

Distributional and Biological Notes on Sixteen North Island Species of Formicidae (Hymenoptera)

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A recent paper by Brown (1958) provides a very necessary stimulus to the furthering of our knowledge of the Formicidae in New Zealand. By comparison with neighbouring countries our fauna is compact and extremely interesting. Brown recognizes some 23 species, of which only 10 are considered to be endemic. An additional Australian species, *Pheidole yarrensii* Forel has been established in the far north for many years. At present, therefore, we can boast no more than two dozen representatives. The writer provided some of the material upon which Brown's account is based, and this named collection together with his keys, and further materials since collected have permitted the present contribution.

Subfamily Ponerinae

Amblyopone australis Erichson

Whangaroa 6.1.57, 1 worker; Waipoua Forest 1.4.49, 1 male; Paihia 12.1.49, 1 worker; 5.3.49, 2 workers, 1 queen, 1 male; Kawakawa 27.2.50, 1 male; 3.3.50, 1 winged queen, 2 males; Paiaka (Manawatu) 15.2.50, 1 winged queen.

Brown indicates that this species also occurs in Australia, New Guinea, New Hebrides, and adjacent islands, and that the "New Zealand population appears to be restricted to the North Island, and centred on the Auckland area." The above records indicate a widespread dispersal in the North Island. Nuptial activities were noted at Kawakawa in early March, 1950, on the gravel edges of a highway which had been built up with rock foundations. This species has nowhere been encountered in large numbers.

Amblyopone saundersi Forel

Pahiataua Track (Palmerston North-Pahiataua) 25.9.56, 10 workers; Waewaepa Range 29.3.57, 1 male.

Brown states that this endemic species is widely distributed in temperate forests of both main Islands. The above workers were taken from a large dry, rotten log in rough grazing country, and the male from among forest litter.

Heteroponera brouni (Forel)

The following records concern only workers.

Orouaiti 22.9.58, 2; Herekino 22.9.58, 1; Kaero 19.9.58, 1; Peria 23.9.58, 1; Waipoua Forest 26.9.58, 1; Paihia 25.3.49, 1; Tokatoka 3.10.57, 3; Brindleywyn 26.2.59, 9; Maungaturoto 29.9.58, 1; Mangakahia 25.9.58, 3; Pukapuka 18.3.59, 5; Wellsford 18.9.58, 5;

Piha 30.9.58, 3; Clevedon 9.7.58, 8; Tapu Hill, Coromandel, 8.7.58, 1; Kawhia 19.3.59, 2.

Brown suggests that this is an endemic species and probably restricted to the north of the North Island. Kawhia and Coromandel represent the southern-most and Herekino and Oruaiti the northern-most limits in the present material. Arboreal litter, i.e., that which is held up in Nikau, *Astelia* and *Freycinetia*, and the forest floor litter were the sources of the present materials, but further studies are required to determine whether or not nests are to be found in both sites.

Mesoponera castanea (Mayr)

Mangonui 12.2.51, 1 male; Otangaroa 23.2.59, 1 worker; Whangaroa 31.1.53, 1 winged queen; Puketi Forest, 11.2.51, 1 male; Paihia 16.1.49, 1 male; 13.2.49, 1 queen, 1 male; 18.2.49, 2 workers, 1 queen; 3.3.49, 1 worker; 5.3.49, 22 workers, 2 males; 4.2.50, 1 male; Mataraua 15.3.50, 5 workers; Otonga 24.9.58, 8 workers; Wellsford 29.9.58, 2 workers; Ness Valley, Clevedon 9.7.58, 2 workers, 1 queen; Tapu Hill, Coromandel 8.7.58, 3 workers; Te Araroa (J. M. Hoy) 13.8.58, 1 worker; Te Kawa 19.3.59, 3 workers, 2 queens; Waverley 6.10.49, 3 workers; Hicks Bay 11.2.59, 1 worker; Tangoio Hill, Hawke's Bay 9.2.59, 2 workers; Waewaepa Range 29.3.57, 5 workers; Ballance Bridge, Woodville 28.1.59, 1 worker; Foxton 30.4.50, 3 workers, 6 males; Levin 22.4.50, 6 workers; Mangahao 29.1.51, 4 workers.

Brown states that this endemic species which may occupy a wide variety of habitat is "widespread and common in the North Island and also is found around Nelson." The present records confirm his North Island distribution.

Ponera eduardi Forel

Paihia 20.3.49, 2 queens; 23.2.49, 1 queen, 1 male; Tapu Hill, Coromandel 9.7.58, 1 queen; Paiaka, Manawatu 29.12.49, 4 workers; 15.1.50, 30 workers; 25.3.50, 1 worker, 4 males.

Brown records this species, which apparently has been introduced from North Africa, as being of widespread occurrence in the North Island and from Nelson, and as occupying a variety of habitats. The Paiaka material was taken from the sheathing bases of *Phormium* bushes which had died from the "Yellow-leaf" disease, and the Tapu Hill specimens from forest floor litter. Flights in late February and March are common in North Auckland areas and may cause distress to stock. Queens which enter one's clothing may sting very noticeably and bring various reactions.

Subfamily MYRMICINAE

Huberia striata (Fr. Smith)

Whakatane 15.2.57, 2 workers; Mt. Egmont 8.11.57, 7 workers.

This endemic species according to Brown is widely distributed in New Zealand. The above specimens were taken in forest floor litter.

Huberia brouni Forel

Paihia 23.2.49, 1 male; Te Araroa (J. M. Hoy) 13.8.58, 1 worker; Haurangi Range 24.1.59, 2 workers.

Brown records this endemic species as being widely distributed in the North and South Islands.

Tetramorium grassii Emery

Paihia 5.3.49, 1 winged queen.

Brown records this South African species from the vicinity of Auckland.

Monomorium antarcticum (White)

Te Kao 7.3.50, 2 workers, 1 winged queen, 1 male; Oruaiti 22.9.58, 2 workers; Mangonui 12.2.51, 5 workers, 8 males; Kao 25.2.49, 24 workers; Whangaroa 31.1.53, 2 workers; Puketi Forest 11.2.51, 1 worker; Okaihau 5.3.50, 9 workers; Paihia 16.2.49, 9 workers; 18.2.49, 10 workers, 1 winged queen, 1 male; 5.3.49, 2 workers, 2 winged queens, 1 male; 14.3.49, 7 workers; 4.3.50, 3 workers, 3 winged queens, 3 males; Kaikohe 1.4.49, 6 workers, 8 winged queens, 7 males; Waimatenui 15.3.50, 3 workers, 3 winged queens, 3 males; Wellsford 12.3.51, 3 workers; Te Aroha 7.7.58, 1 worker; Chateau Road, Ruapehu, 27.3.58, 1 worker; Waverley 6.10.49, 36 workers; Mangahao 7.10.49, 17 workers, 1 queen; 6.1.50, 2 queens; Foxton 7.1.50, 11 workers, 3 winged queens; 15.1.51, 21 workers; 30.1.51, 1 worker; Paiaka, Manawatu 16.1.50, 2 workers; 15.2.50, 1 male; 1.5.52, 6 workers, 2 males; Levin 27.4.50, 9 workers.

According to Brown "The *Monomorium antarcticum* complex includes what are probably the commonest and most ubiquitous of New Zealand ants. They are also the most variable. . ." The present records of this endemic species substantiate Brown's remarks in respect of the North Island. The paler northern forms are well represented. The nests occupy a wide variety of habitats.

Monomorium smithi Forel

Paihia 18.2.49, 8 workers, 2 queens.

This apparently endemic species is of widespread occurrence in both Islands. The above specimens were taken from a nest located in a small cavity beneath the bark of a dry *Leptospermum* trunk.

Orectognathus antennatus Fr. Smith

Peria 23.9.58, 10 workers; Ahipara-Herekino Saddle 22.9.58, 2 workers.

Brown states, "It seems very likely that *O. antennatus* was originally introduced by man into New Zealand from New South Wales. Even now, the species is very restricted in distribution having been found only in and around Auckland. In Australia *antennatus* is found only in wet forest in Victoria and New South Wales, where nests have been found in and under rotten logs." The above specimens were taken from mixed forest floor litter, and litter held up in plants, etc. At Peria the species was taken by beating large *Freycinetia* clumps which had recently been dislodged to lie on the forest floor. The present known range of this species in New Zealand is thus considerably extended.

Strumigenys perplexa (Fr. Smith)

Paihia 18.2.49, 9 workers; Mitimiti 1.10.57, 8 workers.

According to Brown, "This species has been taken at a number of places widely scattered over the North Island. . . ." It also occurs in varying woodland types in Australia and Tasmania, and in Lord Howe and Norfolk Islands. He suspects its introduction from Australia within historical times.

Pheidole yarrensis Forel

Paihia 25.1.49, 4 soldier and 4 small workers.

Brown identified this species in the material forwarded to him, but appears to have overlooked it in his subsequent account of the New Zealand ants. I recall seeing this distinctive Australian species at Kaikohe at least 25 years ago. Further specimens were taken recently during pasture studies at Whangaroa (Cumber, 1959b).

Subfamily DOLICHODERINAE

Iridomyrmex glaber (Mayr)

Spirits Bay 13.2.51, 1 winged queen; Kaeo 13.3.50, 3 workers; Paihia 18.2.49, 3 workers; 20.3.49, 7 workers; 25.2.50, 8 queens; 28.2.50, 3 queens; Okaihau 5.3.50, 8 workers; Mt. Messenger 30.11.48, 1 worker.

Brown records this species which is probably an introduction from Eastern Australia, from the vicinity of Auckland stating that no samples had been received from any "wild areas of country". The above records extend his range considerably. Nests were observed under stones and in rotting wood.

Technomyrmex albipes (Fr. Smith)

Paihia 28.2.49, 5 workers.

This species occurs in South-East Asia and the Pacific, and is thought to have been introduced into New Zealand in historical times. It is still largely confined to urban areas in the North Island and about Nelson in the South Island. It is a household pest of considerable importance in northern areas—especially coastal ones—where its invading columns with their rancid attending odour

are frequently encountered. Nests occur in masonry and joinery, plywood doors being commonly occupied when access is available through hinge-holes or badly joined ends.

Subfamily FORMICINAE

Prolasius advena (Fr. Smith)

Spirits Bay 13.2.51, 8 workers; 13.1.57, 4 workers; Waiare 19.9.58, 9 workers; Mangonui 8.3.50, 2 workers; Peria 23.9.58, 1 worker; Waimatenui 15.3.50, 4 workers; Paihia 5.3.49, 1 winged queen; Okaihau 5.3.50, 9 workers; Motukaraka 1.10.57, 8 workers, 1 queen; Mitimiti 1.10.57, 1 worker; Silverdale 18.9.58, 1 worker; Clevedon 9.7.58, 1 queen; Waioeka Gorge 13.2.57, 3 workers, 1 queen; Eketahuna 24.1.59, 5 workers.

This endemic species which is of widespread occurrence in both North and South Islands is found primarily in bush country. It occurs commonly in the litter beaten from Nikau, *Astelia* and *Freycinetia*.

The present account does not attempt to define the boundaries of the North Island species. It seemed desirable however, to place on record information on materials which the writer has accumulated by casual collections in odd North Island districts during the past ten years. Further records obtained during studies of North Island grassland areas are being recorded in pasture survey papers (Cumber, 1959a, b).

The northern areas are profitable ones in studying the Formicidae. Early Bay of Islands shipping is doubtless responsible for many of the introductions.

REFERENCES

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