

preserves, stocking them from time to time with all the desirable species and placing them under the strictest protection, be carried out, then we may hope to be able to save from extinction some, if not all, of these interesting forms. Failing that, their final extirpation is not far distant, and the student of the future will have nothing left to him but the dried specimens in European and colonial museums, and such memoirs of the indigenous species as the industry or opportunities of present observers may have furnished. I have done what I could, both by pen and pencil, to preserve a history of all these birds, but I believe we have yet much to learn respecting many, if not all, of them; and on every account it is most desirable that the birds themselves should be preserved, with, as far as may be possible, their natural environment.

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ART. IV.—*On the large Kiwi from Stewart Island (Apteryx maxima).*

By Sir WALTER L. BULLER, K.C.M.G., D.Sc., F.R.S.

[Read before the Wellington Philosophical Society, 24th February, 1892.]

AT a meeting of this Society, held on the 2nd July, 1890, I exhibited and made remarks on a large Kiwi from Stewart Island, which I had no hesitation in referring to *Apteryx maxima*, Jules Verreaux (see Trans., vol. xxiii., pp. 602, 603). At that time, as I then stated, this was the only known example of the species in any public or private collection. Since that date, however, four more examples, two males and two females (all from Stewart Island), have been brought to Wellington, and I had favourable opportunities of examining them before they were shipped alive for Europe. All these birds presented the same distinguishing characters as the specimen I had the pleasure of exhibiting; so that the species may now be considered well established. One of the females was even larger in all its proportions. This was one of a pair sent to England by the "Arawa" in December last, consigned to a private collector, who had already received the former pair in safety.

On the day prior to their shipment I made the following descriptive notes:—

*Male.*—Extreme length, following curvature of the back 30·5in., to end of outstretched legs 36·5in.; bill, along the ridge 5·5in., along the edge of lower mandible 5·5in.; from

anterior margin of cere to extreme point of upper mandible, 4·5in.; wing, 2in.; tarsus, 3·5in.; middle toe and claw, 3·5in.; hallux, 1in.; largest circumference of foot, 4in. The rudimentary wings are furnished at the extremity with a long, slightly-curved, greyish-black claw; that on the right wing is 0·75in. in length; that on the left wing is  $\frac{1}{4}$ in. shorter and less curved. Weighed exactly 6lb.

*Female*.—Extreme length, following curvature of the back 33in., to end of outstretched legs 43in.; bill, along the ridge 7·75in., along the edge of lower mandible 7·75in.; wing, 2in.; tarsus, 3·5in.; middle toe and claw, 3·75in.; hallux, 1in.; greatest circumference of foot, 4·25in. The claw or spur on the rudimentary wings is  $\frac{1}{2}$ in. in length, more curved than that of the male bird, sharply pointed, and of a dark-grey colour. The bill is greyish-brown, shading into black on the culmen, especially in its apical portion, the tip being whitish horn-colour. Tarsi and toes dark bluish-grey; claws paler. Weighed 6 $\frac{1}{2}$ lb.

The plumage of these birds is very similar to that of *Apteryx australis*. The male presents more chestnut in the colouring, and the lanceolate markings on the upper surface are more distinct than in the other sex. This richer appearance is due to the feathers having chestnut tips, pointed with black. The bill and feet are likewise darker, and more uniform in colour, with lighter claws.

In the male bird the tarsi towards their distal extremities and the phalangeal joints are scutellate, but in the female these parts are entirely covered by rounded scales. This goes to confirm the view already advanced by me that this character, to which so much importance has been given by some naturalists, has really no specific value.

POSTSCRIPT.—Since the above notes were written I have received a letter from Lord Onslow (dated from the Bluff, 3rd February), stating that he had just returned from a visit to the Sounds and Stewart Island in the "Hinemoa," and had been successful enough to obtain another of these large Kiwis, which he hoped to take to England with him alive. Assuming the identification to be right, this gives us six examples of *Apteryx maxima* during the last eighteen months; but, unfortunately, not one of our local museums possesses a single specimen.

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