

THE ANTS OF NORFOLK ISLAND.

BY HORACE DONISTHORPE, F.Z.S., F.R.E.S., ETC.

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Professor G. D. Hale Carpenter has obtained through the Island Fauna Fund of the University of Oxford, aided by a grant from the Royal Society, a number of insects from Norfolk Island collected by Mrs. Ida McComish, from which the ants were sent to me for identification.

To the student of geographical distribution Norfolk Island is of considerable interest owing to its situation with regard to Australia, New Zealand, New Caledonia, and the Loyalty Islands. It probably consists of a small surviving fragment of the former land mass connecting New Zealand with Papua, and indirectly with Australia. On account of its proximity to New Zealand; it possesses affinities with the flora and bird-life of the latter, and has also elements in common with New Caledonia and the Loyalty Isles. It is a small isolated island comprising some 13 square miles, distant about 800 miles east of New South Wales. The climate is sub-tropical and the vegetation abundant.

The ant fauna is extremely meagre, and many of the large and dominant genera found in Australia and Papua are not represented at all. Nor do any species of the subfamilies Cerapachyinae, Dorylinae, Pseudomyrminae or Leptanillinae occur. As far as I have been able to ascertain, the following is a complete list of the Formicidae found in this locality, endemic forms being marked with a dagger (†):—

†*Amblyopone australis* Er. subsp. *cephalotes* Smith var. *norfolkensis* Wheeler, †*Ponera leae* Forel subsp. *oculata* Wheeler, †*P. mina* Wheeler, †*Pheidole* (*Pheidole*) *ampla* Forel subsp. *norfolkensis* Wheeler, †*Monomorium* (*Notomyrmex*) *sanguinolentum* Wheeler, *M.* (*Lampromyrmex*) *laeve* Mayr subsp. *fraterculus* Santschi, †*Oligomyrmex manni* Donisthorpe var. *norfolkensis* nov., †*Cardiocondyla nuda* Mayr subsp. *nereis* Wheeler, *Tetramorium guineense* F., †*T. antipodum* Wheeler, *Strumigenys leae* Forel, †*Iridomyrmex albitarsus* Wheeler, *Paratrechina* (*Nylanderia*) *vaga* Forel, *P.* (*N.*) *obscura* Mayr.

The following forms were taken by Mrs. McComish in 1939; those marked with an asterisk (*) were not represented in the collection of the British Museum (Nat. Hist.):—

**Amblyopone australis cephalotes* v. *norfolkensis* Wheeler, ♀, 1927, *Proc. Amer. Acad. Art. Sci.*, 62: 15.—No. 217, 28 ♀♀, 900 ft., 'under decayed palm leaves, Mt. Pitt,' 18.vii.39.

Pheidole ampla norfolkensis* Wheeler, 4 ♀♀, 1927, *Proc. Amer. Acad. Art. Sci.*, **62: 134, fig. 3, a, b.—No. 50, 19 ♀♀, 300 ft., 'dry season, under dry cow-dung,' 3.ii.39; no. 162, 11 ♀♀ and 20 ♀♀, 10 ft., 'in a run at Kingston,' 29.v.39; no. 4, 6 ♀♀, 1,000 ft., 'dry season, on orchid flowers on Mt. Pitt,' 28.i.39; nos. 50, 88, 93, 97, 102, 103, 123, 143, 162, 201, very many ♂♂ and winged ♀♀, on the wing, and 'swarming,' v. and vi. The male and female of this form not having been described before, I append their descriptions as follows:—

♀. Reddish-yellow, disc of thorax and gaster, brownish, eyes, masticatory border of mandibles, and anterior border of head narrowly, black. Wings pale yellow, veins darker, pterostigma brown. Clothed with longer and shorter yellow outstanding hairs.

Head rectangular, about as long as broad, posterior border truncate, longitudinally striate except at base; *mandibles* massive, shining, with sparse punctures which are larger and closer at masticatory border, armed with a tooth close to apical one, and a shorter one before base; *clypeus* smooth and shining in middle and with a distinct central carina; *frontal area* small, impressed, smooth and shining; *frontal carinae* slightly raised with sharp edges, divergent behind; *eyes* and *ocelli* moderate; *antennae*: *scape* extending about two-thirds of the length of the head. *Thorax*, typical *Pheidole*; epinotal spines shorter in proportion, and not as sharp as in ♀. *Petiole* and *post-petiole* similar to those of ♀, but broader in proportion and not as smooth and shining; *gaster* smooth and shining, truncate at base. *Anterior wing* with *discoidal*, two *cubital cells*, and closed *radial cell*. Long. 7—7.7 mm.

♂. Dirty pale yellow, head and sides of mesonotum brownish, clothed with similar hairs to those of the ♀.

Head triangular, finely longitudinally striate anteriorly, transversely posteriorly, protuberance on vertex, between the very large *eyes*, occupied by the large *ocelli*, prominent; *mandibles* feeble, armed with three short blunt teeth; *clypeus* curved in middle, anterior border rounded and slightly projecting; *antennae* 13-jointed, *scape* a little longer than the first two joints of the funiculus taken together, 1st joint of *funiculus* short and somewhat orbicular, joints 2—11 of funiculus pubescent and longer than broad, last joint as long as the two preceding taken together. *Thorax* smooth and shining; *mesonotum* with fine shallow scattered punctures, *Mayrian furrows* not very distinct, *parapsidal furrows* more so; *scutellum* triangular, convex; *epinotum* triangular, rounded, *declivity* not distinct; *petiole* somewhat as in ♀ but more slender, *post-petiole* bell-shape with a neck anteriorly; *gaster* long oval, smooth and shining. *Wings* as in ♀. Long. 5—5.5 mm.

♀ and ♂ types in coll. British Museum (Nat. Hist.).

Monomorium (Notomyrmex) sanguinolentum* Wheeler, ♀, 1927, *Proc. Amer. Acad. Art. Sci.*, **62: 135; fig. 4, a, b.—No. 52, 12 ♀♀, 300 ft., 'dry season, under decayed wood,' 7.iii.39; no. 115, 15 ♀♀, 30 ft., 'on lower leaves of *Solanum auriculatum* Ait.,' 29.iv.39.

* *Oligomyrex manni* Donisthorpe var. *norfolkensis* var. n.

♀. Head and thorax jet black, shining, petiole and post-petiole reddish-brown, slightly more red above, gaster yellowish-brown, apex of segments yellow. Antennae and legs yellow, coxae darker. *Long.* 5 mm.

This variety is very similar to the typical form in structure, sculpture and size. The head and thorax are black instead of being brownish-red, and the coxae are darker. The clypeus is more truncate anteriorly, and the node of the petiole slightly higher and not emarginate above.

♂. Jet black, shining, legs and antennae dirty brownish-yellow, tarsi and funiculi lighter, clothed with blackish and yellowish sub-erect hairs and yellowish pubescence.

Head subquadrate, transverse, temples rounded, posterior border sinuate in middle, somewhat rugosely punctured posteriorly; *mandibles* small, smooth, armed with five teeth, the apical one longer, curved and sharp; *clypeus* convex, finely punctured, anterior border rounded; *frontal area* small, rounded posteriorly; *frontal furrow* narrow but deep, reaching median ocellus; *eyes* large, prominent; *ocelli* moderately large; *antennae* 13-jointed, *scape* shorter than 2nd joint of funiculus, 1st joint of *funiculus* short, slightly broader than 2nd; 2—11 longer than broad, last joint (12) not as long as the two preceding taken together. *Thorax* narrowed in front and behind, longer than broad, broadest before middle; *mesonotum* convex, projecting over the small *pronotum*, longitudinally striate anteriorly and punctate, the punctures impressed obliquely from behind forward, and with one impressed line, or fine furrow, in middle anteriorly; *Mayrian* furrows wanting; *parapsidal furrows* fine and narrow, but distinct; *scutellum* convex, broadly oval, rounded in front and at sides, bluntly pointed behind, finely longitudinally striate; *metanotum* narrow, transverse, finely transversely striate; *epinotum* smooth and shining, dorsal surface slightly concave, with a small blunt tooth or tubercle on each side at apex of declivity, *declivity* shorter than dorsal surface, finely transversely striate; *episternite* of mesothorax smooth and shining, very distinctly defined. *Petiole* pedunculate in front and margined behind, *node* rounded above, smooth and shining; *post-petiole* transverse, broader than petiole, rounded at sides, narrower in front, finely rugosely punctured; *gaster* long oval, truncate anteriorly, pointed posteriorly, smooth and shining (under a fairly high power very finely punctured) *penicilli* present; *hypopygium* bluntly pointed. *Legs* (and antennae) fairly long. *Wings* yellowish, iridescent, *veins* and *pterostigma* light brown, one *cubital cell*, one *discoidal cell*, and closed *radial cell* slightly appendiculate at apex. *Long.* 4 mm.

No. 358, described from one winged female and about 40 males, 'swarming,' 300 ft., 28.vii.39.

♂ and ♀ types in coll. British Museum (Nat. Hist.).

The typical form was described by me (1941, *Ann. Mag. Nat. Hist.* (11) 7: 135) from four winged females taken by Miss L. E. Cheesman, Papua, Mafulu, Wharton Range, 4,000 ft., 1.34. The differences in the female from Norfolk Island do not seem to be great enough to make a new subspecies of it.

Paratrechina (Nylanderia) obscura Mayr, ♂ ♀, 1862, *Verh. Zool.-Bot. Ges. Wien*, **12**: 698. — No. 103, 15 ♂♂, 200 ft., 'on lower leaves of *Solanum auriculatum* Ait.,' 6.v.39. *P. obscura* Mayr has been recorded from New South Wales, Queensland and New Caledonia. In the British Museum collection are specimens from Victoria. This is the first record for Norfolk Island.

British Museum (Nat. Hist.),

London, S.W.7.

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