

STILTS NESTING AT ARDMORE, 1950-51 SEASON.

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One pair of stilts nested on my farm this season (1950-51). The first nest met with misfortune. The female had been incubating for 24 days, when, on September 29, 1950, a cow ran over the nest and broke all the eggs. The birds were not to be deterred, however, for on the ninth day after the loss of the first clutch, a new nest had been made and an egg laid.

The four eggs were laid on October 8, 9, 10 and 11. The first three eggs were marked on the days they were laid, the fourth it was not necessary to mark. Incubation commenced early on October 10.

Hatching.—November 3, at 7.30 a.m., two chicks, Nos. 2 and 3, had hatched and left the nest, while No. 1 had just broken open the egg, the marked shell still adhering to the chick. The fourth egg was not then chipped, but it hatched on November 4 at noon.

Flying.—November 29, young birds stretching wings. December 1, one flew five yards. December 2, one flew about four chains, one three yards and the other two ran. December 3, three flying. December 4, three flying strongly, the other missing. (It was not seen again.) December 6, now flying freely. December 7, the family departed.

The incubation period, including October 10, was 25 days for each chick; No. 4, of course, one day behind the others as to beginning of incubation and hatching.

The hatching to flying period was 29, 30 and 30 days, taking December 2 for one and December 3 for the other two as their first days of flight. It is, of course, not known which bird was lost. If No. 4 survived, then one day would have to be deducted from one of the tallies.

Both incubation and hatching to flying periods are normal according to the records shown in "N.Z. Bird Notes," Vol. 3, No. 4, p. 108.

This was a very fine brood, even in size, active and healthy. As small chicks they behaved in a manner I had not previously witnessed. When feeding they were seldom more than one yard apart and often kept so closely together as to touch each other. Usually chicks scatter widely, only coming together to be brooded by a parent when cold or needing rest.

REVIEW.

The Moas of New Zealand and Australia, by W. R. B. Oliver. Dominion Museum Bulletin, No. 15, Wellington, 1949.

This book marks an important advance in the study of the Dinornithiformes. Until it appeared, the standard work was Dr. Gilbert Archey's "The Moa," (Auckland, 1944). Dr. Oliver's conclusions differ in many particulars from those of Dr. Archey.

The book under review begins with a summary of the history of the discovery of moa remains and a survey of the chief deposits. It goes on to consider the moa's structure and classification, follows this with a description of the genera and species, and ends with a discussion of their habits, origin, evolution and geological history, and a very useful bibliography, arranged according to subject. Incidentally, since no one is omniscient, neither the bibliographies of Archey nor Oliver, although very extensive, are complete, e.g., the second edition of Hutton's "The Lesson of Evolution" contains several pages of discussion and measurements of *Syornis casuarinus*-*Emeus crassus*, which they do not mention.

Dr. Oliver proposes several new species, sub-genera and genera and restores some species which Archey had suppressed, while rearranging others which had been founded on mixed bones. The new sub-genera for *Pachyornis* are *Mauornis* and *Pounamua*. Two species formerly classified as *Eurapteryx*, the very broad-billed *exilis* and *haasti*, have been placed in a new genus, *Zelornis*. This new genus may not really be necessary, as *haasti* cannot be separated from *gravis* except by mandibular and pre-maxillary characters, but I consider Archey was wrong in suppressing *haasti*, which he regarded as synonymous with *gravis*. The Canterbury Museum collection contains, as well as the type of