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**THE TEMPLETON CROCKER EXPEDITION OF THE
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No. 6

FORMICIDAE OF THE TEMPLETON CROCKER EXPEDITION

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On the Templeton Crocker Expedition of the California Academy of Sciences, 1932, special attention was paid to the collection of insects by Mr. Maurice Willows, Private Secretary to Mr. Crocker. The ants here described were collected by him in various localities on the Galapagos and Revillagigedo Islands, Cocos Island and on the coasts of Central America and Mexico. Though the collection is small, Mr. Willows has added two new subspecies and two varieties to a rather well-known ant fauna. The most interesting find is a *Crematogaster* on one of the Galapagos Islands. For some unknown reason this cosmopolitan genus does not seem to be very fond of certain insular environments. It does not occur in the British Isles, New Zealand, Norfolk and Lord Howe islands, Hawaii and many small islands in the Pacific Ocean and is poorly represented even in the Antilles. Its occurrence in the Galapagos is therefore rather unexpected.

March 22, 1933

GALAPAGOS ISLANDS

Odontomachus hæmatoda bauri Emery

Two workers and two dealated females from Chatham Island (IV.18.'32). This subspecies is known to occur only on Charles Island and Chatham Island, where it was originally taken by Dr. George Baur.

Crematogaster (Orthocrema) brevispinosa chathamensis
subsp. nov.

Worker: Length 2.5–3.3 mm.

Head slightly broader than long in the largest specimens, with slightly concave posterior border. Eyes elongate, flattened, near the middle of the sides. Clypeus convex, with nearly straight, transverse anterior border. Antennal scapes not reaching to the posterior border of the head; funiculi with distinctly 2-jointed club; basal funicular joints, except the first, broader than long. Thorax short; pro- and mesonotum convex and hemispherical; mesoëpinotal impression short and deep; base of epinotum short, anteriorly very convex and rising rather abruptly from the impression; declivity much longer, sloping; spines suberect, much shorter than their distance apart at the base, their tips slender and acute, sometimes slightly recurved. Petiole somewhat longer than broad, subelliptical, as broad behind as in front, with rounded sides and distinctly dentate posterior corners, anteroventrally with a strong spine, directed forward and downward. Postpetiole short and convex, narrower than the petiole, without median dorsal groove. Legs rather short and stout.

Mandibles, clypeus, front, gula and sides of head finely, longitudinally striate; posterior portion of head smooth and shining, with sparse piligerous punctures. Thorax subopaque, only the epinotal declivity shining; pronotum transversely, mesonotum and base of epinotum longitudinally striate; meso- and metapleuræ evenly and densely punctate. Petiole and postpetiole shining, the former smooth above and coarsely reticulate below, the latter delicately longitudinally rugulose. Gaster subopaque, finely punctate-shagreened.

Hairs pale, sparse, blunt and erect on the thorax, pedicel and gaster; head, scapes and gaster with long, sparse, appressed pubescence; legs with similar but finer pubescence.

Large workers red, with the thorax and posterior portion of the gaster black; trochanters and tarsi yellow; smaller workers darker, blackish, with mandibles, antennæ, tibiæ and tarsi reddish; trochanters yellow.

Described from ten workers taken on Chatham Island (IV.17.'32). Lectotype, C. A. S. Ent. No. 3689.

This is the first *Crematogaster* to be recorded from the Galapagos Islands. I believe I am not mistaken in attaching it to the common, widely distributed and very variable neotropical *C. brevispinosa* Mayr, though it differs from all the numerous described forms (10 subspecies and 14 varieties) of which I have seen specimens or descriptions. Only one of these, the subsp. *mancocapaci* Santschi, has been described from Ecuador, but this is quite different from the Galapagos form.

Tetramorium guineense Fabr.

A worker and winged female from Indefatigable Island (V.7.'32; V.5.'32) and a worker from Tagus Cove, Albemarle Island (V.27.'32). Previously recorded from Albemarle, Charles and Tower islands.

Tetramorium (Tetroginus) simillimum F. Smith

Six workers from James Island (VI.4.'32). A common pan-tropical "tramp" species, previously recorded from Charles Island.

Dorymyrmex pyramicus albemarlensis Wheeler

Two workers from Tagus Cove, Albemarle Island (V.25.'32), one from Indefatigable Island (V.6.'32) and one from Jervis Island (V.25.'32).

Camponotus (Myrmocladæcus) planus F. Smith
var. *peregrinus* Emery

A single minor worker (IV.17.'32) from Chatham Island, the type locality of the variety.

Camponotus (Myrmocladæcus) planus
var. *santacruzensis* Wheeler

Three minor workers and seven males from Indefatigable Island (V.1.'32; V.3.'32; V.5.'32; V.7.'32; VI.8.'32).

Camponotus (Myrmocladæcus) planus
var. *isabelensis* Wheeler

Four minor workers and a male from Tagus Cove, Albemarle Island (V.27.'32).

Camponotus (Myrmocladæcus) planus var. *hephæstus*
var. nov.

Worker major. Differing from the var. *isabelensis* Wheeler and resembling the var. *fernandensis* Wheeler in the shape of the head, which has the sides nearly straight and converging anteriorly, instead of convex and rounded. There are no erect hairs on the cheeks as in *isabelensis*. The mesoepinotal impression is deeper and the superior border of the petiolar scale is sharper and more rounded than in either of these varieties; the pilosity and pubescence on the gaster is longer and somewhat more abundant, the legs and antennæ are distinctly darker red, the coxæ, except at their tips, black.

Worker minor. Differing from the minor worker of the var. *isabelensis* in having somewhat longer antennal scapes, in the darker red color of the legs and antennæ and the more abundant gastric pile, which is like that of the major worker.

Described from four major workers (V.22.'32) and four minor workers (V.21.'32; V.22.'32) from Iguana Cove, Albemarle Island and six minor workers (IV.28.'32) which are simply labelled "Albemarle," but which, owing to their dark appendages, evidently belong to this variety. There are therefore two varieties of *planus* (*isabellensis* and *hephaestus*) on Albemarle Island, just as there are two (*indefessus* and *santacruzensis*) on Indefatigable Island. Lectotype, C. A. S., Ent. No. 3690, major worker.

Camponotus (Pseudocolobopsis) macilentus F. Smith
var. **albemarlensis** Wheeler

A single male from Tagus Cove, Albemarle Island (V.27.'32), which I refer to this variety, measures 5.7 mm. and is pale honey yellow, with the posterior half of the gaster brown and a darker brown V-shaped spot on the ocellar region. The wings are distinctly tinged with yellow.

Camponotus (Pseudocolobopsis) macilentus
var. **narboroënsis** Wheeler

This variety was described from a single greasy and defective female specimen collected by the *Albatross* in 1899. I refer to the same variety three well-preserved females taken by Mr. Willows on Narborough Island (V.28.'32). They measure 8-8.5 mm. in length and are darker and more reddish than any of the other described varieties of *macilentus*. The dark brown bands on the gaster are broad. The head is slightly narrowed anteriorly, though less than in the var. *saphirinus* Wheeler from Indefatigable Island. The antennal scapes extend nearly twice their greatest diameter beyond the posterior border of the head.

Paratrechina longicornis Latreille

Six workers from Indefatigable (V.6.'32), Chatham (IV.17.'32); Charles (IV.24.'32) and Gardner (near Hood) islands (IV.22.'32). Previously recorded only from Charles.

Nylanderia vividula guatemalensis Forel
var. **itinerans** Forel

A single worker from Indefatigable Island (V.7.'32). Previously known from this island and Chatham.

Nylanderia fulva nesiotis Wheeler

Four workers from Hood Island (IV.20.'32), one from Iguana Cove, Albemarle Island (V.21.'32); two winged females from Tagus Cove, Albemarle (V.25.'32; V.27.'32) and one from James Island (VI.4.'32). Previously known from James and Indefatigable islands.

REVILLAGIGEDO ISLANDS

Solenopsis geminata Fabr.

A single worker of the typical black form from Socorro Island (III.26.'32) and a very small and more reddish specimen from Clarion Island (III.24.'32).

Camponotus (Tanæmyrmex) picipes Oliv. var. ?

Two minima workers from Socorro Island, 2000 ft. (III.7.'32). They probably represent an undescribed variety of the Mexican *picipes*, but further determination is impossible without the major worker.

COCOS ISLAND

Camponotus (Myrmaphænus) cocosensis Wheeler

Seven workers, four females and six males (VI.28.'32).

The *female* (undescribed) measures 11–12 mm. and resembles the worker major, but the head is less narrowed anteriorly and the antennal scapes are longer. Thorax elongate-elliptical, slightly broader than the head; mesonotum as long as broad; base of epinotum convex, decidedly shorter than the subperpendicular, concave declivity. Superior border of petiolar node rather deeply and semicircularly excised. Surface of head and thorax much smoother and more shining than in the worker. Erect hairs on the head and thorax shorter and sparser. Head and appendages reddish yellow; thorax and petiole deep red. Wings long (12 mm.), yellow, with somewhat darker resin yellow veins and pterostigma.

The *male* (undescribed) measures 6.5–7 mm. Head through the eyes very nearly as wide as long; cheeks straight; clypeus bluntly carinate; mandibles triangular, with well-developed but edentate apical border; eyes and ocelli large and prominent; antennæ long and slender. Thorax stout, with large mesonotum, much broader than the head; epinotum short and convex, with subequal base and declivity. Petiolar node low and thick, its obtuse superior border broadly impressed in the middle. Legs long and slender. Pilosity pale, sparse and of uneven length as in the female. Head and thorax subopaque as in the worker; scutellum and epinotum smoother and more shining. Head, genitalia, appendages and sutures of thorax brownish or reddish yellow; remainder of thorax dark brown; gaster black. Wings yellow as in the female but both membranes and veins distinctly paler.

COSTA RICA, NICARAGUA AND MEXICO

Ectatomma ruidum Roger

Ten workers from Port Parker, Costa Rica (VII.3.'32), Coseguina Slope, Nicaragua (VII.6.'32) and Puerto Vallarta, Mexico (VII.21.'32).

Holcopenera curtula Emery

A worker from Coseguina Slope, Nicaragua (VII.6.'32) and two from Maria Madre Island, Mexico (VII.26.'32).

Pseudomyrma gracilis Fabr. var. **mexicana** Roger

A single worker from Port Parker, Costa Rica (VII.5.'32).

Pseudomyrma pallida F. Smith

A single small worker, apparently belonging to this species, from Port Parker, Costa Rica (VII.4.'32).

Pseudomyrma sp.

A single female from Coseguina Slope, Nicaragua (VIII.7.'32) allied to *Ps. filiformis* Fabr., but specifically distinct. Owing to the difficulty of identifying female specimens of the genus *Pseudomyrma*, which is in need of revision, I refrain from introducing a new name.

Crematogaster (Orthocrema) brevispinosa Mayr
var. **minutior** Forel

A number of workers from Acapulco, Mexico (IV.3.'32), and Coseguina Slope, Nicaragua (VII.8.'32), one poorly preserved worker from Isabel Island, Mexico (III.27.'32), two females from Maria Madre Island, Mexico (VII.23.'32) and one from Cape San Lucas, Baja California (VIII.4.'32).

Solenopsis geminata Fabr.

A single worker from Port Parker, Costa Rica (VII.3.'32) and one from Coseguina Slope, Nicaragua (VII.7.'32).

Solenopsis sp.

A single small black male, with whitish wings from Isabel Island, Mexico (VII.27.'32).

Cryptocerus minutus Fabr.

Two minor workers from Acapulco, Mexico (IV.5.'32) and one from Port Parker, Costa Rica (VII.4.'32).

Acromyrmex octospinosus Reich

Three workers from Acapulco, Mexico (IV.5.'32).

Azteca velox Forel

Three very small workers from Acapulco, Mexico (IV.5.'32).

Anopolepis longipes Jerdon

Mazatlan, Mexico, one worker (VIII.1.'32).

Camponotus (Myrmothrix) sp.

A winged female and a male from Isabel Island, Mexico (III.27.'32) allied to *C. (M.) abdominalis* Fabr, but with much less developed pile on the enlarged antennal scapes of the female. It is not advisable to name this form without major workers.

Camponotus (Myrmobrachys) senex F. Smith

A single minor worker from Acapulco, Mexico (IV.5.'32).

Camponotus (Myrmocladæcus) rectangularis Emery

Four workers from Coseguina Slope, Nicaragua (VII.7.'32) and one from Port Parker, Costa Rica (VII.3.'32).

Camponotus (Myrmocladæcus) rectangularis

var. *willowsi* var. nov.

Worker minor. Differing from the typical form of the species and its var. *rubroniger* Forel in coloration, being deep black, with the exception of the posterior borders of the gastric segments and terminal tarsal joints, which are reddish, and the head, antennal scapes and first funicular joint, which are bright yellowish red. Cheeks, clypeus and mandibles yellow, mandibular teeth reddish. The dorsal surface of the gaster is less opaque and more glossy than in *rectangularis* and *rubroniger*, with distinctly longer and denser pubescence and even shorter hairs.

A single specimen from Acapulco, Mexico (IV.5.'32). There is in my collection a second specimen taken by Frederick Knab in the same locality. I here insert a description of a second variety of *rectangularis* which I took in Guatemala in 1911. Type, C. A. S. Ent. No. 3683.

Camponotus (Myrmocladæcus) rectangularis
var. **aulicus** var. nov.

Worker major and minor. Resembling *rubroniger*, but the head, thorax and petiole are of a more vivid red, the base of the first gastric segment of the same color and each gastric segment reddish posteriorly, with the extreme border golden yellow. Appendages, especially the tibiæ and tarsi, somewhat darker red than the head and thorax; cheeks, clypeus and mandibles more yellowish, the funiculi beyond the first joint blackish as in the other forms of the species. Dorsal surface of gaster with the same short pubescence and pile as in the typical *rectangularis* and the var. *rubroniger*.

Described from sixteen specimens, taken from a hollow twig at Zacapa, Guatemala, Dec. 13, 1911. Type in author's collection.

SANTA BARBARA ISLANDS, CALIFORNIA

Aphænogaster patruelis Forel subsp. **willowsi** subsp. nov.

Worker. Differing from the typical *patruelis* in having the base of the epinotum straight and horizontal, not convex, and in certain details of coloration. Head, pronotum, pedicel and gaster very smooth and shining, base of epinotum very finely and indistinctly transversely striate, especially on the sides; mandibles, clypeus, cheeks and meso- and metapleuræ sharply, longitudinally rugulose. The epinotal teeth, though very small and resembling those of the much paler subspecies *bakeri* Wheeler from Catalina Island, are more slender and fully twice as long as broad at their bases. Deep reddish castaneous, almost black; mandibles, gula, the 4-jointed clubs of the antennæ, scapes, trochanters, tips of coxæ and legs red, the femora and tibiæ dark brown, except at their bases and tips.

A single specimen from San Nicolas Island (III.15.'32). Type, C. A. S. Ent., No. 3684.