

put a sudden stop to my observations. Young bird and nest were carried off by some intruder, and, judging by the marks and scratchings, I would say that it was a wild cat.

This incident I much regretted, as I was desirous of observing whether the adult Cuckoos would, after a time, claim the young bird and prepare it for the migratory flight. I might add that since the 25th November, when the nest was destroyed, I have not seen either of the birds.

It fell to my share some years ago, at Belltrees, to watch a similar case in regard to the Pallid Cuckoo (*Cuculus pallidus*). The parent birds did certainly claim the young bird after it was well able to fly, and daily thereafter assisted the foster-parents to feed it.

Cuckoos—Ejection of Foster-Parents' Chicks.

BY A. G. CAMPBELL (KILSYTH, VIC.)

I HAVE been privileged to have under observation in the Kilsyth district (Vic.) two nests containing Cuckoos' eggs, and to see the ejection of the eggs or nestlings by the young Cuckoo.

In the first week in September, 1913, a nest of the Scarlet-breasted Robin (*Petroica leggit*) was discovered, situated in a pear-tree. It contained two eggs of the Robin and one egg of the Fan-tailed Cuckoo (*Cacomantis flabelliformis*). One morning the Cuckoo was found hatched, and on the ground beneath the nest lay a dead nestling of the Robin and an egg. Though the exact time of the Cuckoo hatching was not determined by a close watch, yet it was clearly in advance of the Robin's chicks. It appeared to be about 48 hours old when first seen. When the egg and dead Robin nestling were returned to the nest the young Cuckoo immediately proceeded to its tactics, and in the space of about a minute and a half had hoisted them over the side. This was repeated again and again until, at the end of five minutes, the Cuckoo gave up, either in disgust or exhaustion. The procedure was the same in each instance. The young Cuckoo edged round with its back to the object, and, by a wriggling motion, got its merithorp underneath, hoisting the unfortunate nest-mate on its back, where it was held in the cavity, supported by the shoulders on two sides and the merithorp on the third. The next move was for the Cuckoo to raise itself on its legs against the side of the nest, using its beak as a prop in the bottom; its wings, circling backward like arms, clasped the sides of the nest to assist in the leverage. The bird's body gradually rose to the level of the rim of the nest, and its burden was cast over.

This was a most uncanny display of instinct in a blind, naked, and seemingly helpless nestling. To make sure that its evil work was complete, the Cuckoo invariably paused for several seconds in the final position, though in apparent danger of toppling out backward itself, its "arms" firmly clutching the rim of the nest

and its head and neck thrust well forward to preserve the balance. Small sticks, bits of earth, and tiny apples put in the nest were as summarily ejected when the Cuckoo had recovered from its first exertions. The next day, the bird having grown considerably and the primary quills beginning to sprout, it was not sensitive to any strange objects put into the nest.

Another opportunity came of observing the same process in December, 1914, when a nest of the Wattle-Bird (*Anthochaera carunculata*) was found, containing one egg of the Honey-eater with one egg of the Pallid Cuckoo (*Cuculus pallidus*). The Cuckoo hatched during the early morning of the 6th, 40 hours before the young Wattle-Bird appeared from its shell. The young parasite was sensitive the first day. The touch of a straw caused it to wriggle like a wrestler for "a position," but it was evident that to shoulder the large egg was at present beyond its powers. The next day passed. The Cuckoo, being constantly supplied with food, rapidly gained weight until that evening, when the Wattle-Bird hatched; the nestlings were similar in size. On the 8th the Cuckoo was getting ready for action; a touch with the finger or a vibration of the nest would cause it to try a "hold." Several times it got the young Wattle-Bird squarely on its back, but, beyond raising its burden and propping itself well against the side of the nest, it appeared incapable of anything. The missing factor seemed to be in the failure of a grip for the wings. These would circle right and left in endeavouring to seize the side of the nest for a purchase. But, as the nest measured 4 inches across at its widest part, and the bird was only 2½ inches from tip to tip, the proposition was, as yet, too much.

On the 9th the Cuckoo was in action many times. It could raise its victim half-way to the top and get a grip of the side of the nest with one "arm" at a time, but not with both together. Every movement of the young Wattle-Bird for every time the old birds came with food was a signal for a fresh attempt. Plainly, I thought, the game was up. The Wattle-Bird was growing rapidly, and, from its distended abdomen, seemed to be getting more attention than the Cuckoo. It was now about half an ounce the heavier of the two, besides which it could sometimes fend for itself and wriggle out of the hold of its adversary. It certainly looked as if both would have to live together and put up with each other's company. The nest being fully 2½ inches deep and the edge being a broad platform of twigs, an inch in width, sloping inwards and not outwards, the whole surroundings were such that it seemed an impossibility for the Cuckoo to eject its companion. By the evening of the 11th, however, the deed was done, and the chick of the rightful owner lay dead beneath the nest.

These opportunities corroborate some remarks I have made previously in *The Emu* * on "Observations on the Rearing of a

* *Emu*, vol. vi., pp. 120-126.

Cuckoo." I have little further to add beyond drawing attention to the adaptation of the wings of the young Cuckoo to its fell purpose. The wings, weak and pliant in most nestlings, are here strong and powerful, and furnished with a hard, bony, thorn-like tip, which is curved forward, like a lumper's bill-hook, to assist it to engage and grip the side of the nest during the lifting process.

North Queensland Birds.

BY D. LE SOUËF, C.M.Z.S., M.B.O.U. (MELBOURNE).

I LEFT Melbourne for Sydney on the same day as the British Association for the Advancement of Science party, and was able to attend the Science meetings in that city, where many most interesting papers were read. I proceeded to Brisbane by steamer, and while there stayed with Dr. Hamlyn Harris. The Museum, under his control, has been very greatly improved, and the group cases of both animals and birds, with painted backgrounds, are very realistic, and do the Director and his officers credit. Some of the new cases, with birds and their nests and eggs, are also good. The old bird-cages in the Botanical Gardens have all been removed—a much-needed improvement.

Leaving Brisbane, I had a rough trip to Townsville. We passed through the beautiful Whitsunday Passage *en route*, and arrived at daylight. During the day I was enabled to visit both Mr. T. A. Gulliver and his brother, Mr. Ben. Gulliver, at Acacia Vale. I was surprised to see numbers of Bee-eaters (*Merops ornatus*), and soon noticed what attracted them. There were about twenty bee-hives. As the unfortunate bees returned, laden with honey, many were promptly seized by the birds, which were waiting for them on the branches of a tree above. Although these birds are protected, the owner of the hives occasionally had a battue, and shot as many of them as he could, but there were plenty left. When a bird caught a bee it flew back to the tree and beat the insect against a bough, evidently to kill it before swallowing it. Probably the birds have learnt by painful experience that bees possess stings. Indian Mynas (*Acridotheres tristis*) and Pied Grallinas (*Grallina picata*) were very plentiful about the town, and in the outskirts I noticed Forest Kingfishers (*Halcyon macleayi*) and Leach Kingfishers (*Dacelo leachi*), the uncouth sound uttered by the latter being very different from that of the Great Brown Kingfisher (*Dacelo gigas*). In the large strawberry gardens I noticed the Australian Pipit (*Anthus australis*), and was surprised to see it there in preference to the open grass land; probably it found a good food supply in the various insect pests found among the strawberries. Several Whistling-Eagles (*Haliastur sphenurus*) and White-bellied Sea-Eagles (*Haliaeetus leucogaster*) were noticed, as well as the White-headed Sea-Eagle (*Haliastur leucosternus*). One of the latter birds had a crab in its claws, but dropped it.