

TAXONOMIC STUDIES OF SOME ANTS (FORMICIDAE-HYMENOPTERA)

FROM LIBYA

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ABSTRACT

This work deals with the taxonomy of four subfamilies, Ponerinae, Dorylinae, Myrmicinae and Formicinae (Family: Formicidae, Order: Hymenoptera) collected from different areas in Libya comprising 14 genera and 26 species and subspecies. Diagnosis and keys accompanied with illustrations are given to these species and subspecies.

INTRODUCTION

Libya is still one of the few countries where very little investigations on the general entomofauna have been carried out. A vast field of study is still open to the entomologists interested in many spheres of research. In particular, the taxonomist will find ample opportunities to collect specimens in biotopes of arid, semi-arid, mountaineous and coastal areas for morphological and taxonomical investigations.

The aim of the present work is to identify some species and subspecies collected from Libya for a period

of one year (1986). Several authors studied and revised ants from different regions as André (1881); Emery (1901, 1906, 1909, 1912 and 1925); Forel (1902); Santschi (1908, 1912, 1915, 1921, and 1929); Finzi (1930); Menozzi (1930-1931) and (1931); Donisthorpe (1947); Bernard (1956); and Hassanein (1979).

MATERIALS AND METHODS

Ants were collected by hand from gardens, houses, deserts and mountains (Fig. 1) and were reserved in alcohol for future identification. Different habitats were represented in the survey. The specimens were examined and identified accurately from different collections present in Egypt. Localities of each species are cited and the number of specimens examined is found between brackets.

RESULTS

Specimens collected from Libya is confined in four subfamilies: Ponerinae, Dorylinae, Myrmicinae and Formicidae.

Key to subfamilies, genera, species and subspecies of ants in Libya

1(2) Eyes absent or vestigial, pedicel usually of 2 segments in the worker (one in female and male); clypeus short; frontal carina short and vertical, not covering the antennal insertions; antennae usually short, epinotum usually unarmed (Fig. 2), promesonotal

- suture weak or absent; palps of two or three segments
..... DORYLINAE
- Male very long, about 40 mm. long; yellowish brown;
female small blind; antennae 13 segments; workers
strongly dimorphic Dorylus fulvus Westwood
- 2(1) Without this combination of characters.
- 3(12) Opening of posterior end of gaster (acidopore) ter-
minal, circular and usually surrounded by a fringe
of hairs (Fig. 3), sting vestigial; petiole usually
scale like, one-segmented (Fig. 4)...FORMICINAE
- 4(5) Antennae 11-segmented in ♂ and ♀, and 12-
segmented in males; size very small; ♂ 1-2 mm.;
body brilliant yellowish brown
.... Plagiolenis pallescens maura atlantis Santschi
- 5(4) Antennae 12-segmented in ♂ and ♀, and 13-
segmented in males; size more than 3 mm. Reddish
brown to black species.
- 6(9) Insertion of antennae distant from posterior margin
of clypeus.
- 7(8) ♂ ♂ monomorphic; petiole, epinotum and prono-
tum always spinose or dentate; head broadly oval;
clypeus with distinct medial vertical carina, an-
terior margin incised in the middle; antennal carina
? wide apart..... Polyrhachis simplex Mayr
- 8(7) ♂ ♂ Polymorphic; petiole, epinotum and pro-
notum unarmed; reddish black species; head broad ±

excised behind, narrower in front, very convex above,
flattened beneath..... Camponotus sericeus(Fabricius)

9(6) Insertion of antennae close to the posterior margin
of clypeus.

10(11) Funiculus long with the second segment twice longer
than large; maxillary palps very long with the
fourth segment twice the length of the fifth; tho-
rax narrower than head; scale thick obtuse at apex..

.....Cataglyphis Foerster

a- Yellowish red species; body covered with fine
white hairs; head rounded in the occipital
region behind eyes..... C.albicans (Roger)

b- Reddish species; body coated with velvet sil-
very hairs; head straight in the occipital
region behind eyes..... C.bombycina (Roger)

c- Blackish, mat species; head longer than broad;
second funicular segment equal to the following
segments; head reddish....C.bicolor(Fabricius)

11(10) Funiculus and maxillary palps shorter; the fourth
maxillary palp segment about equal to the fifth;
antennal cavities separated from clypeus; dark
brown species.....

..... Paratrechina longicornis (Latreille)

12(3) Opening at posterior end of gaster (cloacal orifice)
slit-like; sting well developed; petiole one or two
segmented, if one segmented, a distinct constriction

exists between first and second gastral segments;
mandibles very long, linear, narrow and sharp-pointed.

- 13(14) One segmented petiole; a distinct constriction exists between first and second gastral segments (Fig. 5). Pupa enclosed in cocoon... PONERINAE
— Maxillary palp one or two segments; head without eyes or ocelli; epinotum rounded apically; without teeth; abdomen with the first 2 segments broad....
..... Ponera ragusae santschii Emery
- 14(13) Petiole composed of two distinct segments; gaster with no constriction (Fig. 6). Pupa naked.....
..... MYRMICINAE
- 15(22) Epinotum armed; antennae 10-13 segments; club distinct more than 3 segments.
- 16(17) ♂ fore wing with 2 cubital cells, radial cell closed; discoid cell present; mesothorax with distinct Mayrian furrows; petiole very shortly pedunculate, first node wedge shaped or conical; border of mandible with 2 teeth at the base and 2 teeth at the extremity, unarmed in the middle; major workers with high head strongly incised at the base; 3-4.mm., first abdominal segment larger than the rest Pheidole Westwood
a- Head and occiput deeply incised medianly; head weakly striated.....P.pallidula recticeps Forel

- b- Head and occiput not deeply incised medianly,
head distinctly striated...P.teneriffana Forel
- c- Head trapezoidal; occiput straight, sides rounded;
head striated, the striae superficial in front,
deep and large along the sides specially on the cheeks
and around the eyes.....
..... P.sinaitica Mayr
- 17(16) ♂ fore wing with 1 cubital cell; mesonotum without
or with distinct Mayrian furrows at least in the anterior
third; petiole pedunculate; nodes of petiole variable;
mandibles with normal teeth.
- 18(19) ♂ Mesonotum without Mayrian furrows, no radial
or discoidal cells. ♀ , ♀ Antennae 12-segmented,
club 4-5 segments; eyes rounded; length more than 3.5 mm.;
petiole with a long peduncle...
..... Cardiocondylia nuda mauritanica Forel.
- 19(18) ♂ Mesonotum with distinct Mayrian furrows; one
discoidal and closed radial cells present.
♀ , ♀ Antennae 11-jointed, club 3-segments;
eyes normal; length less than 3.5 mm.
- 20(21) ♂ Antennae 10-segmented, second flagellar segment
very long; shoulders angular; posterior margin of clypeus
raised in a carina along the antennal fossettes.....
Tetramorium similinum (F.Smith)
- 21(20) ♂ Antennae 12-13 segmented, second flagellar
segment short; shoulders rounded, clypeal margin not
carinated....Leptothorax angulatus (Mayr)

- 22(15) Epinotum unarmed; antennae 10-12 jointed, club
2-3 segmented or indistinct.
- 23(24) Antennae 10-11 jointed with distinct club 2-seg-
mented; workers very small, 3-5 mm., clear yellow
..... Solenopsis lou (Forel)
- 24(23) Antennae 11-12 segments, club distinct, 3-segmented
or indistinct.
- 25(26) Antennae with distinct 3-segmented club; mandibles
narrow with 3-4 acute teeth; clypeus with longitudi-
nal suture with the margin reaching the anterior
border; first joint of petiole shortly pedunculate;
petiole pyramid shaped; postpetiole globular, sma-
ller than petiole; minor and major workers (1-2.5
mm)..... Monomorium Mayr
- a- Yellowish red; occiput straight; first flage-
llar segment less than the second and third
segments; petiole cuneiform rounded.....
..... M. pharaonis (Linnaeus)
- b- Reddish black; occiput straight; first flage-
llar segment equal to the second and third seg-
ments; petiole pyramid like.....
..... M. Subopacum phoenicia Emery
- c- Reddish brown; occiput not straight, first
flagellar segment less than the second and
third segments; petiole somewhat raised than
postpetiole M. salomonis (Linnaeus).

- Length more than 3 mm.; head and gaster black, head glazy, thorax mat, dark brown.....
..... M. salomonis somrieri Emery
- Length 4.5 mm.; head and gaster brown or brown pitchy, head and thorax subbrilliant, thorax red testaceous to brown....M. salomonis obscurata Stitz
- Length 3-3.4 mm.; head and gaster black glazy, thorax dark red.... M. Salomonis didonis Santschi
- 26(25) Antennal club little distinct; mandibles short, large with the two anterior teeth strong and blunt; clypeus narrow; workers minor and major with big head; first segment of petiole conical, pedunculate; second segment transversely globose, thoracic suture distinct; ♂ 4-13 mm. in length
..... Messor Forel
- a- Yellowish red species; gula without hairs; promesonotum not gibbous.....
..... M. rufotestaceus (Foerster)
- b- Black species with slightly reddish colour in the thorax; epinotum slightly tuberculate with very short teeth.....M. aegyptiacus Emery
- c- Body black, legs blackish; head larger than long; occiput more or less emarginate
..... M. aegyptiacus foreli Santschi
- d- Head and thorax red, gaster usually reddish black to black; epinotum slightly tuberculate

with pointed teeth....M. arenarius (Fabricius)

Subfamily: Ponerinae

The colonies are mostly small, ants are all predaceous and carnivorous, their pupae are always enclosed in cocoons, and a well-developed sting is always present in the worker and female.

Distribution: Widely distributed, especially in the tropics and Australia.

This subfamily is represented by one genus and one species:

Genus: Ponera Latreille

Ponera Latreille (1805) Nouv. Dict. d'Hist. Nat., 24:178.

Ponera ragsuae santschii Emery

Ponera ragsuae Santschii Emery (1909) Deutsch. Ent. Zeit.: 371.

Specimens examined: Beni Gazi, IX, 1986(5); El Beida, IX, 1986(7); Musrata, IX, 1986(10).

Subfamily: Dorylinae

The males of the drivers are winged and with eyes, they are frequently taken at lights, the workers are blind, and the females are both blind and wingless. Members of genus Dorylus are almost entirely subterranean, rarely coming to the surface except in dull, cloudy weather. They do not make permanent nests. The three castes are entirely different from one another. The queens are excessively rare and known only in a few

species, and the males have been taken in company with their workers.

Distribution: Small subfamily of mostly tropical species, some of which occur in the temperate regions of Africa and North and South America.

This subfamily is represented by one genus and one species:

Genus: Dorylus Fabricius

Dorylus Fabricius (1793) Ent. Syst., II: 194.

Dorylus fulvus Westwood

Dorylus fulvus Westwood (1840) Intr. Class. Ins. II:219.

Dorylus fulvus puniceus Santschi (1926) Bull. Soc. Hist. Nat. Afr. N., XVII: 230.

Dorylus fulvus ruficeps Santschi (1926) Bull. Soc. Hist. Nat. Afr. N., XVII: 232.

Specimens examined: Tarnhuna, VI, 1986 (11).

Subfamily: Myrmicinae

This subfamily is divided into a large number of genera, the majority of which are cosmopolitan. All workers possess a sting, and the pupae are always naked. Petiole 2-jointed in all the sexes, the second joint very rarely nearly as wide as the first abdominal segment.

This large and important subfamily contains many annoying and injurious species, and with numerous numbers of individuals. The larger species are called bulldog

ants, they bite their victims severely; mandibles simple or toothed, small or wide. Compound eyes present, rarely vestigial or absent, clypeus may or may not extend between frontal carinae. Reproductives usually winged; fore wing with one or two closed cubital cells. Male genitalia partly concealed or exerted.

Distribution: Widely distributed throughout the entire world.

Genus: Cardiocondyla Emery

Cardiocondyla Emery (1869) Ann. Acad. Nat. Napoli, II:20

Cardiocondyla nuda mauritanica Forel

Cardiocondyla nuda mauritanica Forel (1890) Ann. Soc. Ent. Belg. LXXV.

Specimens examined: El Gouf, IV, 1986(9); Tarhuna, V, 1986(6); Gaghub, V, 1986(7); Elaziziya, X, 1986(5).

Genus: Leptothorax Mayr

Leptothorax Mayr (1855) Verh. Zool. Bot. Ver. Wien, 5 : 431.

Leptothorax angulatus Mayr

Leptothorax angulatus Mayr (1862) Zool. Bot. Gesell. Wien : 739.

Specimens examined: El Gouf, IV, 1986(7); El Khoms, IV, 1986(7); Tripoli, IV, 1986(7); El Kofra, IV, 1986; Musrata, X, 1986(5); Sabha, XI, 1986(7).

Genus: Messor Forel

Messor Forel (1890) Ann. Soc. Ent. Belg., 34 : IXX.

Messor aegyptiacus Emery

Messor aegyptiacus Emery (1908) Deut. Ent. Zeit.: 451.

Specimens examined: Tripoli, III, 1986 (12); Tarhuna, VI, 1986 (9); Marzouk, V, 1986(9). Elbeida, IX, 1986 (12); Sert, IX, 1986 (9); Musrata, X, 1986 (11).

Messor aegyptiacus foreli Santschi

Messor aegyptiacus foreli Santschi (1923) Rev. Suisse. Zool., 30: 323.

Specimens examined: Tarhuna, IV, 1986(7); Gagbut, V, 1986 (6); Marzouk, V, 1986 (6); Beni Gazi, IX, 1986(8); Sert, IX, 1986 (4); Sabha, XI, 1986 (9).

Messor arenarius (Fabricius)

Formica arenarius Fabricius (1787) Mant. Insect., I:307-311.

Aphaenogaster arenaria Roger (1863) Verz. Formicid. Gatt. Art., Berlin.

Messor arenarius Fabricius in Alfieri (1931) Bull. Soc. Ent. Egypte, XV.

Specimens examined: Tarhuna IV, 1986 (11); Elbeida, IX, 1986 (9); Sert, IX, 1986 (12); Musrata, X, 1986 (10); Elaziziya, X, 1986 (13).

Messor rufotestaceus (Foerster)

Myrmica rufotestacea Foerster (1850) Verh. Natur. Ver. Preuss. Rheinl., VII: 489.

Aphaenogaster rufotestacea Roger (1863) Verz. Formicid: 30.

Anhaenogaster gracilinodis Emery (1878) Ann. Mus. Stor.
Nat. Genova, XII: 55.

Messor rufotestaceus Emery (1908) Deutsch Ent. Zeit.: 437.
Specimens examined: Tripoli, II, 1986 (6); Beni Walid, IV,
1986 (6); El Gouf, IV, 1986 (8); El Kofra, IV, 1986 (9);
Marzouk, V, 1986 (12); Tarhuna, V, 1986 (10); Sabha, VI,
1986 (12); Beni Gazi, IX, 1986 (12); Elbeida, IX, 1986 (15);
Sert, IX, 1986 (12).

Genus: Monomorium Mayr

Monomorium Mayr (1855) Verh. Zool. Bot. Ges. Wien, V:452.

Monomorium pharaonis (Linnaeus)

Formica pharaonis Linnaeus (1758) Syst. Nat., I

Myrmica domestica Shuckard (1838) Mag. Nat. Hist. II:226.

Monomorium pharaonis Mayr (1862) Verh. Zool. Bot., Wien,
II: 649.

Specimens examined: El Khoms, III, 1985(11); Tripoli, III,
1986 (17); El Kofra, IV, 1986 (12); Beni Walid, IV, 1986
(15); El Gouf, IV, 1986 (9); Marzouk, V, 1986 (11);
Tarhuna, VI, 1986 (22); Elbeida, IX, 1986 (9); Sert, IX,
1986 (10); Beni Gazi, IX, 1986 (13); Sabha, IX, 1986 (16);
Elaziziya, X, 1986 (17); Musrata, X, 1986 (17).

Monomorium salomonis (Linnaeus)

Formica salomonis Linnaeus (1758) Sys. Nat., I.

Monomorium salomonis Roger (1862) Deut. Ent. Zeit., VI:283.

Specimens examined: Tripoli, IV, 1986 (19); El Kofra, IV,
1986 (16); El Gouf, IV, 1986 (12); Beni Walid, V, 1986
(15); Tarhuna, V, 1986 (20); Beni Gazi, IX, 1986 (12);

Sert, IX, 1986 (15); Musrata, X, 1986 (13).

Monomorium salomonis didonis Santschi

Monomorium salomonis didonis Santschi (1921) Mem. R.
Soc. Esp. Hist. Nat. : 425.

Specimens examined: El Khoms, III, 1986 (6); Tarhuna,
III, 1986 (5); Marzouk, V, 1986 (6); Elbeida, IX, 1986
(7); Musrata, X, 1986 (12).

Monomorium salomonis obscurata Stitz

Monomorium salomonis obscurata Stitz (1916) Mitth. Zool.
Mus. Berlin: 346.

Specimens examined: El Khoms, IV, 1986 (8); Beni Walid,
IV, 1986 (6); Gagbub, V, 1986 (4); Beni Gazi, IX, 1986
(7); Sert, IX, 1986 (9); Elaziziya, X, 1986 (10).

Monomorium salomonis sommiereri Emery

Monomorium salomonis sommiereri Emery (1908) Deut. Ent.
Zeit., : 676.

Specimens examined: El Khoms, IV, 1986 (4); El Kofra,
IV, 1986 (6); El Gouf, IV, 1986 (7); Gagbub, V, 1986
(7); Sabha, XI, 1986 (6).

Monomorium subopacum phoenicia Emery

Monomorium salomonis subopacum phoenicia Emery (1908)
Deut. Ent. Zeit. : 677.

Monomorium subopacum phoenicia Santschi (1927) Bull.,
Ann. Soc. Ent. Belg., 67: 242.

Specimens examined: El Kofra, IV, 1986 (7); El Gouf, IV,
1986 (5); Tripoli, IV, 1986 (6); Tarhuna, VI, 1986 (8);
Elbeida, IX, 1986 (7); Sert, IX, 1986 (9); Musrata, X,

1986 (6); Elaziziya, X, 1986 (5).

Genus: Pheidole Westwood

Pheidole Westwood (1841) Ann. Mag. Nat. Hist., VI: 87.

Pheidole pallidula recticeps Forel

Pheidole pallidula recticeps Forel (1909) Bull. Soc.

Vaud. Sc. Nat., 45:391.

Specimens examined: Tropoli, III, 1986 (5); El Khoms,
III, 1986 (9); Tarchuna, V, 1986 (7); Musrata, X, 1986(11).

Pheidole sinaitica Mayr

Pheidole sinaitica Mayr (1862) Verh. Zool. Bot. Gesell.

Wien. : 745.

Specimens examined: Tripoli, IV, 1986 (12); El Gouf, IV,
1986 (8); El Khoms, IV, 1986 (6); Beni Walid, IV, 1986
(9); Gaghub, V, 1986 (7); Tarchuna, V, 1986 (9).

Pheidole teneriffana Forel

Pheidole teneriffana Forel (1892) Ann. Soc. Ent. Belg.:
465.

Specimens examined: Tripoli, II, 1986 (5); Tarchuna, V,
1986 (8); Beni Gazi, IX, 1986 (11); Sert, IX, 1986 (7);
Elbeida, IX, 1986 (10).

Genus: Solenopsis Westwood

Solenopsis Westwood (1841) Ann. Mag. Nat. Hist. VI: 86.

Solenopsis lou (Forel)

Solenopsis lou Forel (1902) Ann. Soc. Ent. Belg. XLVI:
152.

Specimens examined: Elbeida, IX, 1986 (6); Elaziziya,
X, 1986 (4).

Genus: Tetramorium Mayr

Tetramorium Mayr (1855) Verh. Zool.-Bot. Ges. Wien, V.423.

Tetramorium simillimum (F. Smith)

Myrmica simillima F. Smith (1854) Trans. Ent. Soc. Lond.,
III: 95.

Tetramorium simillimum Mayr (1861) Europ. Formicid. Wien, I.

Specimens examined: Tripoli III, 1986 (9); El Khoms, IV,
1986 (9); El Kofra, IV, 1986 (8); Marzouk, V, 1986 (7);
Tarhuna, VI, 1986 (7); Elaziziya, X, 1986 (6); Musrata,
X, 1986 (11).

Subfamily : Formicinae

It is the largest and most important subfamily. The members are variable in size, ranging from 2-20 mm. in length. Their habits, mental and social behaviour, and morphologically they are considered the most highly developed of all ants. They are vegetarian and feed on sugary substances, which are stored by the workers. Certain species of Polyrhachis and Camponotus build silk nests in leaves.

Distribution: This subfamily is widely distributed and many genera are cosmopolitan.

Genus: Camponotus Mayr

Camponotus Mayr (1861) Europ. Formicid. : 35.

Camponotus sericeus (Fabricius)

Formica sericea Fabricius (1798) Ent. Sys. Supplement:279.

Camponotus sericeus Mayr (1862) Verh. Zool. Bot., Wien,
XII : 649.

Specimens examined: Tripoli, III, 1986 (11); El Gouf, IV, 1986 (9); El Khoms, IV, 1986 (12); El Kofra, IV, 1986 (7); Marzouk, V, 1986 (11); Tarhuna, V, 1986 (7); Beni Gazi, IX, 1986 (14); Elbeida IX, 1986 (13); Sert, IX, 1986 (11); Elaziziya, X, 1986 (13); Musrata, X, 1986 (6).

Genus: Cataglyphis Foerster

Cataglyphis Foerster (1850) Verh. Naturh. Ver. Preuss. Rheinl., VII: 493.

Cataglyphis albicans (Roger)

Formica albicans Roger (1859) Deut. Ent. Zeit., 3:225-259.

Cataglyphis albicans Roger (1863) Verz. Formicid. Gatt. Und Arten, Berlin.

Specimens examined: El Khoms, IV, 1986 (11); Sert, IX, 1986 (9); Elaziziya, X, 1986 (6); Musrata, X, 1986 (12); Sabha, XI, 1986 (13).

Cataglyphis bicolor (Fabricius)

Formica bicolor Fabricius (1787) Mantissa Insectorum, I:307-311.

Cataglyphis bicolor Fabricius in Alfieri (1931) Bull. Soc. Ent. Egypte, XV: 42.

Specimens examined: Beni Walid, IV, 1986 (11); El Gouf, IV, 1986 (12); El Khoms, IV, 1986 (11); Tripoli, IV, 1986 (14); Tarhuna, V, 1986 (16); Elbeida, IX, 1986 (12); Sabha, XI, 1986 (9).

Cataglyphis bombycina (Roger)

Formica bombycina Roger (1859) Deut. Ent. Zeit., III:225-259.

Cataglyphis bombycina Roger in Santschi (1929) Rev. Suisse. Zool. : 60.

Specimens examined: Tripoli, II, III, 1986 (17); El Khoms, III, IV, 1986 (16); Beni Walid, IV, 1986 (11); El Gouf, IV, 1986 (9); El Kofra, IV, 1986 (9); Gagbub, V, 1986 (13); Marzouk, V, 1986 (15); Tarhuna, V, VI, 1986 (11); Beni Gazi, IX, 1986 (16); Elbeida , IX, 1986 (7); Sert, IX, 1986 (11); Musrata, X, 1986 (15); Sabha, XI, 1986 (13).

Genus: Paratrechina Motschulsky

Paratrechina Motschulsky (1863) Spc. Nat. Moscou, Bull., 36:13.

Paratrechina longicornis (Latreille)

Formica longicornis Latreille (1802) Hist. Nat. Fourm.:113.

Formica vagans Jerdon (1851) Madras Jour. Litt. Sc. , 17: 124.

Prenolepis longicornis Roger (1863) erz. Formicid.:10.

Paratrechina longicornis Emery (1925) Gen. Insect. Formicidae: 217.

Specimens examined: Elbeida, IX, 1986 (11); Beni Gazi, IX, 1986 (7); Sert, IX, 1986 (10); Elaziziya, X, 1986 (9).

Genus: Flagiolepis Mayr

Flagiolepis Mayr (1861) Europ. Formicid.: 42.

Plagiolepis pallescens maura atlantis Santschi
Plagiolepis pallescens maura atlantis Santschi (1920)
Bull. Soc. Vaud. : 171.

Specimens examined: El Kofra, IV, 1986 (11); Beni Walid,
IV, 1986 (9); El Gouf, IV, 1986 (13); Gagbub, V, 1986
(12); Marzouk, V, 1986 (4).

Genus: Polyrhachis Smith

Polyrhachis Smith (1858) Jour. Proc. Linn. Soc., XI:58.

Polyrhachis simplex Mayr

Polyrhachis simplex Mayr (1862) Verh. Zool. Bot. Ges.
Wien. XII: 682.

Specimens examined: Tripoli, II, 1986 (7); El Khoms, III,
1986 (8); Tarhuna, VI, 1986 (6); Musrata, X, 1986 (9).

DISCUSSION

The species and subspecies of Libya mentioned in this work were collected for a period of one year. According to the present situation, the myrmecological Libyan fauna has not circum mediterranean character; is mostly composed of oriental elements; undoubtedly belongs to the eremic region; includes some ethiopic oriental ants, and includes only few elements of the coastal african minor. For a great extent it seems that the fauna of Libya is more or less similar to that of Egypt.

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دراسات تصنيفية لبعض النمل (فصيلة فورميسيدي - رتبة غشائية الاجنحة)

في ليبيا

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قسم العلوم البيولوجية والجيولوجيا - كلية التربية - جامعة

عين شمس

تناولت هذه الدراسة تصنيف ست وعشرون نوعا وتحت نوع تندرج تحت
اربعة عشر جنسا وتحت فصائل اربع هي بونيريني ، دوريليني ، ميرميسييني
وفورميسييني (فصيلة فورميسيدي - رتبة غشائية الاجنحة) والتي جمعت
من مناطق مختلفة في ليبيا . تم تشخيص (تحليل) وعمل مفاتيح
تصنيفية مصحوبة ببعض الرسومات التوضيحية لهذه الأنواع وتحت الأنواع .

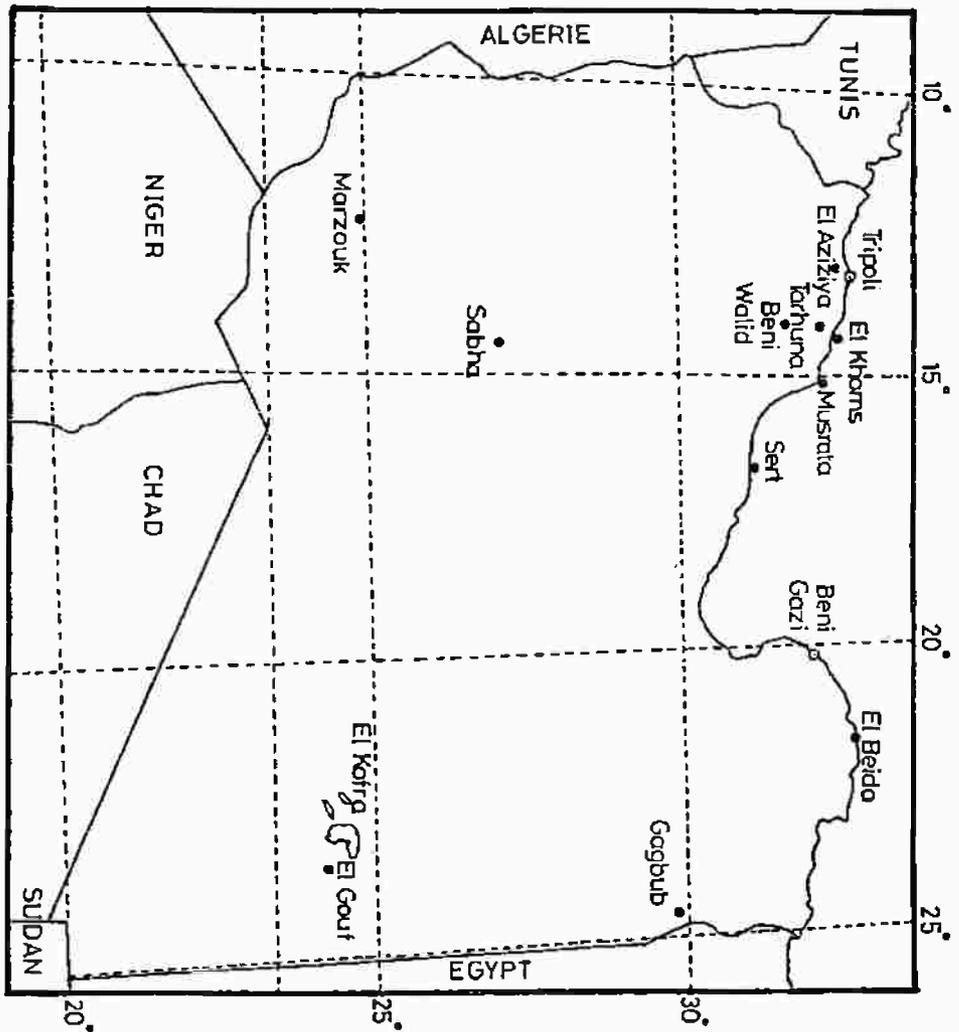


Fig.(1). Map of LIBYA with main areas and locations of
collecting activity



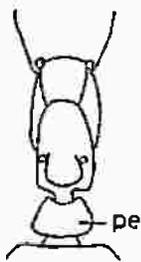
Fig. (2)



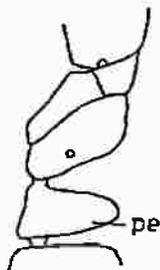
Fig. (3)



Fig. (4)



(A)



(B)



(C)

Fig. (5)



Fig. (6)

Fig. (2) Epinotum of Dorylinae.

Fig. (3) Terminal, circular acidopore.

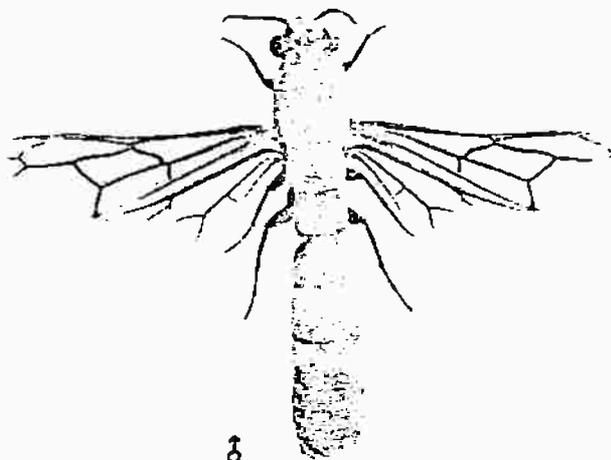
Fig. (4) Petiole of Formicinae.

Fig. (5) Petiole, dorsal (A) and side view (B), and gaster
(C) of Ponerinae.

Fig. (6) Petiole and gaster of Myrmicinae.



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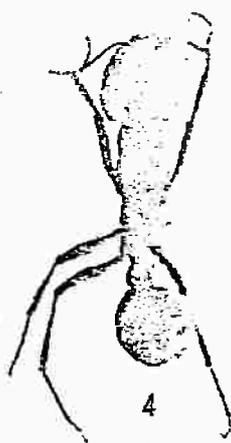


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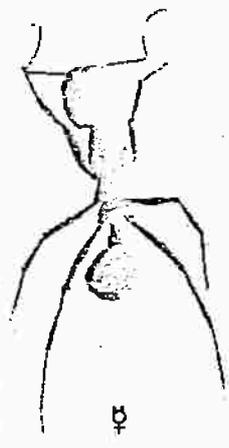


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Fig. (7) Ponera ragusae santschii Emery

Fig. (8) Dorylus fulvus Westwood

Fig. (9) Messor aegyptiacus Emery

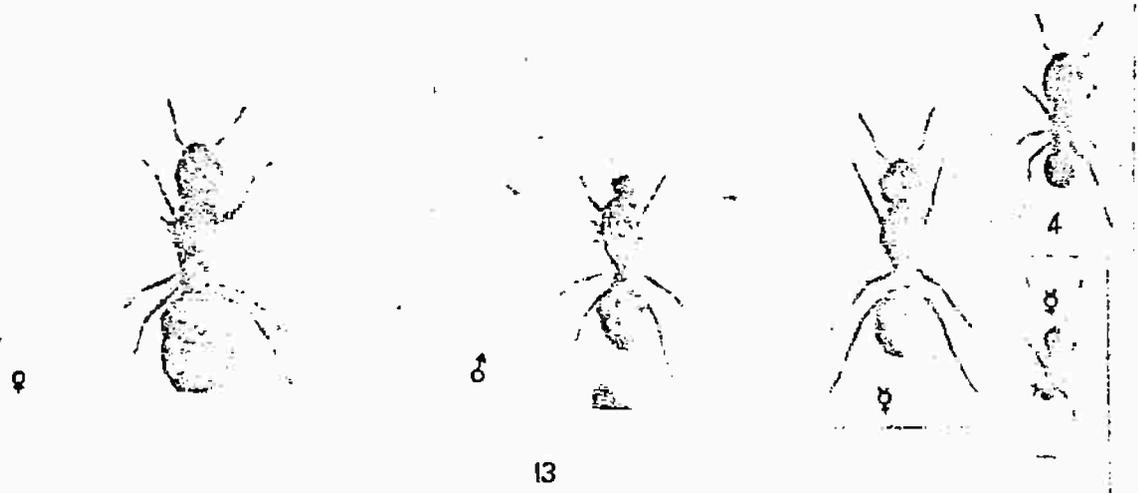
Fig. (10) Monomorium salomonis (Linnaeus)

Fig. (11) Messor arenarius (Fabricius)



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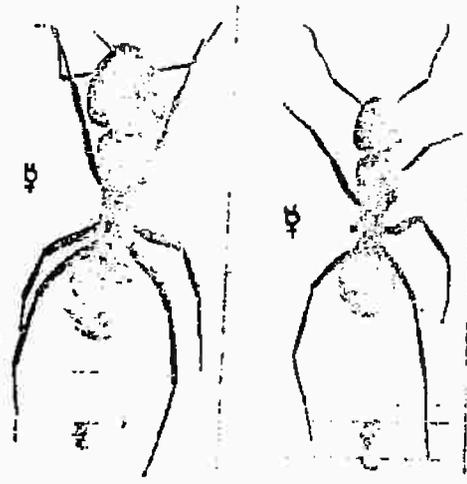
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Fig. (12) Messor rufotestaceus (Foerster)

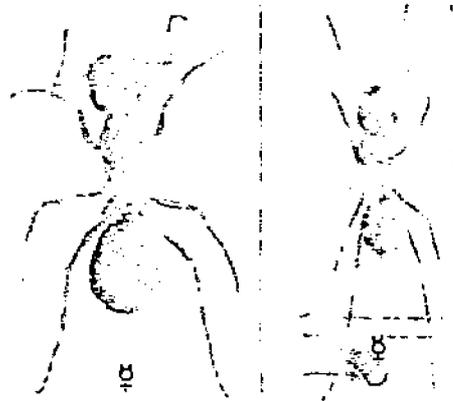
Fig. (13) Pheidole pallidula recticeps Forel

Fig. (14) Pheidole teneriffana Forel

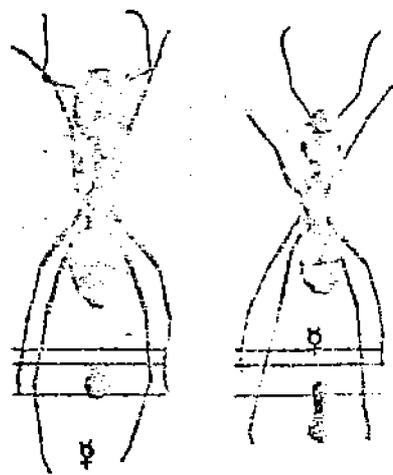
Fig. (15) Camponotus sericeus (Fabricius)



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Fig. (16) Gataglyphis albicans (Roger)

Fig. (17) Gataglyphis bicolor (Fabricius)

Fig. (18) Gataglyphis bombycina (Roger)