

three eggs, the birds started sitting. The eggs hatched on 31 January, i.e. after an incubation period of about 19 days which is rather shorter than the 22 or more given by Hadden (Notornis 17: 208), but is close to the figure given by Hindwood (Australian Birds in Colour, p. 22). In a spring nest also built about 4' 6" above water-level in a tangle of raupo and cutty-grass, three eggs hatched on 7 September. I now think that these crakes nest once in August-September and again about January. I have seen chicks crawling and swimming soon after they are hatched.

In all these swamps I now estimate that there are seven or eight pairs of Spotless Crakes.

EWEN FRASER

ORIENTAL CUCKOO ON LITTLE BARRIER ISLAND

All thirteen Auckland members who went to Little Barrier Island for Labour week-end (22-25 October 1971) saw this cuckoo (*Cuculus saturatus horsfieldi*). Many watched it for half an hour or more while it perched low in a puriri tree (*Vitex lucens*), occasionally flying down into the grass to take an insect then immediately returning to the same perch. It was first noticed as a "strange bird" by the Ranger's younger son (Bunny Wisnesky) on 20 October. Fresh to strong north to northwest winds blew from 19 to 22 October. Next day it rained steadily all day.

In description the bird closely follows that of the record from Kaihinu by P. Grant (Notornis 11 (2): 130) except in having no white tip to the tail and not moulting. One member (Alan Macdonald) heard it call quietly and described the call as a very regular 'Tsoo-tsoo-tsoo' repeated about a dozen times at approximately one-second intervals. The bird stayed on the 'flat,' i.e., comparatively open pasture land, and was not seen after 10 November 1971.

The last few days it spent in the Ranger's garden, becoming quite tame.

This is the first record of an Oriental Cuckoo on Little Barrier Island.

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THE COPULATION OF NEW ZEALAND FALCONS

On 22 October my colleague and I arose at dawn to begin our search for the actual nesting site of a pair of New Zealand Falcons (*Falco novaeseelandiae*) which we had been observing from a distance for a period of about six weeks. From our observations, these birds appeared to be preparing to nest somewhere in a clump of partly milled mixed podocarp-beech forest. Our observation point had been from a log loading ramp situated on the eastern side of the Mokomokonui River south of the Urewera National Park. The

suspected nesting locality was situated on the other side of the river, halfway up a fairly steep slope leading to the top of a small hill. Most of the country surrounding this immediate area is still virgin forest. The remaining milled forest had only selected suitable trees felled, thus leaving many small fairly clear areas below the general canopy. These conditions would appear to be ideal for the falcon, and this was proved to be correct by our fairly frequent observations of them pursuing prey through the partially cleared areas.

We had noticed that the birds frequently perched in a high dead rimu and also spent some time in another about fifty yards to the right. After spending anything up to thirty minutes in these trees, they usually glided off out of sight behind them. The fact they spent so much time in this area, seemed to be too much of a coincidence to us, so we guessed they were going to nest somewhere very near there. It seemed to be a very suitable locality for these birds as they would have everything they required within easy distance — rich bird life, water, considerable weather protection, good view of surrounding terrain, vegetation not too dense, and probably, above all, little, if any, interference from man.

Upon climbing to the top of the hill by means of one of the old timber tracks, we were rather surprised to find that the area directly behind the trees where we had observed the birds was a small hidden bowl-shaped valley, and not as we had thought, a continuous slope leading down to the bottom of the next large valley system. This small valley is about a quarter-mile in diameter and 100 feet deep. Vegetation includes scattered rimu (*Dacrydium cupressinum*), mountain totara (*Podocarpus halli*), red beech (*Nothofagus fusca*), hard beech (*N. truncata*), mountain beech (*N. cliffortioides*) and numerous shrubs and ferns. There are scattered half rotten tree trunks, a remnant from milling days, many of these and the living trees having clumps of *Astelia* growing on their trunks and branches. Approximate height of this area is 2500 feet (761.6 m). During our observations from the top of the hill, we saw the male and occasionally the female entering and leaving the valley. They disappeared into a small area situated near the centre of the valley. At midday we decided to go into the valley and to try to locate the nest. We managed to find a position about half way down the side which gave us a commanding view of the bottom. Hiding ourselves in the ground ferns, we waited for the re-appearance of the birds.

At about 4 p.m. the female suddenly appeared from behind us and dived violently down to the top branch of a tall (50-60 feet) dead tree. She was closely followed by the male. She landed about a foot from the trunk on this branch whilst he landed on a branch about 10 to 15 feet below her. Whilst she stood quietly, he began to move back and forth along the branch in a rather excited fashion. His slim body and long legs combined with this graceful, gliding fast walk particularly attracted our attention. After about a minute

of this activity, including the uttering of some rather gentle, high pitched moaning noises, the male suddenly began leaping from branch to branch until he was standing at the end of her branch. He was now standing about three feet from her. He then faced her, walked about three steps closer and jumped onto her back. She had assumed a squatting position as he had begun jumping up the branches. Upon his leaping onto her back, she immediately lowered her head so that she was looking at the ground. Her long tail was then raised vertically. The male, maintaining his balance by flapping his half opened wings, then started to twist the rear half of his body around behind her raised tail. Having achieved this, he suddenly looked in our direction and stopped his movements. He stood quietly for about seven seconds at which the female suddenly looked up too. He then hopped back down to the branch. After standing still for a moment he flew off into a nearby mountain beech. During the while proceedings, one or both of the pair made the described moaning noise. As my colleague and I did not have time to raise our binoculars to our eyes we could not ascertain which bird was making this noise — we think it was the male.

From my observations on another pair in the Ruahines, copulation is preceded by a spectacular and noisy mutual courtship flight in which both birds seem to chase each other around the sky for minutes at a time. During this courtship flight, they both carry out a variety of aerobatics including sudden dives and climbs, stalls, steep turns, loops and rolls off the top. Upon first sight they would appear to be quarrelling, but upon closer observation it will be seen that there is no violent contact. The male seems to be the initiator and aggressor in the proceedings and both birds are very vocal, emitting loud “kek kek kek kek’s” and the afore-mentioned whine.

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W. J. POWELL

PIPITS IN THE SOUTH ISLAND IN WINTER

Whilst on a visit to the Tasman Saddle Hut at the top of the Tasman Glacier in Mt Cook National Park in May 1971, I was surprised to find a Pipit (*Anthus novaeseelandiae*) in the vicinity of the hut (altitude 7,700 feet). It was watched for several minutes, during which no clue was gained as to what food the bird was finding. There was almost total snow cover surrounding, and the nearest uncovered rock was on the glacier moraine wall a thousand feet lower.

Another record was of a loose flock of about 30 Pipits in the Matukituki Valley, west branch, in June 1971.

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