Dinornithidæ; so much so that both *Dromornis australis* and *Dinornis* (?) *queenslandiæ* were placed by their original describers among the moas largely because in them also the femur is non-pneumatic. Nevertheless this character is not absolutely constant even in the true Dinornithidæ of New Zealand. I now exhibit to the members a femur of an adult bird belonging to *Pachyornis pygmæus*, from the Te Aute Swamp, near Napier, in which the pneumatic foramen is well developed (Plate IX., *p.f.*). The opening is subtriangular in shape, and about half an inch in diameter. It is placed at the posterior base of the neck, slightly more interior than the same cavity in the emu. The interior-lower margin is broken, and evidently extended further, but the external and upper margins are quite smooth and rounded, and are unquestionably in their natural condition, so that the interior-lower margin could not have extended much farther. The canal leading from the opening is divided by a longitudinal septum into two parts, each of which contracts into a narrow tube, through which a fine wire can be pushed into the interior of the bone. Probably no air-sac penetrated into the canal, but blood-vessels alone passed through the two tubes. Nevertheless the large opening is evidently a reversionary character, and a proof that a pneumatic canal and air-sac existed in the ancestors of the moas.

EXPLANATION OF PLATE IX.

Posterior aspect of left femur of *Pachyornis pygmæus*, reduced to $\frac{5}{9}$ natural size: *p.f.*, pneumatic foramen.

Art. XV.—*On a New Species of Weta* (Locustidæ) *from Bounty Island.*

By Captain F. W. Hutton, F.R.S.

[*Read before the Philosophical Institute of Canterbury, 2nd May, 1894.*]

During the last trip of the C.S.S. "Hinemoa" to Bounty Island Captain Fairchild collected, under some rocks, specimens of one of those wingless locusts called weta by the Maoris—by which name they are known to all New-Zealanders. As there are no trees nor shrubs on the island—nothing but bare rocks—it seems that these insects must feed on the dead seaweed. It is an interesting problem how so large an insect got to a small island about two miles long, composed only of

volcanic rocks not more than 100ft. high, and some four hundred miles south-east from Banks Peninsula.

The specimen presented to the Museum is a male, and between 1¼in. and 1½in. in length. It is very distinct from any wetas I have seen from New Zealand, and probably, therefore, the species has existed for a long time on those barren rocks, over which the sea-spray constantly flies. I place it temporarily in *Ceuthophilus*, but it differs from that genus in the shape of the eyes, in the maxillary palpi, and in having a low tubercle on the sternum. However, until the New Zealand wetas are better known, it will, perhaps, be as well not to make a new genus for its reception; and my only reason for giving a description of it is the interest attached to its habitat. The description of the female is from a specimen in the Otago University Museum.

Ceuthophilus (?) isolatus, sp. nov.

MALE.—*Head* moderate, not broader than the prothorax; smooth, faintly transversely striated on the epicranium just above the clypeus. *Antennæ* short, about one and a half times the length of the body, slender, closely approximated at the base but not touching; the first joint rather flattened, slightly longer than broad, and gently curved with the convexity inwards; second joint shorter than the first, nearly as broad as long, slightly inflated in the middle; third joint longer than the first, twice as long as the second, slightly inflated towards the base; fourth and following joints much shorter, about equal, as long as broad, getting smaller towards the distal end, where they are irregular, and many are longer than broad. *Eyes* sub-semicircular, touching the rim of the cavity for the articulation of the antennæ. *Ocelli* none. *Frontal keel* reduced to a prominent double spine, the base of which does not extend between the bases of the antennæ. *Labrum* moderate. *Mandibles* small. *Maxillary palpi* moderate in length; the relative length of the joints is 5, 3, 4, 2, 1—the fifth about as long as the second and third together; the third rather longer than the fourth; the second twice as long as the first; the fifth slightly clubbed and abruptly truncated at the end, but not slit longitudinally; the others cylindrical. *Labial palpi* short, the third joint longer than the second, clavate and abruptly truncated at the end.

Thorax smooth; sides of the thoracic nota broad, concealing the epimera. *Pronotum* broadest behind, where its breadth is about equal to its length, the sides not projecting below those of the mesonotum, their lateral margins thickened; lateral furrows obsolete. *Meso-* and *meta-nota* much shorter, the lateral margins of the mesonotum thickened, but not those of the metanotum. *Metasternum* with a short conical

tubercle in the centre. *Wings* absent. *Legs* slender, the hind legs less than twice the length of the body. *Coxæ* of fore legs only, with a spine; those of the hind legs carinated on the outer side. *Femora* of the fore and middle legs unarmed, except a pair of distal spines; those of the hind legs slender, smooth, without any oblique ridges on the outer side, channelled beneath, armed with a row of six small spines on the inner inferior keel, and numerous very small and blunt ones on the outer; the distal spines quite blunt. *Tibiæ* of the fore and middle legs with two rows of four spines in each and a terminal pair: those of the hind legs are not expanded, the spines on them irregular, 11 to 13 in a row, some of them very small, the last pair very large; two pairs of terminal spines, the upper of which are the smaller. *Tarsi* without pads, four-jointed: the relative length of the joints is 1, 4, 2, 3—the third considerably shorter than the second in the fore and hind legs, but nearly equal to it in the middle legs.

Abdomen slightly compressed (in spirit). *Cerci* rather long, slightly curved, covered with short hairs and a few long bristles on the posterior side.

Colours (in spirit), rather pale brown, the thorax and abdomen variegated with yellowish-brown; posterior margins of pro- and meso-nota darker. Hind tibiæ and tarsi dark reddish-brown.

Length of body, 34mm.; of antennæ, 47mm.; of pronotum, 9mm.; of cerci, 8mm.; of maxillary palpi, 13mm.; of fore tibiæ, 13mm.; of hind tibiæ, 30mm.

FEMALE differs from the male in the following characters:—

Head has the epicranium smooth; in the maxillary palpi the third and fourth joints are about equal, and the last joints of both the maxillary and labial palpi are rounded at the end.

Thorax: The lateral margins of the metanotum are slightly thickened.

Abdomen: The ovipositor is as long as the abdomen; it is stout, and but slightly curved.

Legs: The femoral spines of the hind legs are obsolete.

Length of body, 29mm.; of pronotum, 8mm.; of cerci, 5mm.; of maxillary palpi, 8mm.; of fore tibiæ, 11mm.; of hind tibiæ, 20mm.; of ovipositor, 20mm.

The antennæ are broken, and cannot be measured.