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### 33. THE ANTS OF RENNELL AND BELLONA ISLANDS

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The ant fauna of Rennell Island and its small neighbor, Bellona Island, was completely unknown until 1934, when W. M. WHEELER listed several species collected by MAURICE WILLOWS, Jr., during the Templeton Crocker Expedition of 1933. The picture is now considerably strengthened by the addition of the material to be reported upon in the present paper. This material comes from three sources: the Danish Expedition (Dan. Exp.), which as a subsidiary enterprise of the Galathea Expedition Round the World 1950-52, stayed on Rennell Island from 12 October to 14 November, 1951, under the direction of Dr. TORBEN WOLFF (WOLFF, 1955a and 1955b); a British expedition (Brit. Exp.) conducted on Rennell Island from 15 October to 27 November 1953 by Mr. J. D. BRADLEY and Mrs. DIANA BRADLEY under the auspices of the British Museum (Natural History) (BRADLEY 1955); and a private collection made on Rennell and Bellona during November 20-30, 1955, by Mr. E. S. BROWN. The Danish collection is deposited in the Zoological Museum of Copenhagen and the Bradley and Brown collections in the British Museum (Natural History). The author wishes to express his appreciation to these institutions and to the collectors mentioned for the opportunity of studying this valuable material.

The basis of our present knowledge of the ants of the Solomon Islands as a whole is the monograph published by W. M. MANN in 1919. This is an unusually sound and thorough work of its kind, partly because MANN collected in the islands himself, from 19 May to 24 November 1916. An entertaining account of his experiences during these early and difficult times is given in his well-known autobiography, "Ant Hill Odyssey". More recently, the present author has been revising the ants of the Solomons as part of a larger study of the Melanesian fauna (WILSON, 1958 and 1959a). The available collections from the main islands of the Solomons have been growing rapidly, thanks largely to the collecting program of the B. P. Bishop Museum, Honolulu, under the direction of J. L. GRESSITT.

## THE ANTS OF RENNELL ISLAND

### SUBFAMILY PONERINAE

#### *Trachymesopus stigma* (Fabricius)

Record: Lavanggu (Dan. Exp. L357); cultivated area with *Carica Papaya*, on decaying wood and on and in ground. The single worker was probably collected in a rotting log, the preferred if not exclusive microhabitat of the species in the remainder of Melanesia.

*T. stigma* is one of the most widespread of all ponerine species. It is found both in the New World and Old World tropics; in the latter it occurs from southern China to Queensland, Micronesia, outer Melanesia, and Samoa. As noted elsewhere (WILSON, 1858), there does not appear to be any significant geographic variation over this vast range. In both hemispheres *stigma* has been collected from the interior of relatively undisturbed native forests, where it lives in apparent compatibility with local endemic faunas of the most diverse kinds. Its ultimate origin is unknown, but the New World tropics seem the most likely possibility, since the most closely related species occur there. Perhaps it was introduced by man into the Old World and has thrived by virtue of its choice of nesting site. I have already shown (1959c) that in New Guinea it is a member of a small, ecologically isolated group of species that are mostly limited in their activities to larger rotting logs in intermediate stages of decomposition.

#### *Leptogenys ?foreli* Mann

Record: Hutuna (Brit. Exp.); Te-Uhungango (Brit. Exp.). Two males are tentatively identified as either *foreli* Mann or the closely related *truncata* Mann. Males have never been associated with either of these species, but the Rennell specimens correspond closely in size, sculpturing, and petiole form to the worker caste. Of the two possibilities, *foreli* is the more likely, since it is known to range widely from New Guinea to the New Hebrides, while *truncata* is known only from the type collection from the Santa Cruz islands.

#### *Odontomachus simillimus* Fr. Smith

Records: Lavanggu (Dan. Exp. L352, L356, L357, L372, L374, L390); Niupani (Dan. Exp. L378, L385; Brit. Exp.); Te-Avamanggu (Dan. Exp. L364, L365); Hutuna, worker and four males (Brit. Exp.). The large number of records suggests that *simillimus* is one of the more abundant species on Rennell. It was collected in a wide array of habitats: sandy grass-plain near shore, open cultivated places, low vegetation near lake, young forest (about 3 m. high) on previously cultivated area, and rain forest. This is also an extremely abundant and versatile species elsewhere in Melanesia (WILSON, 1959a). WHEELER (1934) has previously recorded it from Kaggava Bay (Lavanggu?), Rennell I., and the northwest end of Bellona Island. I have also seen workers collected on Bellona by E. S. BROWN in 1955.

*O. simillimus* is the most widely distributed of all Indo-Australian ponerine ants, occurring through most of tropical Asia and the Pacific Region. It does not appear to show significant geographical variation.

#### **Odontomachus ?malignus Fr. Smith**

Record: Te-Uhungango, 3 males (Brit. Exp.). Three large, yellow *Odontomachus* males have been tentatively identified as this species. The only members of the genus known from the Solomon and Santa Cruz Islands besides *simillimus* are *emeryi* Mann and *malignus* Fr. Smith. Males have never been associated with workers in either case. Of the two, *malignus* has the wider distribution, being the only one to reach the Santa Cruz Islands, and its ecological range ideally suits it for the colonization of smaller islands (WILSON, 1959a). Moreover, the Te-Uhungango males are closer to the predicted size for *malignus* than they are for *emeryi*.

#### **Cerapachys inconspicua Emery**

Record: Hutuna (Brit. Exp.). A single male compares well with definitely determined specimens from the lower Busu River, New Guinea. *C. inconspicua* is the most widespread member of the genus in Melanesia, ranging from Netherlands New Guinea to the eastern Solomons.

#### **?Cerapachys (Syscia) sp.**

Record: Te-Uhungango, male (Brit. Exp.). A single specimen has been placed tentatively in *Syscia*. Unfortunately, no males of this subgenus have ever been associated with workers, but the specimen at hand is in or close to *Cerapachys* and seems to show modifications in body form similar to those in the *Syscia* worker caste. Only one species of *Syscia*, *pawa* Mann, has been recorded from the Solomon Islands.

### **SUBFAMILY MYRMICINAE**

#### **Pheidole oceanica Mayr**

Records: Hutuna (Brit. Exp.); Te-Uhungango (Brit. Exp.); Tingoa (Brit. Exp.). Minor workers and soldiers. This species ranges, with little or no significant geographic variation, from New Guinea northward into Micronesia and eastward through Melanesia (including New Caledonia) across Polynesia as far east as the Marquesas. It may be native to most or all of this range. In evidence is the fact that the distribution is continuous but strictly limited westward by New Guinea and eastward by the Marquesas. Also, its closest relative is *P. impressiceps* Mayr, which is undoubtedly native to New Guinea.

### **Pheidole umbonata** Mayr

Records: Hutuna (Brit. Exp.); Te-Uhungango (Brit. Exp.); single queens; Lavanggu (E. S. BROWN). Minor workers and soldiers. This little species occurs continuously from New Guinea to Micronesia, through outer Melanesia, and into Polynesia as far east as the Society Islands. Geographic variation has been noted in size and coloration, especially in the soldier caste. The Lavanggu series conforms to the central Melanesian populations in these two characters.

### **Tetramorium pacificum** Mayr

Record: Hutuna (Brit. Exp.). WHEELER (1934) also records the species from the north-western end of Bellona Island.

*T. pacificum* ranges widely through tropical Asia and the Pacific, as far east as the Society Islands. There is little or no significant geographic variation within this great range.

### **Tetramorium tonganum** Mayr

Record: Te-Uhungango (Brit. Exp.). A single, headless alate queen probably belongs to this species. *Tonganum* occurs more or less continuously from New Britain to eastern Polynesia and is probably native to most or all of this range.

### **Monomorium destructor** (Jerdon)

Records: Tingoa (Brit. Exp.); Lavanggu (E. S. BROWN). This species is a pantropical tramp probably originating from tropical Asia. It occurs sporadically in the Pacific Region, e.g., on New Guinea and Rurotonga. The present record is the first from any part of the Solomon Islands.

### **Vollenhovia oblonga** (Fr. Smith)

Records: Hutuna (Brit. Exp.), winged queen; Lavanggu (Dan. Exp. L372), winged queens, from rain forest. This is the most widely distributed species of *Vollenhovia*, occurring from Indonesia to the New Hebrides and New Caledonia. The Rennell queens do not differ significantly from several specimens of the same caste from Santa Cruz; no other queen material was available for comparison during the present study. As noted by MANN (1919) in the Solomons and myself (1959c) in New Guinea, colonies normally nest under the bark of rotting logs in rain forest.

### **Dilobocondyla** sp.

Record: Hutuna (Brit. Exp.); a single male. This is the first record of the genus from the Solomon Islands. The closest species geographically is *cataulacoidea* (Stitz) of New Guinea. Since the male of *cataulacoidea* is unknown, the position of the Rennell specimen cannot be determined at this time.

## SUBFAMILY DOLICHODERINAE

### *Iridomyrmex cordatus* (Fr. Smith)

Records: Hutuna (Brit. Exp.), winged queen; Lavanggu (Dan. Exp. L372); worker from rain forest; Te-Uhungango (Brit. Exp.), winged queens.

*I. cordatus* as presently conceived includes *I. myrmecodiae* Emery. The species is, next to *I. anceps* (Roger), the most widespread of the Old World *Iridomyrmex*. It occurs continuously from the tropical mainland of Asia to Queensland and east through the Santa Cruz Islands. The worker and queen castes show considerable geographic variation in several characters, including size, extent of polymorphism, and coloration. The single worker and small series of queens from Rennell resemble exactly the small, bicolorous form that makes up most of the Solomons and Santa Cruz populations.

### *Turneria dahli* Forel

Record: Hutuna (Brit. Exp.), a single winged queen. The single individual presents a puzzling array of characters that seem to place it intermediately between *dahli* Forel and *pacifica* Mann but somewhat closer to the former species. It has been compared with queens of *dahli* from New Britain and *pacifica* from the New Hebrides (Espiritu Santo). These two samples differ as follows: (1) *dahli* has a somewhat more elongate head, with more acute occipital angles; (2) *dahli* has at most one or two standing pairs on the sides of the head posterior to the eyes, whereas *pacifica* has numerous standing hairs in these areas; (3) in *dahli* vein  $R_{s+4}$  is distinctly longer than the second radial crossvein, while in *pacifica* the two veins are equal in length; (4) *dahli* is concolorous dark brown, while in *pacifica* the gaster alone is dark brown, with the remainder of the body yellowish red. From collections recently acquired from several sources, it is now known that *dahli* occurs from New Britain to Espiritu Santo, and *pacifica* occurs from Santa Cruz to Espiritu Santo. Thus the two species are sympatric through the entire known range of *pacifica*. The Rennell specimen resembles *dahli* in characters (3) and (4) and *pacifica* in (2). It has the elongate head shape of *dahli* but more rounded occipital corners approaching the condition of *pacifica*; thus in head shape it is somewhat closer to the New Britain *dahli* but in this respect is closely approached by *dahli* workers (no queens available) from Espiritu Santo. These morphological considerations, plus the fact that *dahli* is the most wide-ranging of all *Turneria*, have led to the present tentative determination of the Rennell specimen. It is interesting that no *Turneria* have yet been collected from the main part of the Solomon Islands, although the genus almost certainly occurs there. It is evidently rare throughout most of its range, but on Espiritu Santo the author found *dahli* and *pacifica* to be among the dominant arboreal ants. A principal factor responsible for the unexpected success of the genus in the New Hebrides appears to be the lack of competitors found elsewhere in Melanesia, e. g., the genus *Iridomyrmex*.

### **Tapinoma melanocephalum** (Fabricius)

Record: Hutuna (Brit. Exp.).

*T. melanocephalum* is a pantropical tramp species, possibly of Old World origin. It appears to have been introduced by man into Melanesia, where it is spottily distributed in cultivated areas.

### **Technomyrmex albipes** (Fr. Smith)

Record: Hutuna, 2 males (Brit. Exp.). This is one of the most widespread of the Indo-Australian dolichoderines, ranging continuously from tropical Asia to eastern Polynesia.

## SUBFAMILY FORMICINAE

### **Anoplolepis longipes** (Jerdon)

Records: Hutuna (Brit. Exp.); Te-Uhungango (Brit. Exp.). This distinctive species, which is probably native to Africa, has been spread throughout the Pacific Islands by commerce.

### **Paratrechina (Nylanderia) minutula** (Forel)

Records: Niupani (Dan. Exp. L385), a single dealated queen collected in low vegetation near Lake Te-Nggano. Te-uhungango and Tingoa (Brit. Exp.), single males. This species has been recorded from many scattered localities in the Indo-Australian region, within the area bounded by Formosa, Western Australia, Lord Howe Island, Guam, and Samoa. Very possibly it has been introduced by man into part of its range. MANN (1919) records it from Ugi and Santa Isabel in the Solomon Islands.

### **Paratrechina (Nylanderia) vaga** (Forel)

Records: Hutuna (Brit. Exp.), workers and males; Lavanggu (Dan. Exp., L351, L358, L359, L360, L374, L390), workers, dealate queen, and male; Te-Avamanggu (Dan. Exp., L364), worker; Te-Maingga (Dan. Exp. L362) workers; Te-Uhungango (Brit. Exp.), workers. This species is extremely adaptable. The Danish Expedition collected it from almost every principal habitat on Rennell, including the following: sandy beach, under leaves; coconut grove; secondary (3-m.-high) rain forest; mature rain forest.

*P. vaga* occurs more or less continuously from Queensland and New Guinea east across the Pacific as far as Juan Fernandez. It is one of the most abundant ant species in Polynesia. The Rennell series show surprising internidal variation in total size, convexity of thoracic dorsum, density of pilosity, density of cuticular shagreening, and depth of color. This variation is nearly continuous, embracing none of the forms identical with other *Nylanderia* species known to be sympatric with *vaga* elsewhere; hence all of the series have been placed here under *vaga*. It is probable that WHEELER's (1934) record of "*obscura* var." from Kungava Bay was based on a darker, shinier specimen of *vaga*.

### **Camponotus (Colobopsis) spp. (2)**

Records: Lavanggu (Dan. Exp. L356), a single winged queen; Te-Uhungango (Brit. Exp.), three winged queens, several males; Hutuna (Brit. Exp.), 2 winged queens. These specimens, representing two species, cannot be determined at present.

### **Camponotus (Myrmamblys) reticulatus Roger**

Records: Lavanggu (Dan. Exp., L374, L390), workers; Te-Maingga (Dan. Exp., L362), worker; Te-Avamanggu (Dan. Exp., L364), worker. Collections were made in a variety of habitats, including cultivated area with open coconut grove, young secondary forest, and mature rain forest. WHEELER (1934) records *reticulatus* (= *bedoti*) from Kanggava Bay (Lavanggu?), Rennell Island, and from the northwestern corner of Bellona Island.

*C. reticulatus* occurs from India to Queensland and throughout Melanesia as far east as Nupani and Anuda in the Santa Cruz Group. It is especially abundant in central and eastern Melanesia, where it occurs even on such remote islands as Sikaiana. The terminal populations (India, Queensland, Solomons) can be distinguished from each other on the basis of characters in size, sculpturing, and coloration. During the present study there was not enough material to determine whether any significant differentiation occurs inside Melanesia. Minor workers available in limited series from eastern New Guinea, the Solomon Islands and Santa Cruz Islands appear nearly identical to each other.

### **Polyrhachis (Hedomyrma) annae Mann**

Records: Hutuna (Brit. Exp.), worker; Lavanggu (Dan. Exp., L351, L352, L357, L389; E.S. BROWN), workers, dealate queen; Morange (BROWN), worker; Niupani (BROWN), worker; Te-Uhungango (BROWN), worker. At Lavanggu the species was collected in a cultivated area containing *Carica Papaya* trees, in coconut groves, and in a grove of *Pandanus* growing on bare coral rock. WHEELER (1934) records the species from Kanggava Bay (at Lavanggu), Rennell I., and the northwestern end of Bellona Island.

*P. annae* is now known from the following islands in the Solomons and Santa Cruz Groups: Bellona, Guadalcanal, Malapaina, Matema, Rennell, San Cristoval, Santa Cruz. I have seen two workers of a related, undescribed species from Simba Mission, Bougainville, in the collection of the B.P. Bishop Museum.

### **Polyrhachis (Myrna) relucens (Latreille)**

Records: Lavanggu (Dan. Exp. L351, L352, L374, L389; E.S. BROWN); Niupani (Dan. Exp., L371; BROWN); Te-Avamanggu (Dan. Exp., L367); Te-Uhungango (Brit. Exp.); Tingoa (Brit. Exp.); Hutuna (Brit. Exp.), male; Morange (BROWN). The species is one of the most widely distributed of Indo-Australian *Polyrhachis*, ranging continuously from New Guinea to northern Queensland and through Melanesia to the

island of Vanikoro. On Rennell Island it apparently occurs mostly in open situations. The Danish Expedition collected it in coconut groves, grassy areas near Lake Tenggano, in cultivated areas, and in small (3-m.-high) secondary forest.

*P. relucens* shows marked geographic variation in size, body form (especially spine form), pilosity, and coloration. In the present study I have been able to examine series from New Guinea, Australia, Solomon Islands, and Santa Cruz Islands. In all characters the Rennell samples most closely resemble those from Santa Cruz and Vanikoro, and in several characters they depart notably from the Solomons samples (Santa Isabel, Ugi). This affinity between the Rennell and Santa Cruz populations is unexpected in view of the much greater geographic proximity of the Solomons proper to Rennell.

### GENERAL REMARKS ON THE RENNELL FAUNA

A total of 25 species of ants, representing 17 genera, are now known from Rennell Island. The number undoubtedly represents a large percentage, perhaps a majority, of the species actually present, but it is almost certainly still incomplete. In evidence is the fact that no small ponerines or cryptobiotic myrmicines have yet been collected, although judging from the faunas of better-known islands of similar size and isolation, several species can be expected to occur there. Also, three arboricolous genera, *Dilobocondyla*, *Turneria*, and *Camponotus* (*Colobopsis*), are represented in collections by a few winged specimens taken at light, leaving the impression that this ecological segment of the fauna has only been touched lightly, as also stated by WOLFF (1955b, p. 36).

Of the 25 species, 4 (in *Cerapachys*, *Dilobocondyla*, and *Colobopsis*) are indeterminate to species. They belong to genera with high degrees of specific endemism (precinctiveness) in Melanesia and hence are very likely native or perhaps even endemic to Rennell, but their status can be decided only by the examination of more material than is now available. The remaining 21 species have been determined and can be analyzed zoogeographically. Of the 21, 3 (*Monomorium destructor*, *Tapinoma melanocephalum*, *Anoplolepis longipes*) have been introduced into the Solomons by man. Ten or eleven of the species (*Trachymesopus stigma*, *Odontomachus simillimus*, probably *O. malignus*, *Tetramorium pacificum*, *Vollenhovia oblonga*, *Pheidole oceanica*, *P. umbonata*, *Iridomyrmex cordatus*, *Paratrechina minutula*, and *Camponotus reticulatus*) are among the most widespread ant species native to the Indo-Australian Region; each ranges from tropical Asia to at least as far as outer Melanesia. Three or four species (*Cerapachys inconspicua*, *Paratrechina vaga*, *Polyrhachis relucens*, probably *Leptogenys foreli*) are limited to Melanesia but widespread from New Guinea at least to the Solomons and Santa Cruz Groups. Two species (*Tetramorium tonganum*, *Turneria dahli*) are confined to the islands east of New Guinea, but are still relatively widespread, occurring from New Britain to the New Hebrides or beyond. Another species (*Polyrhachis annae*) is known only from the Solomons and Santa Cruz Groups. Not a single one of the known Rennell ants is endemic (precinctive) to the island.

In summary, Rennell appears to be populated chiefly by species that are widespread elsewhere in the Pacific. Of the twenty species considered to be native to Rennell, none is peculiar to the island, and only one is limited elsewhere to the Solomons and Santa Cruz Islands as a whole. At least seventeen, or 85 %, are in what I have referred to elsewhere (1959b) as "Stage-I" in the speciation pattern exhibited generally by Pacific ants; that is, they range widely and continuously out of one or the other of the three principal faunal source areas Australia, tropical Asia, and New Guinea. They are relatively recent invaders of the Solomons and have not yet undergone differentiation at the species level. The proportion of Stage-I species on Rennell is very high. It can be compared with the following percentages of Stage-I species in the subfamily Ponerinae for various other parts of Melanesia and Polynesia: New Guinea 22 %, Bismarck Archipelago 56 %, Solomons 49 %, New Hebrides 82 %, Fiji 18 %, Samoa 83 %, Society Is. 100 %.

The Rennell fauna conforms to two rules of Pacific ant geography that have emerged in recent studies. The first is implied in the data given above, that with all other factors being approximately equal, the proportion of Stage-I species increases outward from the principal faunal source areas. The second is a simple corollary of the first: with increasing distance from the source areas the percentage of endemism decreases. Both trends are reversed on the Fiji Islands and New Caledonia, which are old land masses that have been the sites of much local differentiation and radiation in ants. Finally, it may be noted that the increase of Stage-I elements at the expense of older, Melanesian-endemic elements in isolated islands results in the "oceanic" affinities of the Rennell ant fauna, a phenomenon similar to that already observed in the Rennell vertebrate fauna by several zoogeographers (Mayr, 1931; Braestrup, 1958; Volsøe, 1958). In fact, to call the Rennell fauna "oceanic" is, at least with respect to the ants, just another way of saying that the Rennell species are predominantly in Stage-I. I have discussed the reasons for this interesting effect in my earlier paper on the Melanesian Ponerinae (WILSON, 1959b). The geographic and ecological evidence suggest that the Stage-I species are generally endowed with (1) superior dispersal powers; and (2) the ability to thrive in "marginal habitats" on the larger islands of Melanesia and thus avoid competition with the major part of the older (Stage-II and III) fauna, which is concentrated in the more luxuriant parts of the rain forest.

Isolated islands such as Rennell tend to be populated heavily by Stage-I species both because they can be reached only by a minority of groups with adequate dispersal facilities and because a relatively large percentage of their area is covered by the marginal habitats favored by Stage-I species. These conclusions are in essential agreement with the independent opinion of BRAESTRUP (1958) concerning the origin of the vertebrate fauna of Rennell Island.

## THE ANTS OF BELLONA ISLAND

Collections from Bellona are perhaps still too incomplete to allow a critical evaluation of the composition of the fauna. Perhaps the most that can be said is that the majority of both the native and introduced species have been found on Rennell Island also. By far the most distinctive element discovered so far is the monotypic genus *Willowskiella*, described from a single worker from Bellona by WHEELER in 1934. WHEELER has placed *Willowskiella* in the tribe Meranoplini, considering it a distinct, somewhat primitive genus perhaps closest to *Promeranoplus* and *Prodicroaspis* of New Caledonia. If this placement were correct, *Willowskiella* would hold a strikingly anomalous zoogeographic position, since no other meranopline species are known to occur in the main arc of Melanesian islands east of New Guinea. In the opinion of the present author, *Willowskiella* actually belongs in the Tetramoriini. Its entire body form and propodeal spine structure seem to place it not far from *Triglyphothrix* and *Romblonella*, two genera strongly developed in the western Pacific. The unusual shapes of the petiolar and post petiolar nodes can on close examination be seen to be but a slight exaggeration of a morphological trend already apparent in at least one true *Triglyphothrix* species, *T. pacifica* Mann. The light body sculpturing and simple pilosity nevertheless serve to set off *Willowskiella* as distinct from the Indo-Australian *Triglyphothrix*, while the lack of an antennal scrobe distinguishes it from *Romblonella*. Another noteworthy Bellona record, established in the present study, is that of an undetermined *Pheidole* (*Pheidolacanthinus*), a subgenus hitherto unknown from Rennell.

Below are listed all of the available records of Bellona ants. These include the original records based on the collections of the Templeton Crocker Expedition by WHEELER (1934) and the British Museum collections studied by the present author. Note that the BRADLEYS' label Matahenua refers to the area between Ahanga, on the coast, and the interior village of Matahenua; both localities are at the northwestern end of the island.

*Odontomachus simillimus* Fr. Smith. Northwestern end of island (Templeton Crocker Exp.).

*Willowskiella dispar* Wheeler. Northwestern end of island (Templeton Crocker Exp.).

*Pheidole* (*P.*) *oceanica* Mayr. Kapata (E. S. BROWN).

*Pheidole* (*Pheidolacanthinus*) sp. A single indeterminate minor worker was collected by E. S. BROWN.

*Tetramorium pacificum* Mayr. Northwestern end of island (Templeton Crocker Exp.).

*Tetramorium melanogyna* var. *pallidiventre* Wheeler. Northwestern end of island. "Worker. Differing from the typical *melanogyna* in having the gaster yellow instead of fuscous. The mandibles and legs are of the same yellow color as the gaster, the knees, however, are infuscated. The petiolar and post petiolar nodes are as coarsely reticulate-rugose as the thorax and the marginations are less distinct." No attempt has been made to re-evaluate the status of this form, which was based on a single worker.

*Iridomyrmex cordatus* (Fr. Smith). Matahenua, winged queens, 20.-30. Nov. 1953 (Brit. Exp.). A long series of workers were collected on the island by E. S. BROWN in 1955.

*Anoplolepis longipes* (Jerdon). Matahenua, males, 20.-30. Nov. 1953 (Brit. Exp.). A series of workers were collected on the island by E. S. BROWN.

*Paratrechina (Nylanderia) minutula* Forel, male, 20.-30. Nov. 1953 (Brit. Exp.); no further locality, workers (E. S. BROWN).

*Camponotus (Colobopsis)* spp. (2). One of the two species is the same as that recorded from Rennell I. (*q. v.*).

*Camponotus (Myrmamblys) reticulatus* Roger. Northwestern end of island (Templeton Crocker Exp.); no further locality (E. S. BROWN).

*Polyrhachis (Hedomyrma) annae* Mann. Northwestern end of island (Templeton Crocker Exp.); no further locality (E. S. BROWN).

*Polyrhachis (Myrma) relucens* (Latreille). No further locality (E. S. BROWN).

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