

ANTS OF THE MARQUESAS ISLANDS *

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INTRODUCTION

For many years our knowledge of the ants of the Marquesas and Society Islands has consisted of a few records from the latter⁴⁴ and some scattered references in myrmecological literature. Recently L. E. Cheesman and W. C. Crawley have published a much more extensive account⁴⁵ of the ant fauna of both the Marquesas and Society Islands, based on material collected by Cheesman in 1925. Their list comprises 25 different forms. A considerable collection of ants, amassed by E. P. Mumford and A. M. Adamson and their assistants while engaged in making a general entomological survey of the two island groups, and sent me for study, adds materially to the list of forms previously known and to our knowledge of their distribution. In this collection I am able to recognize 28 different forms, 13 of which have not before been recorded from the Marquesas and Society Islands. Nine others, which are cited in the Cheesman-Crawley list, are not represented in the series taken by Mumford and Adamson. The 16 forms common to both collections are nearly all tropicopolitan vagabond species well known from other small islands in the Pacific. Comparing the fauna of the two archipelagos, we find that of the total number (38) of distinct forms, 15 which are found in the Society Islands have not been taken in the Marquesas. From the Marquesas 4 are known which have not been taken in Society Islands, and 19 are common to both archipelagos. This last group consists very largely of the vagrants, which are known to have a wide distribution throughout the tropics of the Old World or even of both hemispheres. A single species, *Lasius* (*Acanthomyops*) *claviger* Roger, seems to be clearly a recent and probably evanescent importation by commerce from the United States. All the forms cited in the following list are small or very small ants, the fecundated females of which might have been transported to the islands by violent winds or as stowaways in native canoes, on logs, or on other flotsam and jetsam.

An account of the collection made by the Pacific Entomological Survey

⁴⁴ Wheeler, W. M., The ants of Moorea, Society Islands: Am. Mus. Nat. Hist., Bull. 24, pp. 165-167, 1908.

⁴⁵ Cheesman, L. E., and Crawley, W. C., A contribution towards the insect fauna of French Oceania, part 3, Formicidae: Ann. Mag. Nat. Hist. (10), 2 p. 514, 1928.

* Pacific Entomological Survey Publication I, article 16, issued November 20, 1932.

in Society Islands will form the subject of a separate paper which will be published by Bernice P. Bishop Museum.

FAMILY FORMICIDAE

SUBFAMILY PONERINAE

Ponera perkinsi Forel.

Recorded by Cheesman and Crawley from Fatuhiva.

Ponera species.

Tahuata: Vaitahu, seashore, ♂, LeBronnec and Tauraa.

A single specimen which I am unable to identify without the worker or female.

SUBFAMILY MYRMICINAE

Pheidole megacephala (Fabricius).

Hivaoa: Vaiepoepo, altitude 2,430 feet, 2♂ ♀, Mumford and Adamson; Aimoa, altitude 1,660 feet, ♂ ♀, Mumford and Adamson; Mount Ootua, altitude 2,800 feet, 2♂ ♀ ♂, Mumford and Adamson; Tapeata, east slope of Mount Ootua, altitude 2,500 feet, ♀, Mumford and Adamson; Anatikaue, altitude, 1,750 feet, ♀, Mumford and Adamson; Tepuna, altitude 3,010 feet, in sweepings, ♀, Mumford and Adamson; Hanahaka [Tanaeka] Valley, altitude 1,100 and 1,450 feet, dry slope, ♀ ♀, Mumford and Adamson; Kopaafaa, altitude 2,770 feet, in sweepings, 2♂ ♀, Mumford and Adamson; Mount Temetiu, altitude 2,600 and 3,500 feet, in sweepings, 2♂ ♀, Mumford and Adamson; Atuona, low level, ♀ ♀, Mumford and Adamson; Atuona Valley, altitude 330 feet, ♀, Mumford and Adamson; Tahauku, ♀, Mumford and Adamson.

Tahuata: Tehue Valley, altitude 650 feet, in dead trunk of *Inocarpus edulis*, 2♂ ♀, LeBronnec and H. Tauraa; Hanamiai Valley, altitude 500 feet, 2♂ ♀, LeBronnec and H. Tauraa; Hanahevane Valley, sea level, ♀, LeBronnec and H. Tauraa; Vaitupaahei, altitude 200 and 2,400 feet, in dead fern stipes, 2♂ ♀, LeBronnec and H. Tauraa; Amatea, altitude 2,500 feet, in dead log, 2♂ ♀, LeBronnec and H. Tauraa; Tehue, Vaitahu Valley, altitude 150 feet, 2♂ ♀, LeBronnec and H. Tauraa.

Fatuhiva: Ihiota, Hanavave Valley, altitude 600 feet, in rotten fruit of *Inocarpus edulis* and in sweepings, ♀ ♀, LeBronnec; Teaotu, Hanavave Valley, altitude 700 feet, on *Eugenia* species, ♀, LeBronnec; Omoa [Oomoa] Valley, ♀, LeBronnec.

Mohotani: above Anaoa, altitude 160 to 650 feet, in sweepings, ♀, Adamson; west side of island, altitude 975 feet, ♀, Adamson.

Nukuhiva: Teuanui, Tovii [Toovii], altitude 1,800 feet, under bark of *Hibiscus tiliaceus*; at 2,500 feet, nesting in *Metrosideros collina*, 2♂ ♂, Mumford and Adamson; Tapuaooa, altitude 3,100 feet, ♀, Mumford and Adamson; Tauamaka, altitude 2,900 feet, nesting in *Metrosideros collina*, 2♀, Mumford and Adamson; Taiohae, 2♀, Mumford and Adamson.

Uahuka: Hanatea Valley, altitude 100 feet, 2♀ ♀, LeBronnec and H. Tauraa; Vaipae Valley, altitude 150 and 270 feet, 2♀, LeBronnec and H. Tauraa; Vaitiake, altitude 1,000 feet, 2♀ ♀ ♂, LeBronnec and H. Tauraa; Hanatekeo, Hane Valley, altitude 600 feet, in dead log of *Hibiscus tiliaceus*, ♀, LeBronnec and H. Tauraa; Penau, altitude 2,000 feet, ♂, LeBronnec and H. Tauraa; Haahue Valley, elevation 90 feet, in dead log of *Pisonia* species, 2♀ ♀, LeBronnec and H. Tauraa; Teanatuhiwa, altitude 300 feet, 2♀ ♀, LeBronnec and H. Tauraa; Tahoatikikau, altitude 780 feet, 2♀, LeBronnec and H. Tauraa; Teuaei, altitude 350 feet, 2♀ ♀ ♂, native collector; Teavamataiki, altitude 730 feet, ♀, LeBronnec and H. Tauraa.

Uapou: Hakahetau Valley, altitude 1,200, 1,500, and 2,000 feet, in dead log, ♀, Adamson.

Eiao: on *Pandanus*, ♀, Adamson.

This tropicopolitan ant seems to be rare in Society Islands, but is abundant and widely distributed in the Marquesas. Cheesman and Crawley also record it as abundant in the Marquesas (Hivaoa, Fatuhiva, and Nukuhiva), but not from Society Islands. Mr. Adamson writes me that it "appears to be as destructive in the Marquesas as it is in the Hawaiian islands, and unfortunately it extends its range up to the highest elevations in the Marquesas, though at 3,000 feet its numbers begin to diminish."

***Pheidole umbonata* Mayr.**

Fatuhiva: Vaikoao, Omoa [Oomoa] Valley, altitude 1,600 feet, 2♀, LeBronnec.

***Pheidole oceanica* Mayr.**

Mohotani: altitude 700 feet, 2♀, LeBronnec and H. Tauraa.

Uahuka: Hanatekeo, altitude 950 feet, in dead guava stem, 2♀, LeBronnec and H. Tauraa.

Recorded also by Cheesman and Crawley from Fatuhiva.

***Pheidole* (*Pheidolacanthinus*) *sexspinosa* Mayr, subspecies *adamsoni*, new subspecies.**

Soldier

Differing from the typical *P. sexspinosa* in the decidedly deeper transverse occipital impression of the head, in having the dorsal surface of the thorax smoother and more shining, and in coloration, the body being black, with castaneous mandibles, scapes and

gaster, the funiculi and femora paler and somewhat more reddish brown, the tibiae, tarsi, and tip of terminal antennal joint brownish ivory yellow. The head is opaque above, with the coarsely reticulate-rugose occipital lobes shining, the gaster smooth and shining, except the base of the first segment which is subopaque, shagreened and sparsely foveolate.

Worker

Differing from the worker of the typical *P. sexspinosa* in having the head behind distinctly narrower and more rounded. The surface of the head and thorax is smoother and more shining above, the rugae on the front obsolescent, and the sides of the front are finely and densely punctulate. Color as in the soldier, except that the base of the first gastric segment is ivory yellow or whitish.

Female

Length 4.5 mm. Head resembling that of the soldier but shorter, nearly square, slightly broader than long, without transverse occipital impression. Ocelli rather widely separated. Thorax short and broad, pronotum with sharply, rectangularly dentate humeri representing the spines of the soldier. Mesonotum broadly, transversely elliptical, only slightly depressed; epinotum short, concave, and sloping in the middle, with strong acute spines feebly deflected at their tips. Petiole with a median angular ventral projection, the node shaped much as in the soldier, with entire superior border; post-petiole considerably broader, laterally produced as stout, blunt conules, ventrally with a pronounced projection. Gaster suboblong. Legs stout, with incrassated femora. Sculpture like that of the soldier but mesonotum anteriorly with transverse, posteriorly with longitudinal rugules, the latter converging to the mid-dorsal line. Color like that of the soldier. Wings greyish hyaline, veins pale yellow, pterostigma brown.

Male

Length 3.6 mm. Very similar in form to the males of other species of *Pheidole*. Antennal scapes very slender, only twice as long as broad, funiculus thicker, its first joint large and globular, remaining joints longer than broad. Pronotum and epinotum unarmed, mesonotum broader than long, very convex anteriorly, base of epinotum sloping, as long as the declivity. Petiolar node low and rounded, postpetiole as long as broad, rounded in front. Legs slender, the hind tibiae distinctly bowed. Head finely punctate-rugulose, subopaque, remainder of body smooth and shining. Hairs yellowish, delicate, short, more abundant than in the soldier and female, oblique and subappressed on the legs. Brown; head, mesonotum, scutellum, coxae and middle portion of femora darker; mandibles, clypeus, antennae, tibiae and tarsi sordid yellow; wings as in the female but with paler veins and pterostigma.

Described from numerous soldiers and workers, three males, and one female belonging to a single colony taken by LeBronnec in a dead log of *Pandanus* at Vaikoao, Omoa [Oomoa] Valley, Fatuhiva, at an altitude of 1,600 feet. Several workers of the same subspecies were taken by Adamson at Papeari, Tahiti, Society Islands.

This subspecies is much darker than the Papuan subspecies *biroi* Emery and the variety *fuscescens* Emery. Of the undescribed female of the typical *P. sexspinosa* I possess two specimens from Apia, Samoa (H. Swale) and one from the Solomon Islands (W. M. Mann). They are brownish ferruginous with the gaster dark brown and have the mesonotum longitudinally rugulose throughout. The superior border of the petiolar node is rather deeply excised in the middle.

Cardiocondyla nuda (Mayr).

Fatuhiva: Omoa [Oomoa] Valley, ♂, clearly belonging to the typical form of the species, LeBronnec.

Cardiocondyla nuda, subspecies **nereis** Wheeler.

Hivaoa: plateau above Atuona, altitude 1,200 feet, ♂, Mumford and Adamson; Matauuna, altitude 3,700 feet, ♂, Mumford and Adamson; Hanaheka [Tanaeka] Valley, altitude 1,450 feet, dry slopes, ♂ ♀, Mumford and Adamson; Teava Uhia i te Kohu, altitude 2,100 feet, ♂ ♀, Mumford and Adamson; Tapeata, east slope of Mount Ootua, altitude 2,500 feet, ♂, Mumford and Adamson; Anatikaue, altitude, 1,750 feet, ♂, Mumford and Adamson; Kopaaftaa, altitude 2,770 feet, ♂ ♀, Mumford and Adamson; Atuona, altitude 330 feet, ♂, Mumford and Adamson; Tahauku, near shore, ♀, Mumford and Adamson.

Tahuata: Hanahevane Valley, altitude 150 feet, ♂, LeBronnec and H. Tauraa.

Fatuhiva: Ihiota, Hanavave Valley, altitude 600 feet, in sweepings, ♀, LeBronnec; Ahuava, altitude 1,800 feet, sweeping over *Paspalum conjugatum*, ♂, LeBronnec; Uia [Ouia] Valley, near sea level, ♂, LeBronnec; Omoa [Oomoa] Valley, ♂, LeBronnec.

Mohotani: altitude 975 feet, ♂ ♂, Adamson.

Nukuhiva: Ooumu, altitude 3,700 feet, on shrub, ♂, Mumford and Adamson.

Uahuka: Teanatuhiwa, altitude 300 feet, ♂ ♀, LeBronnec and H. Tauraa; Vaipiha, altitude 1,770 feet, ♂ ♀, LeBronnec and H. Tauraa.

Eiao: in sweepings, altitude 1,450 feet, ♂, A. M. Adamson.

Originally described from Norfolk Island. Like the variety *minutior* Forel of Hawaii, it is decidedly smaller than the typical *C. nuda*, but the surface of the body of the worker and female is smoother and more shining.

Monomorium pharaonis (Linnaeus).

Uahuka: Haavei Valley, altitude 10 feet, ♂, LeBronnec and H. Tauraa.

Monomorium minutum Mayr, variety **liliuokalani** Forel.

Uahuka: crest of north ridge, in sweepings, ♂, A. M. Adamson.

Tetramorium guineense (Fabricius).

Hivaoa: Atuona Valley, altitude 325 feet, in dead banana leaves, ♂, Mumford and Adamson.

Tahuata: Hanamiai Valley, altitude 500 feet, ♂ ♀ ♂, LeBronnec and H. Tauraa.

Fatuhiva: Teatou, Hanavave Valley, altitude 1,000 feet, ♂, LeBronnec.

Mohotani: northern part, altitude 200 feet, ♀, LeBronnec and H. Tauraa.

Uahuka: Teanatuhiwa, altitude 300 feet, ♀, LeBronnec and H. Tauraa;
Teaua Islet, off Uahuka, ♀, A. M. Adamson.

Eiao: near middle of island, altitude 1,450 feet, ♀, A. M. Adamson.

Recorded also by Cheesman and Crawley from Nukuhiva and Fatuhiva.

Tetramorium pacificum Mayr.

Fatuhiva: Vaikoao, Omoa [Oomoa] Valley, altitude 1,600 feet, ♀, LeBronnec; Punahitahi, Omoa [Oomoa] Valley, altitude 650 feet, ♀, LeBronnec; Ahuava, altitude 1,840 feet, ♀, LeBronnec; ridge east of Omoa [Oomoa] Valley, altitude 3,000 feet, ♀, LeBronnec.

Nukuhiva: Teuanui, Tovii [Toovii], altitude 2,500 feet, under bark of *Hibiscus tiliaceus*, ♀, LeBronnec.

Tetramorium simillimum (F. Smith).

Fatuuku: altitude 860 feet, ♀, H. Tauraa.

Tetramorium tonganum Mayr.

Hivaoa: Aimoa, altitude 1,515 and 1,600 feet, under dead bark of *Pandanus*, ♀, Mumford and Adamson; Atuona, altitude about 300 feet, nesting in dead trunk of *Inocarpus edulis*, ♀, Mumford and Adamson.

Fatuhiva: Ihiota, Hanavave Valley, altitude 600 feet, ♀ ♀, LeBronnec.

Also recorded by Cheesman and Crawley from Nukuhiva.

The female of this species was described by Santschi from a dealated Samoan specimen with only a single ocellus, the median, which was greatly enlarged. That this was an anomaly, as Santschi suspected, is shown by the two females from Fatuhiva and Moorea, which have three normal ocelli, each with a dark spot at its mesial border. The wings of the female are greyish hyaline, with colorless veins and pterostigma.

Strumigenys (Cephaloxys) inezi Forel, subspecies **mumfordi**, new subspecies.

Worker

Length about 1 mm. Even smaller than the variety *taipingensis* Forel from Malacca, but very similar in form and proportions. Erect club-shaped hairs on the abdomen longer; head covered with evenly-spaced, white, squamiform hairs, which are decidedly coarser than those on the clypeus. Gaster shagreened, only slightly shining, the basal half of the first segment dark brown.

Uapou: Hakahetau Valley, 1 specimen, altitude 2,500 feet, A. M. Adamson.

Nukuhiva: Ooumu, altitude 4,050 feet, 1 specimen, Mumford and Adamson.

SUBFAMILY DOLICHODERINAE

Tapinoma (Micromyrma) melanocephalum (Fabricius), variety **australe** Santschi.

Uahuka: Teanatuhiwa, altitude 300 feet, ♀, LeBronnec and H. Tauraa.

Eiao: ♀, A. M. Adamson.

Hatutu [Hatutaa]: altitude 1,010 feet, on *Pisonia* species, ♀ A. M. Adamson.

Technomyrmex albipes (F. Smith).

Hivaoo: Aimoa, altitude 1,515 feet, nesting under dead bark, ♀ ♂, Mumford and Adamson; Atuona Valley, altitude 100 feet, ♀, Mumford and Adamson; Mount Temetiu, altitude 2,440 feet, on *Freycinetia*, ♀, Mumford and Adamson; Mount Temetiu, altitude 1,990 feet, in dried stipes of *Angiopteris* species, ♀ ♀, Mumford and Adamson; Mounaofefe, altitude 2,000 feet, on *Premna tahitensis*, ♀, Mumford and Adamson; Matauuna, altitude 3,760 feet, in sweepings, ♀, Mumford and Adamson.

Tahuata: Hanamiai Valley, altitude 1,200 feet, ♀ ♂, LeBronnec and H. Tauraa; Faanui Valley, altitude 1,500 feet, ♀, LeBronnec and H. Tauraa.

Fatuhiva: Ahuava, altitude 1,840 feet, in dry *Angiopteris* stalk, ♀, LeBronnec; Uia [Ouia] Valley, altitude 100 feet, ♀ ♀, LeBronnec; Vaikoao, Omoa [Oomoa] Valley, altitude 1,600 feet, 1,000 to 1,600 feet in dried fern stalks, ♀, LeBronnec; Teavaipuhiau, altitude 2,150 feet, ♀, LeBronnec; Punahitahi, Omoa [Oomoa] Valley, altitude 650 feet, ♀, LeBronnec; Teavaione Valley, altitude 1,700 feet, ♀, LeBronnec.

Mohotani: altitude 975 feet, on *Miscanthus floridulus*, ♀, A. M. Adamson; above Anaoa, altitude 160 to 650 feet, in sweepings, ♀, A. M. Adamson; altitude 700 feet, in dead log of *Cordia subcordata*, ♀ ♂, LeBronnec and H. Tauraa; altitude 1,000 feet, in dead log of *Pisonia* species, ♀, LeBronnec and H. Tauraa.

Nukuhiva: Teuanui, Tovii [Toovii], altitude 2,000 feet, ♂, Mumford and Adamson.

Uahuka: crest of north range, altitude 2,350 feet, nesting in fern stipes, ♀, A. M. Adamson; Penau, altitude 2,000 feet, in dead leaf of *Pandanus*, ♀, LeBronnec and H. Tauraa; Hanatekeo, Hane Valley, altitude 1,100 feet, in dead stipes of *Angiopteris*, ♀, LeBronnec and H. Tauraa.

Eiao: uplands to north east end of east side, altitude 1,850 feet, on *Hibiscus tiliaceus*, ♀, Adamson; uplands toward north end of east side, altitude 1,660 feet, on *Pandanus*, ♀, A. M. Adamson.

Technomyrmex albipes, variety **vitiensis** Mann.

Cheesman and Crawley identify some of their specimens from Tahiti and

from Nukuhiva, Hivaoa, and Fatuhiva in the Marquesas as belonging to this Fijian and Samoan variety. All the specimens taken by Mumford and Adamson are very constant and seem to me to be referable to the typical form of the species.

SUBFAMILY FORMICINAE

Anoplolepis longipes (Jerdon).

Hivaoa: Atuona Valley, altitude 100 feet, ♀, Mumford and Adamson.

Tahuata: Vaitahu Valley, altitude 100 to 150 feet, ♀, LeBronnec and H. Tauraa; Hanamiai Valley, altitude 500 feet, ♀, LeBronnec and H. Tauraa.

Fatuhiva: Hanavave Valley, altitude 50 feet, ♀, LeBronnec; Otomahe, Omoa [Oomoa] Valley, altitude 280 feet, ♀, LeBronnec; Uia [Ouia] Valley, sea level, ♀, LeBronnec.

Uahuka: Putatauu, Vaipae [Vaipae] Valley, on banana leaves, ♀, A. M. Adamson; Hanatekeo, altitude 950 feet, ♀ ♀, LeBronnec and H. Tauraa; Vaipiha, altitude 1,770 feet, ♀, LeBronnec and H. Tauraa; Vaikivi Valley, altitude 1,150 feet, ♀, LeBronnec and H. Tauraa; Tauheeputo, altitude 1,770 feet, on *Sida* species, ♀, LeBronnec and H. Tauraa.

Eiao: above Vaituha, altitude 1,150 and 1,200 feet, under stones, ♀, A. M. Adamson.

Cheesman and Crawley mentioned this ant as abundant on all the islands visited in the Marquesas.

Plagiolepis mactavishi Wheeler.

Hivaoa: Hanaheka [Tanaeka] Valley, altitude 1,100 feet, ♀, Mumford and Adamson; Atuona, altitude 1,200 feet, ♀, Mumford and Adamson; plateau above Atuona, altitude 1,000 feet, ♀, Mumford and Adamson; Vaioa, altitude 1,800 feet, under bark of *Hibiscus tiliaceus*, ♀, Mumford and Adamson; Vaioa, altitude 1,200 feet, nesting in hollow stem of *Piper latifolium*, ♀ ♀, Mumford and Adamson.

This ant, originally described from Moorea, is found also in Hawaii. It was taken also by Miss Cheesman on Tahuata.

Paratrechina longicornis (Latreille).

Mohotani: north part, altitude 200 and 300 feet, ♀, LeBronnec and H. Tauraa; altitude 300 feet, under stone, ♀ ♀, LeBronnec and H. Tauraa; region, altitude 400 feet, on *Melochia velutina*, ♀.

Uahuka: altitude 250 feet, ♀, LeBronnec and H. Tauraa.

Uapou: altitude about 500 feet, in dead trunk of "noni," ♀, Whitten.

Eiao: in coconut plantation, altitude 1,450 feet, ♀, Adamson.

Recorded also by Cheesman and Crawley from Tahuata.

Paratrechina (Nylanderia) vaga (Forel), variety **crassipilis** Santschi.

Hivaoo: Tapeata, east slope of Mount Ootua, altitude 2,500 feet, ♂, Mumford and Adamson; Anatikaue, altitude 1,750 feet, ♀, Mumford and Adamson; Atuona Valley, altitude 325 feet, in dead banana leaves, ♀, Mumford and Adamson; Pouau, ♀, Mumford and Adamson; Teava Uhia i te Kohu, altitude 2,100 feet, swept from *Paspalum conjugatum*, ♂, Mumford and Adamson.

Tahuata: Faanui Valley, altitude 1,500 feet, ♀, LeBronnec and H. Tauraa; Hanamiai Valley, altitude 1,500 feet, ♂, LeBronnec and H. Tauraa.

Fatuhiva: Ihiota, Hanavave Valley, altitude 460 feet, ♀, LeBronnec; Omoa [Oomoa] Valley, ♀, LeBronnec; Teavai, Omoa [Oomoa] Valley, altitude 1,700 feet, ♀, LeBronnec; Vaikoao, Omoa [Oomoa] Valley, altitude 1,600 feet, ♀ ♂, LeBronnec.

Nukuhiva: Tapuaooa, ♀, Mumford and Adamson; Teuanui, Toovii, ♀ ♀, Mumford and Adamson.

Uahuka: Putatauuu, Vaipae Valley, altitude 880 feet, ♀, Adamson.

Paratrechina (Nylanderia) bourbonica (Forel), subspecies **bengalensis** (Forel).

Tahuata: Vaitahu Valley, seashore, at light, ♂, LeBronnec and H. Tauraa; Amatea, altitude 2,700 feet, ♂, LeBronnec and H. Tauraa.

Fatuhiva: Omoa [Oomoa] Valley, near sea level, ♀, LeBronnec; Hanavave Valley, altitude 50 feet, ♀, LeBronnec; Uia [Ouia] Valley, sea level, ♀, LeBronnec.

Cheesman and Crawley also record this ant from Nukuhiva, Tahuata, and Fatuhiva.