgin scrub, containing about one acre, and three females and one male bird inhabit it. season one nest was built in it; last year there was but one, and one only the year before. As a boy I did a good deal of trapping and 'possuming in my spare time, and a favourite place to set a "springer" was just where a wallaby would land after leaping over a gully. The gullies then were always resorted to by those engaged in trapping; and as a gully is a favourite nesting-place of the Lyre-Bird, it would naturally follow that the trapper would frequently come across their nests. We used to take quite a paternal interest in the ungainly young nestling, and would every day lift it out of its feathery nest, and when it called out the mother would soon appear beside us, greatly disquieted. But of the father bird on these occasions we saw very little; a flash through the undergrowth was all we would ever see of him. I never knew the female to desert her young, however much we handled it; and I have often handled their eggs in the nest, but the birds invariably returned to them. I have also flushed birds from their nests after their eggs have been handled by others. Mr. D. C. Miller, late of Nyora, told me that he once examined an egg in the nest, and found that the bird did not return to it, and it was ultimately destroyed by a lizard. I have known a bird desert her nest before the egg

was laid because some children had felled undergrowth right against the nest. She did not build again that season. Lyre-Bird has also been known to feed and attend to her young after the nest had been moved bodily to a place of safety by some scrub-cutters. Mr. A. W. Freeman, of Nyora, told me he once took home a young nestling, intending to rear it, but changing his mind after keeping it away all night, he took it back to its nest, and caused it to call out, when the mother bird appeared, and he left them together. In this case the young. bird was eventually safely reared. Mr. Freeman also informed me that a friend of his found a nest containing two eggs at Binginwarri, Victoria. My supposition is that the second egg was laid by another female. I have on three occasions seen these birds shot at night in mistake for opossums, while perching high up in the eucalyptus trees. A peculiar habit I have noticed in this interesting bird is its propensity for building, and sometimes roosting, in most unlikely places. For example, in the acre of scrub before mentioned they have nested for the last three years, not in the most secluded part—so rough, indeed, that cattle are unable in many places to penetrate it-but, on the contrary, right on the outskirts of the scrub, and within some 10 yards from the road. This year's nest is plainly visible to anyone passing, although the traffic is considerable. Indeed, it was a cream carrier who first drew my attention to the exact whereabouts of the birds this season, and he assured me he rarely passed without seeing them. The trees they roosted on this year are also on the outskirts. From the road the two females could be very distinctly seen on their perches, one of them 150 feet up.—L. C. COOK. Poowong (Vic.)

BIRDS OF INVERLOCH (VIC.)—During the Christmas vacation I had an opportunity of visiting Inverloch, which lies' 12 miles south of Outtrim, on Anderson's Inlet, and while there found much to interest an ornithologist. Generally speaking the country in that locality is undulating, the highest parts being covered with a somewhat stunted growth of eucalpyts and bracken fern, and the lower portions with heath, tea-tree, swordgrass, &c. In the former birds were numerous, though not representative of many species, those most frequently met with being the Butcher-Bird (Cracticus destructor), Buff-rumped Tit (Acanthiza reguloides), and Wood-Swallow (Artamus sordidus). In the heath country the dearth of bird-life was very noticeable. Black-faced Cuckoo-Shrikes (Graucalus melanops), Pallid Cuckoos (Cuculus pallidus), and Wood-Swallows were numerous, and very busy amongst the caterpillars which were to be found on the grass and low bushes. In the dense fringe of banksias and tea-trees along the ocean coast, Red and Brush Wattle-Birds

(Acanthochæra carunculata and A. mellivora), Brown Tits (Acanthiza pusilla), and White-browed Scrub-Wrens (Sericornis frontalis) were plentiful, while on the ocean beach Silver Gulls (Larus novæ-hollandiæ), Pacific Gulls (Gabianus pacificus), Black and Pied Cormorants (Phalacrocorax carbo and P. hypoleucus), Hooded and Red-capped Dottrels (Ægialitis cucullata and Æ. ruficapilla) were seen, and eggs of the last-named were noted on 23rd December, the late nesting being due, perhaps, to the fact that my brother took eggs from the some locality on 18th and 23rd November. A Hooded Dottrel's nest containing four eggs (two being the usual clutch) was found on 18th November. eggs were probably laid by two female birds which were seen in close proximity to the nest. The most interesting part of this district from an ornithologist's point of view is the long, narrow strip of land terminating in Point Smythe, and separating the inlet from the ocean. A fringe of high sand-dunes and tea-treeclad ridges runs along the coast in a south-easterly direction, and effectively protects the inland portion from the southerly gales. The soil at the western end of this peninsula is sandy, undulating, and more or less covered with banksias, tea-trees, and stunted eucalypts. Banksias grow profusely here, and attain a large size in the more open localities. Bird-life is much in evidence, and the harsh notes of the Red and Brush Wattle-Birds may be heard in every direction. Several pairs of Coachwhip-Birds (Psophodes crepitans) were seen or heard in the dense tea-tree scrub. It was noticed that the Brown Tits were found only in the tea-tree along the coast on either side of the entrance to the inlet, while the Buff-rumped and Yellow-rumped species were to be found in the timbered country on the mainland, and always at some little distance from the coast.

Curlews (Numenius cyanopus), Red-capped Dottrels, and Black Ducks (Anas superciliosa) could be seen nightly making their way down the inlet from the mud-flats to the sandy beach

within the entrance.

I had no opportunity of visiting the eastern end of the inlet, but my brother, who was there on 20th November, noted a great number of waders and swimming birds of different kinds, and heard Coachwhip-Birds in the reeds and coral fern growing at the entrance of the Tarwin River. Probably the extensive clearing of timber in the neighbourhood may account for the birds being driven into country so different from what they usually inhabit.

I noticed the following birds, and several others that I was

unable to identify:-

Harrier (Circus gouldi), Kestrel (Cerchneis cenchroides), Black-faced Cuckoo-Shrike (Graucalus melanops), Lalage (sp.), Oriole (Oriolus viridis), Magpie-Lark (Grallina picata), Grey Shrike-Thrush (Collyriocincla harmonica), Brown Flycatcher (Micræca fascinans), Blue Wren

(Malurus cyaneus), White-shafted Fantail (Rhipidura albiscapa), Black-and-White Fantail (R. tricolor), Brown Tit (Acanthiza pusilla), Yellow-rumped Tit (A. chrysorrhoa), Buff-rumped Tit (A. reguloides), White-browed Scrub-Wren (Sericornis frontalis), Coachwhip-Bird (Psophodes crepitans), Rufous Song-Lark (Cinclorhamphus rufescens), Striated Field-Wren (Calamanthus fuliginosus), Rufous-breasted Thickhead (Pachycephala rufiventris), White-throated Tree-creeper (Climacteris leucophæa), Orange-winged Tree-runner (Sittella chrysoptera), White-fronted Chat (Ephthianura albifrons), White-backed Magpie (Gymnorhina leuconota), Butcher-Bird (Cracticus destructor), Yellowbreasted Shrike-Robin (Eopsaltria australis), White-eye (Zosterops cærulescens), Yellow-faced Honey-eater (Ptilotis chrysops), Red Wattle-Bird (Acanthochæra carunculata), Brush Wattle-Bird (A. mellivora), Orange-tipped Pardalote (Pardalotus assimilis) (?), Swallow (Hirundo neoxena), Fairy Martin (Petrochelidon ariel), Pipit (Anthus australis), Wood-Swallow (Artamus - sordidus), Sacred Kingfisher (Halcyon sanctus), Laughing Jackass (Dacelo gigas), Pallid Cuckoo (Cuculus pallidus), Bronze-Cuckoo (Chalcococcyx plagosus), Fan-tailed Cuckoo (Cacomantis flabelliformis), Crimson Parrakeet (Platycercus elegans), Rosella (P. eximius), Bronze-wing (Phaps chalcoptera), Stubble Quail (Coturnix pectoralis), Bald-Coot (Porphyrio melanonotus), Coot (Fulica australis), Pied Oyster-catcher (Hæmatopus longirostris), Hooded Dottrel (Ægialitis_cucullata), Red-capped Dottrel (Æ. ruficapilla), Curlew (Numenius cyanopus), Snipe (Gallinago australis), Painted Snipe (Rostratula australis), Silver Gull (Larus novæ-hollandiæ), Pacific Gull (Gabianus pacificus), White-fronted Heron (Notophoyx novæ-hollandiæ), White-necked Heron (N. pacifica), Black Cormorant (Phalacrocorax carbo), Little Cormorant (P. melanoleucus), Little Black Cormorant (P. sulcivostris), Gannet (Sula servator), Pelican (Pelecanus conspicillatus), Little Penguin (Eudyptula minor), Black Swan (Chenopis atrata), Cape Barren Goose (Cereopsis novæ-hollandiæ), Wood-Duck (Chenonetta jubata), Mountain-Duck (Casarca tadornoides), Shoveller (Spatula rhynchotis), Grey Teal (Nettion gibberifrons). —G. F. HILL. 17/1/09.

From Magazines, &c.

In The Avicultural Magazine in the issues of August, September, November, and December of last year, Mr. D. Seth-Smith, F.Z.S., the editor, gives the first instalments of a series of Australian field notes and bird observations. It will be remembered that Mr. Seth-Smith visited Australia in the interests of the Zoological Society of London, and that he returned to England with a splendid collection of live stock for the Gardens. The field notes above mentioned, which are written in an extremely entertaining manner, refer to his brief sojourn in Western Australia, and were made chiefly in the company of Messrs. E. A. and L. Le Souëf, of the Perth Zoo. Mr. Seth-Smith enjoys the reputation of being a successful aviculturist. He now proves himself expert in 'the art of field observation. Readers will look forward to the balance of Mr. Seth-Smith's notes as they appear from time to time.