THE ANTS (HYMENOPTERA FORMICIDAE) OF THE MASCARENE ISLANDS

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(ROSE HILL, MAURITIUS)

The Mascarenes comprise the islands of Mauritius, Réunion, Rodrigues and the Cargados Carajos or Saint Brandon group. These islands lie in the area enclosed by longitudes 55o15' and 63o20' East of Greenwich and latitudes 16o14' and 19o41' South of the Equator. They have a total land area of about 1,750 square miles.

For brief notes on the geological and topographical features of these Islands, *vide*: 1943, Mamet, *The Mauritius Institute Bulletin*, 2: 141-142.

THE ANTS OF MAURITIUS

The first record of an ant from Mauritius is, as far as the author is aware, due to F. Smith (1858, *Catalogue of the Hymenoptera in the collection of the British Museum, part 6, Formicidae*, p. 93.) when this author described "*Ponera maxillosa*" which is known to modern workers as *Leptogenys maxillosa* (Smith).

Later, Roger (1863, *Berliner Entomologische Zeitschrift*, 7: 134.) described a second species of ant from Mauritius: *Camponotus aurosus* Roger. He also recorded from this Island *Camponotus sericeus* Fabricius.

In 1891, Forel, in his "Histoire Naturelle des Formicides de Madagascar" (*in* Grandidier, *Histoire Physique, Naturelle et Politique de Madagascar*, Volume 20, Part 2), redescribed the species known to both Smith and Roger and recorded a fourth species, *Colobopsis cylindrica* Fabricius, from Mauritius.

In 1946, Donisthorpe, in his "Ants of Mauritius" (1946, *Annals and Magazine of Natural History*, (11), 13: 25-35) gave a list of 26 forms he had received from the author and which had been collected in various localities of the Island, mainly during the years 1942-1945. Of the earlier recorded species, only *Camponotus aurosus* Roger was listed by Donisthorpe.

Two genera and eight species which had previously been described from Mauritius by Donisthorpe (1945, *Annals and Magazine of Natural History*, (11), 12: 776-782; 1946, *The Entomologists Monthly Magazine*, 82: 242; 1946, *The Proceedings of the Royal Entomological Society of London*, Series B, 15: 145) were also included in the list.

Between 1946 and 1949, Donisthorpe (1946, *Annals and Magazine of Natural History*, (11), 13: 285; 1949, *idem.*, (12), 2: 272-273) described four other species of ants from Mauritius; they are:

Pheidole (*Pheidole*) *tardus* Donisthorpe
Dodous bispinosus Donisthorpe
Tapinoma pomonae Donisthorpe
Technomyrmex primroseae Donisthorpe

Of these, at least one species, *D. bispinosus*, can be considered as endemic and one, *Pheidole* (*Pheidole*) *tardus*, as probably endemic. *Tapinoma pomonae* was described from specimens collected in Mauritius in the "navel" of an orange which had been imported from South Africa. It is very likely that the species is established in Mauritius. The remaining species, *Technomyrmex primeroseae*, is probably synonymous (*fide* Nixon, *in litt.*) with the cosmopolitan *Technomyrmex detorquens* Walker.

As a result of collections made in the Island from 1946 to 1953, seven other species are here recorded for the first time from Mauritius :

Ponera johannae Forel
Euponera (*Brachyponera*) *luteipes* Mayr
Crematogaster (*Acrocoelia*) *castanea* Smith var. *tricolor* Gerst.
Crematogaster (*Acrocoelia*) *sewellii* Forel
Strumigenys (*Strumigenys*) *godeffroyi* Mayr
Monomorium (*Parholcomyrmex*) *destructor* Jerdon
Tapinoma melanocephalum Fabricius

The geographical distribution of these species will be given in the text accompanying the details of the collections made during the above-mentioned period.

From the above it is seen that the known Formicid fauna of Mauritius is composed of 40 forms of which 9 may possibly be endemic.

The author wishes to pay a tribute to the late Mr. Horace Donisthorpe who died while he was still engaged in the study of the ants of Mauritius. Mr. Donisthorpe has been responsible for almost all the determinations of ants collected by the author in this Island. After the death of this well-known authority, Mr. G. E. J. Nixon, of the staff of the Commonwealth Institute of Entomology, very kindly identified a few forms which were sent to him through the Director of that Institute, Dr. W. J. Hall, to whom the author also tenders his thanks.

NOTES ON THE FORMICIDS

COLLECTED IN MAURITIUS FROM 1946 TO 1953.

The reference is given to the original description and the known geographical distribution of the species recorded for the first time and for the species described by Donisthorpe in 1946 and 1949. Where such data are not given, they have already been noted by Donisthorpe (1946, *Annals and Magazine of Natural History*, (11), 13 : 25-35).

Family FORMICIDAE Stephens

Subfamily **PONERINAE** Lepeletier

Tribe **Ponerini** Forel

Ponera johannae Forel

1891, Hist. Phys. Nat. Polit. Madagascar, 20 : 2 : 220.
Distribution : — Madagascar.

No 117, Rose Hill, v. 1947. A very slow species found removing seeds from a seed-box.

Euponera (Brachyponera) luteipes Mayr

1862, Myrmecol. Studien, p. 74.
Distribution :— Indo-Oriental region.
No 120, Quatre Sœurs, 24-29.x.1947 ; No 121, Réduit, 20.xi.1947 ; No 140, Nouvelle Découverte, 21.xi.1948. Always collected in very moist situations.
Also collected at Bel Etang, Vallée des Prêtres and Mat Condé

Tribe **Leptogenyini** Forel

Leptogenys maxillosa F. Smith var. **vinsonella** Dufour

No 85, Flat Island (Mauritius), 25. viii. 1936, (J. Vinson). This record was omitted from the Donisthorpe list (1946, *loc. cit.*).

Subfamily **MYRMICINAE** Lepeletier

Tribe **Pheidolini** Emery

Pheidole (Pheidole) megacephala Fabricius

No 111, Grand Gaube, i. 1947, common near the sea-shore, found under stones, fallen trees and among grass ; No 112, Roches Noires, 16.ii.1947, common near the sea-shore, found nesting under bark of Casuarina trees and forming definite runways on and in the sand ; No 132, collected whilst beating trees at Pétrin, 7.i 1950 ; No 133, in moist soil at Pétrin, 7. i. 1950 ; No 142, in moist soil at Petit Verger (Moka), 1. viii. 1949, troublesome in flower garden, transporting seeds and biting young seedlings.

Observed attending the Coccoid, *Icerya seychellarum* (Westw.), on Casuarina trees, at Belle Mare, 24.xi.1952.

Behaves sometimes as a household pest, infesting food cupboards, feeding on lard, butter, cakes, etc.

Pheidole (Pheidole) tardus Donisthorpe

1946, Annals and Magazine of Natural History, (11), 13 : 285. Described from Mauritius.

No 104, Rose Hill, 7.v.1946, a somewhat slow species; No 141, Rose Hill, 18.i.1948.

Pheidole sp. ?

No 114 & 115, Rose Hill, 1-25.iv.1947, only winged individuals collected. This is the same with No 74 of the Donisthorpe's list (1946, *loc. cit.*).

Tribe **Crematogasterini** Forel

Crematogaster (Acrocoelia) castanea F. Smith var. **tricolor** Gerst.

1858, Monasts. ber. Akad. Wiss. Berlin, p. 263.
Distribution : — Madagascar, Mozambique.
No 110, collected by F. Nadeau in a lighter anchored at Cerné Dock (Port Louis), 9.xi.1946. This species was feeding on sugar.

Crematogaster (Acrocoelia) sewellii Forel

1891, Hist. Phys. Nat. Polit. Madagascar, 20 : 2 : 196.
Distribution :— Madagascar.
No 136, collected whilst beating trees, Pétrin, 7.i.1950.

Tribe **Solenopsidini** Forel

Dodous bispinosus Donisthorpe

1949, Annals and Magazine of Natural History, (12), 2 : 272.
Described from Mauritius.
No 124, collected whilst beating trees, Le Pouce Mt., 2.xi.1948. This species, like *Dodous trispinosus* Donisthorpe, simulates death when disturbed.

Monomorium (Monomorium) floricola Jerdon

No 122, Rose Hill, 8.ii.1948.

Monomorium (Parholcomyrmex) destructor Jerdon

1851, Madras Journ. Lit. and Sci., 17 : 105.
Distribution :— Cosmopolitan.
No 144, Rose Hill, vii. 1953, found in a piece of bread. Recently found infesting a bakery in Port Louis (28.ix.1953), nesting in the soil and feeding on freshly baked loaves.

Solenopsis mameti Donisthorpe

No 125, Le Pouce Mt., 2.xi.1948, nesting in decaying wood ; No 131 & No 134, Pétrin 7.i.1950, found in rotting tree trunk ; No 145, Midlands, 3.viii.1953, found under moss growing on a rotting tree trunk.

Tribe **Tetramoriini** Emery

Tetramorium simillimum F. Smith

No 107, Rose Hill, 12.x.1946 ; No 119, Chamouny, 7.vii.1947, collected in sugar cane field.

Tribe **Dacetini** Forel

Strumigenys (Strumigenys) godeffroyi Mayr

1866, Sitz. ber. Akad. Wiss. Wien, 53 : 516.
Distribution :— Seychelles, Indo-Australian region.
No 116, Rose Hill, 26.v.1947. Nesting in a porous stone ; a very slow species.

Strumigenys (Cephaloxys) raymondi Donisthorpe

No 127, Le Pouce Mt., 2.xi.1948, in decaying wood.

Subfamily **DOLICHODERINAE** Forel

Tribe **Tapinomini** Emery

Tapinoma melanocephalum Fabricius

1793, Ent. System., 5 : 2 : 353.
Distribution :— Tropicopolitan.
No 143, Flat Island (Mauritius), 1949, (J. R. Williams).

Tapinoma pomonae Donisthorpe

1946, Annals and Magazine of Natural History, (11), 13 : 285.
Described from Mauritius.
No 103, in " navel " of an orange received from South Africa, 24.vi.1946. It is very likely that this species is established in Mauritius.

Technomyrmex detorquens Walker

No 135, Pétrin. 7.i.1950, under bark of dead tree.

Technomyrmex primroseae Donisthorpe

1949, Annals and Magazine of Natural History, (12), 2 : 273.
Described from Mauritius.
No 126, Le Pouce Mt., 2.xi.1948, nesting in rotten tree stump.
In the opinion of Mr. G. E. J. Nixon (*in litt.*) this species is synonymous with the cosmopolitan *Technomyrmex detorquens* Walker.

Subfamily **FORMICINAE** Lepeletier

Tribe **Dimorphomyrcini** Emery

Brachymyrmex cordemoyi Forel

No 108, Rose Hill, 1.xi.1946, visiting pumpkin flowers; No 118, Réduit, 11.vii.1947; No 128, Le Pouce Mt., 2.xi.1948, nesting in dead tree stump; No 137, Pétrin, 7.i.1950, in rotting tree trunk.

Tribe **Camponotini** Forel

Camponotus (Myrmosericus) aurosus Roger

No 129, Le Pouce Mt., 2.xi.1948.

Camponotus (Myrmotrema) grandidieri Forel

No 109, Corps de Garde Mt., v.1946; No 113, Rose Hill, 11.ii.1947, winged individuals attracted by light.

Tribe **Lasiini** Ashmead

Paratrechina (Nylanderia) vividula Nylander

No 105, Rose Hill, 1.xi.1946, visiting pumpkin flowers.

THE ANTS OF RÉUNION ISLAND

The first species of ant to be recorded from Réunion Island seems to be *Prenolepis bourbonica* which Forel described from this island in 1886 under the name *Prenolepis nodifera* race *bourbonica*, from specimens collected in Saint Denis, by Dr. Conrad Keller (1886, *Annales de la Société Entomologique de Belgique*, 30: 210.).

In 1891, Forel (*Histoire Physique, Naturelle et Politique de Madagascar, 20, part 2*), listed another species from this Island: *Pheidole megacephala* Fabricius.

Later on, in 1895, the same author enumerated 10 forms in a short paper entitled " Les Fourmis de l'Ile de la Réunion " (1895, *Annales de la Société Entomologique de Belgique*, 39: 49). The following is a list of these forms:

Prenolepis bourbonica Forel
Prenolepis longicornis Latreille (= *Paratrechina longicornis* (Latreille))
Brachymyrmex patagonicus Mayr var. *cordemoyi* Forel (= *Brachymyrmex cordemoyi* Forel)

Plagiolepis alluaudi Emery
Plagiolepis longipes Jerdon (= *Anoplolepis longipes* (Jerdon))
Technomyrmex albipes F. Smith (= *Technomyrmex detorquens* Wlk.)
Tapinoma melanocephalum Fabricius
Leptogenys maxillosa F. Smith var. *vinsonella* Dufour
Monomorium floricola Jerdon
Pheidole megacephala Fabricius var. *picata* Forel

About 50 years later, Donisthorpe, in his study on " The Ants of Mauritius " (1946, *Annals and Magazine of Natural History*, (11), 13: 25-35), recorded *Camponotus* (*Tanaemyrmex*) *maculatus* Fabricius, from Réunion Island.

During a visit made to this Island by Mr. J. R. Williams, Entomologist of the Department of Agriculture, Mauritius, in 1951, seven species of ants were collected; they were kindly identified by the Commonwealth Institute of Entomology. Five of them had already been recorded by Forel (1895, *loc. cit.*) and by Donisthorpe (1946, *loc. cit.*); the two others were *Solenopsis geminata* Fabricius and an undetermined species of *Pheidole*.

The following list deals with the species collected by Mr. J. R. Williams:

Subfamily **MYRMICINAE** Lepeletier

Tribe **Pheidolini** Emery

Pheidole sp.

No RH3, Cilaos, 15. vii. 1951, under stones; No. RH30, St. André, 6. viii. 1951, tending *Cerataphis lataniae* (Boisduval) (Hemipt. Aphidoidea), on vanilla; No. RH31, St. Joseph, 31. viii. 1951, in path in cane field.

Tribe **Solenopsidini** Forel

Solenopsis geminata Fabricius

No BH2, St. Louis, 14. vii. 1951, in tobacco field.

Subfamily **DOLICHODERINAE** Forel

Tribe **Tapinomini** Emery

Tapinoma melanocephalum Fabricius

No RH4, La Bretagne, 18. vii. 1951, on sugar cane; No RH20, La Bretagne, 26. vii. 1951, on sugar cane.

Technomyrmex detorquens Walker

No RH21, La Bretagne, 26. vii. 1951, on sugar cane; No RH23, La Bretagne, 28. vii. 1951, on sugar cane.

Subfamily **FORMICINAE** Lepeletier

Tribe **Dimorphomyrmicini** Emery

Brachymyrmex cordemoyi Forel

No RH2, St. Louis, 14. vii. 1951, in tobacco fields; No RH 10, Bois Rouge, 19. vii. 1951, on sugar cane.

Tribe **Camponotini** Forel

Camponotus (Tanaemyrmex) maculatus Fabricius

No RH32, St. Denis, 8. viii. 1951, in hotel.

Tribe **Lasiini** Ashmead

Paratrechina longicornis Latreille

No RH18, La Bretagne, 24.vii 1951, in laboratory.

Thus, the known Formicids from Réunion comprise 14 forms of which 4 are apparently endemic.

THE ANTS OF RODRIGUES

In 1876, F. Smith (*Annals and Magazine of Natural History*, (4), 17: 447-448) described the following new species of ants* from this Island:

Tapinoma pallipes Smith
Tapinoma fragile Smith
Monomorium impressum Smith
Monomorium elongatum Smith

Three years later, the same author (1879, *Philosophical Transactions of the Royal Society of London, Volume 168 (Extra Volume)*, pp. 535-536.) added two more species to the above list: *Prenolepis gracillescens* Nylander (= *Prenolepis longicornis* Latreille) and *Pheidole pusilla* Heer (= *Pheidole megacephala* Fabricius s. sp. *pusilla* Heer).

In 1941, the red ant, *Solenopsis geminata* Fabricius, made its appearance in this Island and became an important pest. The species is now firmly established there.

*I am imformed by Mr. G. E. J. Nixon that these species are not recognizable.

The sweet-eating ant, *Anoplolepis longipes* Jerdon, has recently been received from Rodrigues where it is reported to occur in vast numbers in the region of Camp du Roi.

It follows from the above that the known Formicid fauna of Rodrigues comprises 8 species. The author is aware that other species of ants occur in this Island but he cannot list them without actual specimens to substantiate hearsay.

THE ANTS OF CARGADOS CARAJOS

No species of ants has so far been recorded from this group of islands. It is highly probable that most of the forms encountered there are eitheir cosmopolitan or tropicopolitan.

GEOGRAPHICAL DISTRIBUTION OF THE FORMICIDAE OF THE MASCARENE ISLANDS.

Species	Mauritius	Reunion	Rodrigues	Other Localities
PONERINAE				
Leptogenys maxillosa F. Smith	+			Madagascar.
Leptogenys maxillosa F. Smith var. *vinsonella* Dufour	+	+		Seychelles.
Ponera johannae Forel	+			Madagascar.
Euponera luteipes Mayr	+			Indo-Oriental region.
MYRMICINAE				
Pheidole megacephala Fabricius	+	+		Cosmopolitan.
Pheidole megacephala Fabr. s.sp. *pusilla* Heer			+	Europe, Madeira.
Pheidole megacephala Fabr. s.sp. *pusilla* Heer var. *scabrior* Forel	+			Madagascar, Seychelles.
Pheidole megacephala Fabr. var. *picata* Forel		+		Madagascar.
Pheidole anastasii Emery var. *cellarum* Forel	+			Europe, Costa Rica.

Species	Mauritius	Reunion	Rodrigues	Other Localities
Pheidole tardus Donis.	+			
Pheidole sp. ?	+			
Pheidole sp. ?		+		
Cardiocondyla mauritia Donis.	+			
Crematogaster sewellii Forel	+			Madagascar.
Crematogaster sewellii var. *dentata* Forel	+			Madagascar.
Crematogaster castanea Smith var. *tricolor* Gerst.	+			Madagascar, Africa.
Dodous trispinosus Donis.	+			
Dodous bispinosus Donis.	+			
Monomorium floricola Jerdon	+	+		Cosmopolitan.
Monomorium destructor Jerdon	+			Cosmopolitan.
Monomorium impressum F. Smith			+	
Monomorium elongatum F. Smith			+	
Solenopsis geminata Fabr.	+	+	+	Tropical America, Africa.
Solenopsis mameti Donis.	+			
Triglyphothrix mauricei Donis.	+			
Tetramorium simillimum F. Smith	+			Cosmopolitan.
Ireneopone gibber Donis.	+			
Strumigenys godeffroyi Mayr	+			
Strumigenys raymondi Donis.	+			
DOLICHODERINAE				
Iridomyrmex vinsoni Donis.	+			
Technomyrmex detorquens Wlk.	+	+		Cosmopolitan.

Species	Mauritius	Reunion	Rodrigues	Other Localities
Technomyrmex primroseae Donis.	+			
Tapinoma melanocephalum Fabr.	+	+		Tropicopolitan.
Tapinoma pallipes F. Smith			+	
Tapinoma fragile F. Smith			+	
Tapinoma pomonae Donis.	+			South Africa.
FORMICINAE				
Anoplolepis longipes Jerdon	+	+	+	Cosmopolitan.
Plagiolepis madecassa Forel	+			Madagascar, Seychelles.
Plagiolepis alluaudi Emery		+		
Prenolepis bourbonica Forel		+		
Brachymyrmex cordemoyi Forel	+	+		Seychelles.
Camponotus maculatus F.	+	+		Madagascar, E. Africa.
Camponotus sericeus Fabr.	+			East Africa.
Camponotus aurosus Roger	+			
Camponotus grandidieri Forel	+			Madagascar, Seychelles.
Colobopsis cylindrica F.	+			
Pseudolasius dodo Donis.	+			
Paratrechina longicornis Latreille	+	+	+	Cosmopolitan.
Paratrechina vividula Nylander	+			Cosmopolitan.
Total number of forms :-	40	14	8	