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LXVI.—*A Contribution towards the Insect Fauna of French Oceania.*—Part III. Formicidæ. By L. EVELYN CHEESMAN, F.E.S., F.Z.S., and W. C. CRAWLEY.

THE following collection of ants was made by one of us in 1925 upon four of the Marquesan islands and Faka-rava (an atoll of the Tuamotu Archipelago) while a member of the 'St. George' Expedition; and also upon the Society Islands, Tahiti, Raiatea, and Bora Bora in the same year after leaving the expedition.

The ants of these islands have not previously been worked out, one species only—*Lasius claviger*—being recorded from Tahiti. The list of species numbers twenty-five—Ponerinæ two, Myrmicinæ thirteen, Dolichoderinæ three, Camponotinæ seven. Of these, seven species are tropical forms with a wide distribution, being carried everywhere by commerce, and occurring throughout the majority of island groups of the Pacific—*Pheidole megacephala*, F., *Monomorium floricola*, Jerd., *Solenopsis geminata*, var. *rufa*, Jerd., *Anoplolepis longipes*, Jerd., *Tetramorium simillimum*, Sm., *T. guineense*, F., and *Technomyrmex albipes*, Sm. The remaining species belong to an oceanic subfauna including one new island race.

Records of these species from other island groups are added, and for the remainder of their synonymy, when this is lengthy, reference is given to Emery's monographs in the 'Genera Insectorum.'

Ants were extremely abundant upon all the above islands, especially in the inhabited areas. One species would be usually preponderant, but not always the same species; in some cases the dominant species would differ in different localities of the same island. Upon all those of the Society Islands *Pheidole oceanica nigriscapa*, var. *tahitiana*, sp. n., and *Monomorium floricola* swarmed on the coasts, firmly established as house-ants in all the villages visited. *Pheidole megacephala*, F., held a like position on the Marquesas Islands. On the atoll Faka-rava *Solenopsis geminata*, var. *rufa*, Jerd., was the most abundant about the huts; *Paratrechina bourbonica*, subsp. *bengalensis*, For., although also abundant, was not seen near habitations. On the shores of Tahiti and Bora Bora very large and vigorous colonies of *Solenopsis geminata*, var. *rufa*, Jerd., *Anoplolepis longipes*, and *Pheidole oceanica nigriscapa*, var. *tahitiana*, Santschi, were in close proximity—the last always preponderant. In

other parts of the world the two former species have a name for displacing one another (Wheeler, 'Ants,' p. 155, 1910). Of those species occurring in the interior of the islands *Cardiocondyla emeryi*, For., and *Plagiolepis angusti*, Emery, were taken only on the northern coast-hills of Tahiti, about 2 to 3 miles inland. *Tetramorium pacificum*, Mayr, was taken only on the borders of Lake Vaihiria on the same island 8 miles inland, and *Rogeria stigmatica*, var. *sublaevinodis*, Em., was taken only at the head of a valley in the centre of N.W. Raiatea.

Although the coast-belts of Tahiti literally swarmed with predaceous species of ants, there was no evidence that they were destroying the local insect-fauna, as one might have supposed to be the case. Insects of all kinds might be found in close proximity to the nests, but were apparently ignored unless special attention was drawn to them. For example, there were prosperous colonies of four species at least of predatory ants around my hut at Patutua, Tahiti, an enormous colony of *Pheidole oceanica nigriscapa*, var. *tahitiana*, sp. n., being established directly under it. A few yards from the hut was an area of ground covered in tangled undergrowth of plants from which I continually collected insects in all stages of growth. Worker-ants explored the entire neighbourhood, and yet numbers of insects could be found near at hand. There can be no supposition of any immunity against ants on the part of such insects, because when I brought any specimens, living or dead, into the hut it was necessary to take special precautions against ants: boxes, table, and shelves had to be periodically soaked in creosote, for no specimen was safe from their scouts. One can only surmise that while ants can exploit human habitations which yield unlimited supplies of concentrated food, they will systematically scour these in preference to hunting for insects.

There is one curious fact to note concerning *Anoplolepis longipes*—that whereas ants of this species were to be found in abundance on coral-protected shores, scavenging on the beach close up to the tide-line, they were never to be seen near the waves on exposed beaches. They were seemingly aware of the danger of being caught by heavy rollers on such beaches, and when present were always well out of reach of the breakers.

PONERINÆ.

1. *Platythyrea pusilla*, Emery, Rev. Suisse Zool. i. p. 188 (1893) (Amboyna); Wheeler, Bull. Mus. Comp. Zool. lxiii. p. 50 (1919) (Borneo).

Society Is.: Tahiti, Patutua, on a tree-trunk near the road, using the same trails as *Paratrechina bourbonica*, subsp. *bengalensis*, For.; 1 ♀, 13. iv. 25. Tautira, on Coccids, shore-belt, 1 ♀, 7. viii. 25.

Distribution. Amboyna, Borneo.

2. *Ponera perkinsi*, For. Fauna Hawaii, Formic. i. p. 117 (1899).

Marquesas Is.: Fatu-hiva, Nuku-hiva, ♀ ♀ tending Coccids in the valleys, ♂ ♂ under bark, Jan. 1925. Society Is.: Tahiti, ♂ ♂ in the sugar-cane fields near Papeete, 13. iv. 25.

Distribution. Hawaiian Is.

MYRMICINÆ.

The following species has been named by Dr. F. Santschi:

3. *Pheidole oceanica* subsp. *nigriscapa*, var. *tahitiana*, sp. n.

Santschi (Ins. Samoa, pt. v. fasc. 1, fig. 3, p. 49 (1928)) refers to the Tahitian variety as differing from the Samoan subspecies in the following characters:—"J'ai reçu dernièrement de Mr. Crawley un ♀ et 2 ♂ ♂ de Tahiti qui appartiennent à *nigriscapa*, mais en diffèrent par la tête encore moins échancrée derrière et les rides plus accusées sur les côtés de la tête." In a letter he proposes the name *tahitiana*.

Society Is.: extremely abundant on the inhabited shore-belts, where workers swarm in the houses and native huts after food. On Tahiti also abundant in the cultivated valleys: at Patutua ♀ ♀ taken on a leguminous tree which had been defoliated by the caterpillars of *Polydesma umbricola*; these were just leaving the branches in order to pupate in crevices of the trunk, and were being attacked by *Polistes macaensis*, var. *tahitiensis*, Chees.; the *Pheidole* workers were gathered in numbers round the base of the trunk, and those caterpillars which were dropped by the wasps were carried off by the ants, 23. iv. 25. Colonies in the sugar-cane fields near Papeete, nests in soil, 1. iv. 25. Vigorous colonies at the

head of a valley above Papeete, at about 1500 ft., near the ruins of a hut. 2 ♂♂ taken at light on the borders of Lake Vaihiria, 8 miles inland, 10. vii. 25. On Raiatea, ♀♀ tending Coccids in an earthen shed in the bract of a pepper, 3. vi. 25. ♀♀ from nest in rotten wood in dense scrub on a high ridge of the interior, north-east of the island, 7. vi. 25. ♀♀ under stones on the sea-shore, 16. 5. 25. On Bora Bora, abundant on a small uninhabited reef-islet, Motu Moute.

4. *Pheidole umbonata*, Mayr, Sitzber. Akad. Wiss. Wien, liii. p. 510 (1866); id. Verh. zool.-bot. Ges. Wien, xx. pp. 977-8 (1870) (Fiji); Mann, Bull. Mus. Comp. Zool. lxiii. p. 316 (1919) (Solomon Is.); id. l. c. lxiv. p. 430 (1921) (Fiji).

Society Is.: Tahiti, ♀♀♀ sugar-cane fields near Papeete, 1. iv. 25. Raiatea, ♀♀ tending Coccids on the sea-shore, 6. vi. 25.

Distribution. Tonga Is., Samoa, Solomon Is., Fiji.

5. *Pheidole megacephala* (F.).

Formica megacephala, F., Ent. Syst. ii. p. 361 (1793) (Mauritius); Wheeler, Bull. Mus. Comp. Zool. lxiii. p. 65 (1919) (Borneo).

Marquesas Is.: Nuku-hiva, Fatu-hiva, Hiva-oo, abundant in inhabited regions, ♂♂♀♀♀♀ in nests under stones, Jan. 1925.

Distribution. All tropical countries, Samoa, Hawaii, Borneo.

6. *Pheidole oceanica*, Mayr, Sitzber. Akad. Wiss. Wien, liii. p. 510 (1866) (Fiji); id. Verh. zool.-bot. Ges. Wien, xx. p. 977 (1870); Mann, Bull. Mus. Comp. Zool. lxiii. p. 316 (1919) (Solomon Is.); id. l. c. lxiv. p. 436 (1921) (Fiji).

Marquesas Is.: Fatu-hiva, ♀♀ on a trail scavenging on the sea-shore, Jan. 1925.

Distribution. Solomon Is., Samoa, Hawaii.

7. *Pheidole* sp. (near *P. umbonata*, Mayr).

Society Is.: Tahiti, ♀♀ upon banana-peel near the beach at Papenoo, 6. iii. 25; ♀♀ on a lime at Patutua, 1. iv. 25. In the absence of ♀ and ♂, it is impossible to identify this species.

8. *Monomorium floricola* (Jerd.).

Atta floricola, Jerdon, Madras Journ. Lit. & Sci. xvii. p. 107 (1851) (Tellicherry, S. India); Wheeler, Bull. Mus. Comp. Zool. lxiii. p. 84 (1919) (Borneo).

Society Is. : Tahiti and Raiatea, abundant near habitations on the coast ; on food, sugar, etc. On Raiatea colonies were also established in a valley above the village of Utur a, ♂ ♂ ♀ ♀ from nest under bark, 7. vi. 25. ♀ ♀ on Coccids.

Distribution. Tropical Asia and America, Oceania, Fiji. Hawaii, Borneo, Samoa. Carried upon ships.

9. *Cardiocondyla emeryi*, For. Mittheil. München. Ent. Ver. v. 1, p. 5 (1881); Emery, Gen. Ins. Formic. fasc. 174, p. 125 (1921).

Society Is. : Tahiti, on the coast-hills behind Papeete at 1500 ft., 5 ♀ ♀, 1 ♂ in a nest inside a lump of clay, 16. iv. 25; ♂ ♀ ♀ among bracken in the same locality at 2500 ft., 17. iv. 25.

Distribution. Antilles, Madeira, Syria.

10. *Solenopsis geminata*, subsp. *rufa* (Jerd.).

Atta rufa, Jerdon, Madras Journ. Lit. & Sci. xvii. p. 106 (1851) (Malabar); Emery, Gen. Ins. Formic. fasc. 174, p. 197 (1921).

Tuamotu Arch. : Faka-rava, abundant on the beach feeding upon dead molluscs, 11. ii. 25. Society Is. : Tahiti and Raiatea, abundant on the shore-belts ; on Tahiti, inland on the coast-hills behind Papeete at 1500 ft., nests with large mounds not far from the ruins of a hut, 11. vii. 25 ; in Fautau Valley, about 6 miles inland, nest with mound, 2. viii. 25. On Raiatea galleries under the bark of a dead branch of *Hibiscus tiliaceus* on the shore contained stored seeds ; when the bark was removed workers carried the seeds to other chambers higher up the branch, 8. vi. 25. Workers constructing covered ways of soil across a road with entrances at intervals. The subway followed an almost straight line, and when occasionally it was blocked by a stone or other obstacle the tunnel would be continued under it, 30. v. 25. The method adopted by these ants of making such subways has been described by Rothney (Trans. Ent. Soc. p. 366 (1889)). Nests are in soil, either with mounds or at the roots of trees, under stones, etc. Food various, dead animal matter, living

insects, exudations of Coccids and Aphids. Workers came to sugar in my hut, and also demolished a dead lizard in less than an hour, leaving only the skeleton and portions of the skin. This species is very pugnacious, and the sting painful (it is known as the fire-ant). The soldiers are not usually seen with the other workers above ground, but will be found in the lower galleries of the nest; they appear to be of a timid temperament, and, unlike their fierce nest-mates, will not show fight, but only attempt to escape.

Distribution. India, Malaya, Hawaiian Is., Borneo, New Guinea. (Not found by Mann on the Solomons or Fiji.)

11. *Rogeria stigmatica*, subsp. *sublaevinodis*, Emery, Nova Caledonia Zool. i. p. 415 (1914); Mann, Bull. Mus. Comp. Zool. lxiv. p. 451 (1921) (Fiji).

Society Is.: Raiatea, in the interior of the northern end of the island, at the head of a gully at 2000 ft. in dense scrub. Series of ♀ ♀ and portion of the nest which was in a rotten log with extensive galleries and several roundly excavated chambers containing soldiers, 28. v. 25.

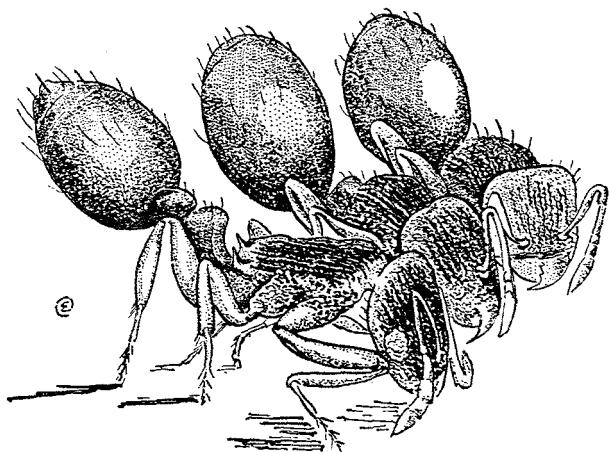
Distribution. New Caledonia, Loyalty, Fiji, Samoa.

12. *Tetramorium simillimum* (Sm.).

Myrmica simillima (Nylander), Smith, List Brit. Anim. B.M. p. 6, Acul. p. 118, 1851 (Dorsetshire, England, in a hot-house); Wheeler, Bull. Mus. Comp. Zool. lxiii. p. 91 (1919) (Borneo); Emery, Gen. Ins. fasc. 174, p. 278 (1921); Mann, Bull. Mus. Comp. Zool. lxiv. p. 459 (1921) (Fiji).

Society Is.: Tahiti. A nest in soil at the roots of a coconut-palm near my hut; the workers carried off insects which singed themselves at my lamp in the evening; they appeared immediately it was lighted, and waited for victims, remaining as long as the lamp was alight, which was sometimes until 2 A.M. They were extremely troublesome, because of their attempts to take my specimens, even removing them from the pins, 12. iv. 25. ♀ ♀ carrying away mutilated specimens of the caterpillars of *Polydesma umbricola* dropped by *Polistes*, 8. v. 25. On Bora Bora, while collecting on the shore I put out a small piece of sardine on a rock to attract ants or flies. Almost immediately it was found by a worker of *Pheidole oceanica nigriscapa*, var. *tahitiana*, which carried away a portion. On examining the sardine a few minutes later I

found a ring of workers of *Tetramorium simillimum* completely encircling it, and protecting it by discharging fluid at ants of other species, while workers of their own species were passing between them and fetching the food. *Pheidole* workers and *Paratrechina fijiensis* on their approach would receive a volley, and at once turn and make off at full speed, stopping to cleanse their antennæ, legs, and face of the obnoxious fluid, which was presumably formic acid, although I could not detect any odour. Upon one occasion, in the Fautaua Valley, this circle formed by the same species was broken by the workers of *Anoplolepis longipes*. The *Tetramorium* workers had not completed the ring, other members



Workers of *Tetramorium simillimum* defending food.

were hurrying up to take their places, when a determined attack was made upon them by the larger species. One of the attackers hesitated and then turned back from the fringe-line, going through rapid motions of cleaning the antennæ. Others, however, successfully avoided the fusillage and reached the gaps in the half-formed circle, whence they strode over the small ants, seized them from above in their strong mandibles, shook them as a terrier does a rat, and tossed the limp bodies aside. Four or five of the *Anoplolepis* workers fell upon the unfortunate defenders in this fashion, the remainder of the latter escaped by running away, apparently realizing that they had failed to bring off their usual

manœuvre. They did not even wait to rescue their dying comrades, none of whom recovered sufficiently to crawl away, but were left strewn around the booty, which was speedily collected by the *Anoplolepis* workers. It was interesting in the foregoing episode to mark that the position taken by the *Tetramorium* workers when forming the ring did not vary. Each took her allotted place, and did not move from it even while the *Anoplolepis* workers were breaking through, although it appeared that if a defending worker had but slightly changed her attitude, so as to cover an approaching attacker, the latter would have been kept back until the ring was completely formed. There seemed no possibility that the workers were actually aiming at the oncomers, since they were arranged with their heads facing the centre of the circle, and they remained immovable with the exception of the antennæ. It is difficult to understand how they knew the exact moment at which to fire, unless they perceived by sound when the enemy came within range. I never saw one of their own workers hit by mistake.

Distribution. Tropical countries (including Mediterranean district), Galapagos Is., Fiji, Borneo.

13. *Tetramorium guineense* (F.).

Formica guineense, F., Ent. Syst. ii. p. 357 (1793) (Guinea); Mann, Bull. Mus. Comp. Zool. lxiii. p. 346 (1919) (Solomon Is.); id. *l. c.* lxiv. p. 459 (1921) (Fiji); Emery, Gen. Ins., Formic. fasc. 174, p. 278 (1921); Santschi, Ins. Samoa, pt. v. fasc. 1, p. 49 (1928); Wheeler, Proc. Calif. Acad. Sci. (4) ii. pp. 274 & 303 (Galapagos Is., Cocos Is.); id. Bull. Mus. Comp. Zool. lxiii. p. 91 (1919).

Marquesas Is.: Nuku-hiva, Taipi Valley, ♀♀ in rotten wood. Fatu-hiva, ♀♀ in valleys, Jan. 1925. Society Is.: Tahiti, ♀♀ in the sugar-cane fields near Papeete, 1. iv. 25; ♀♀ on Coccids in the Valley Vaitepiha, 8. viii. 25. Raiatea, ♀♀ on a miniature coral islet 16 square yards, with a few yards of water separating it from the land except at low tide, at which times the workers could be seen crossing over, 6. vi. 25.

Distribution. Tropical countries, Hawaii, Fiji, Borneo, Cocos Is., Samoa.

14. *Tetramorium pacificum*, Mayr, Verh. zool.-bot. Ges. Wien, xx. pp. 952 & 976 (1870) (Tonga Tabu); Wheeler, Bull. Mus. Comp. Zool. lxiii. p. 91 (1919) (Borneo); Mann, Bull. Mus. Comp. Zool. lxiv. p. 459 *Ann. & Mag. N. Hist.* Ser. 10. Vol. ii. 35

(1921) (Fiji); Emery, Gen. Ins., Foricid. fasc. 174, p. 284 (1921).

Society Is. : Tahiti, Vallée de la Mission, 2 miles inland, a trail of workers on a rock, 28. iii. 25. On the borders of Lake Vaihiria, 12 miles inland, at 1200 ft., ♀ ♀ came to tinned fish and a dead rat, 20. vii. 25.

Distribution. Friendly Is., Papua, Ceylon, Borneo.

15. *Tetramorium tonganum*, Mayr, Verh. zool.-bot. Ges. Wien, xx. pp. 972-6 (1870); Mann, Bull. Mus. Comp. Zool. lxiii. p. 348 (1919) (Solomon Is.); id. l. c. lxiv. p. 459 (1921) (Fiji); Emery, Gen. Ins. fasc. 174, p. 284 (1921).

Marquesas Is. : Nuku-hiva, ♀ ♀ among dead leaves, Jan. 1925.

Distribution. Tonga Is., Solomon Is., Sumatra, Fiji.

DOLICHODERINÆ.

16. *Tapinoma melanocephalum* (F.).

Formica melanocephalum, F., Ent. Syst. ii. p. 353 (1793) (Cayenne); Emery, Gen. Ins., Formic. fasc. 137, p. 41 (1912); Wheeler, Bull. Mus. Comp. Zool. lxiii. p. 100 (1919) (Borneo); id. Proc. Calif. Acad. Sci. (4) ii. p. 275 (1919) (Galapagos Is.); Mann, l. c. lxiv. p. 473 (1921) (Fiji).

Society Is. : Tahiti, abundant; ♀ ♀ from nest in soil in the sugar-cane fields near Papeete, 1. iv. 25. At Patutua, ♀ ♀ on Coccids and on the extra-floral nectaries of *Hibiscus tiliaceus* (see below), 24. iii. 25. Raiatea, village of Uturoa, ♀ ♀ hunting over my bed and mosquito-curtains for squashed mosquitoes; abundant in houses, where they nested between the boards of the floor; ♂ ♀ ♀ from nest between boards on the verandah, 19. vi. 24. Workers were always to be found upon the extra-floral nectaries of *Hibiscus tiliaceus*, which also attracted larger species. These curious nectaries develop on the main nerves of a mature leaf at its base in the form of deep longitudinal furrows lined with glandular hairs. They have been described by Delpino (Mem. Acad. Sci. Inst. Bolog. (4) vii. p. 232 (1886-87)).

Distribution. Tropical countries, carried on ships. Hawaii, Fiji, Galapagos Is., Borneo.

17. *Technomyrmex albipes* (Sm.).

Formica (*Tapinoma*) *albipes*, Smith, Journ. Proc. Linn. Soc. vi. p. 38 (1861); Emery, Gen. Ins., Formic. fasc. 137, p. 43 (1912).

Society Is.: Tahiti, ♀♀ forming a broad trail on a tree-trunk, Vallée de la Mission, 2 miles inland, 28. iii. 25. Coast-hills behind Papeete, ♀♀ tending Coccids and in galleries inside a log of wood, 16. iv. 25. Vaitepiha Valley, ♀♀ tending Coccids, 7. viii. 25.

Distribution. A widely distributed Oriental tropical species. India, Malaya, Australia, New Guinea, Solomon Is.

18. *Technomyrmex albipes*, var. *vitiensis*, Mann, Bull. Mus. Comp. Zool. lxiv. p. 473 (1921); Santschi, Ins. Samoa, pt. v. fasc. 1, p. 52 (1928).

Marquesas Is.: Nuku-hiva, Hiva-oa, Fatu-hiva, ♀♀ in cultivated valleys, Jan. 1925. Society Is.: Tahiti. On the coast at Tautira, ♀♀ tending Coccids; a small colony in Valley Vaitepiha, ♂♀♀ inside discarded silken burrows of a lepidopterous larva, on the under surface of a dried coconut-palm leaf, 7. viii. 25. Raiatea, ♀♀ tending Coccids on the coast, May 1925.

Distribution. Fiji, Samoa.

CAMPONOTINÆ.

19. *Anoplolepis longipes* (Jerd.).

Formica longipes, Jerdon, Madras Journ. Lit. & Sci. xvii. p. 112 (1851) (India).

Plagiolepis longipes, Wheeler, Bull. Mus. Comp. Zool. lxiii. p. 101 (1919) (Borneo); Mann, Bull. Mus. Comp. Zool. lxiii. p. 366 (1919) (Solomon Islands); id. l. c. lxiv. p. 474 (1921) (Fiji); Emery, Gen. Ins. fasc. 183, p. 17 (1925); Santschi, Ins. Samoa, pt. v. fasc. 1, p. 53 (1928).

Abundant upon all the islands visited. Marquesas Is.: Hiva-oa, Tahuata, ♀♀ tending Coccids; Fatu-hiva, ♀♀ in galleries under bark and tending Aleurodid larvæ in the valleys, Jan. 1925. Tuamotu Arch.: Faka-rava, ♀♀ on a trail on the beach, also upon dead molluscs, 11. ii. 25. Society Is.: Tahiti, ♀♀ tending Coccids high up the Vallée de la Mission, 28. iii. 25. Nests under stones in the sugar-cane fields near Papeete, 4 ♂♂ and workers, 13. iv. 25; ♀♀ among bracken at 3500 ft., 17. iv. 25. At Patutua ♂ at

light, 25. vii. 25. Raiatea, N.E., ♀ ♀ from a nest among roots of coconut-palm on the shore, 27, v. 25, ♀ ♀ on the beach, 3. vi. 25. Valley Vairuramai, ♀ ♀ tending Coccids, 4. vi. 25.

Distribution. Tropical Asia, Borneo, Solomon Is., Fiji.

20. *Plagiolepis augusti*, Emery, Ann. Soc. Ent. Belg. lxi. p. 317 (1921) (Fiji).

Plagiolepis foreli, Mann, Bull. Mus. Comp. Zool. lxiv. p. 473 (1921) (Fiji); Emery, Gen. Ins. fasc. 183, p. 20 (1925).

Society Is.: Tahiti, Vallée de Ste. Amélie, 4 ♀ ♀ in galleries behind bark, 15. iv. 25; ♀ ♀ from a nest in a rotten log, 16. iv. 25.

Distribution. Fiji.

21. *Plagiolepis mactavishi*, Wheeler, Bull. Amer. Mus. Nat. Hist. xxiv. p. 166 (1909); id. Nat. Hist. Juan Fernandez and Easter Island, iii. p. 318 (1923) (Easter Island).

Marquesas Is.: Tahuata, 4 ♂ ♂, 4 ♀ ♀, Jan. 1925.

Distribution. Formosa, Hawaii, Easter Is.

22. *Paratrechina longicornis* (Latr.).

Formica longicornis, Latreille, Hist. Nat. Fourmis. p. 113 (1802) (Senegal).

Prenolepis (Nylanderia) longicornis, Wheeler, Bull. Mus. Comp. Zool. lxiii. p. 103 (1919) (Borneo); Mann, Bull. Mus. Comp. Zool. lxiii. p. 366 (1919) (Solomon Is.); Wheeler, Proc. Calif. Acad. Sci. (4) ii. p. 276 (1919); Emery, Gen. Ins., Formic. fasc. 183, pp. 216-17 (1925); Santschi, Ins. Samoa, pt. v. fasc. 1, p. 53 (1923).

Marquesas Is.: Tahuata, ♀ ♀, Jan. 1925. Society Is.: Tahiti, Vallée de Ste. Amélie, 12 ♀ ♀ with pupæ under a board near a ruined hut 2 miles inland, 15. iv. 25. Bora Bora, 3 ♀ ♀ in soil runways under a board on the coast.

Distribution. Tropicopolitan. Hawaii (abundant), Fiji (abundant), Borneo, Samoa, Galapagos Is.

23. *Paratrechina (Nylanderia) bourbonica*, subsp. *bengalensis*, Forel, Journ. Bombay N. H. Soc. viii. pp. 406-7 (1894); Mann, Bull. Mus. Comp. Zool. lxiv. p. 476 (1921)

(Fiji); Emery, Gen. Ins. fasc. 183, p. 219 (1925); Santschi, Ins. Samoa, pt. v. fasc. 1, p. 55 (1928).

Marquesas Is.: Nuku-hiva. Nest inside the spongy roots of the Giant Hartstongue (*Asplenium nidus*). Tuamotu Arch.: Fatu-hiva, fairly numerous near the coast. Tuamotu Arch.: Faka-rava, ♂ ♀ ♀ ♀ ♀ in an earthen shelter built on the under surface of leaves, ♀ ♀ on blossoms, Feb. 1925. Society Is.: Tahiti, ♀ ♀ about 2 miles inland on the coast-hills behind Papeete, 16. iv. 25. Valley Vaitepiha, ♀ ♀ tending Coccids, 14. viii. 25. Raiatea, nests numerous on the shore under boards and stones; workers inside a drifting trunk saturated with sea-water which was embedded in the mud on the lagoon (these ants appeared quite indifferent to salt-water), 27. v. 25; 4 ♀ ♀ at light on the coast, 3. vi. 25. Bora Bora, ♀ ♀ on a small plateau below Mt. Popoti, 14. vi. 25, ♀ ♀ on a reef-islet, Motu Monte, 16. vi. 25.

24. (?) *Paratrechina vitiensis*, Mann.

Prenolepis (Nylanderia) vitiensis, Mann, Bull. Mus. Comp. Zool. lxiv. p. 474, fig. 28 (1921) (Fiji).

The specimens can in all probability be assigned to this species, but in the absence of the male it cannot be satisfactorily determined.

Society Is.: Tahiti, coast-hills behind Papeete, ♀ ♀ among bracken, 3000 ft., nest in log of rotten wood; Valley Vaitepiha, 3 ♀ ♀, and ♀ ♀ nest under stones; Raiatea, at the head of a gully at about 2000 ft., ♀ ♀ ♀ nest in rotten wood.

Distribution. Fiji.

25. *Lasius claviger*, Roger.

Formica claviger, Roger, Berl. Ent. Zeitschr. vi. p. 241, pl. i. fig. 13 (1862); Wheeler, Journ. N.Y. Ent. Soc. xix. p. 262 (1911) (Tahiti).

Tahiti: Papeete, nesting under stones in the town.
(Not among present collection.)

Distribution. U.S.A., especially the Eastern States.