

ACULEATE HYMENOPTERA

COLLECTED BY J. J. WALKER, ESQ., R.N., F.L.S., AT GIBRALTAR
AND IN NORTH AFRICA. (PART I—*HETEROGYNA*).

BY EDWARD SAUNDERS, F.L.S.

It is needless to say anything in praise of Mr. Walker as a collector, as his powers in that capacity are so well known, but I feel it would be ungrateful not to thank him here very cordially for the interesting collection of *Hymenoptera* which he made for me whilst at Gibraltar and its neighbourhood. It is enough for most collectors to apply themselves specially to one order of insects; Mr. Walker appears to have applied himself specially to all; at any rate, the collection of *Hymenoptera* under notice is so rich in species, that I think it very doubtful if a specialist in that order, with the same opportunities, would have added many to it.

The present paper deals only with the *Heterogyna* or ants, amongst which Mr. Walker was very successful. The ants are a good deal more studied and collected than most of the other tribes of the *Hymenoptera*, and yet he has succeeded in obtaining two species new to science, one of which belongs to one of our rarest and most strikingly peculiar genera, viz., *Amblyopone*, of which hitherto only two species have been recorded from palæarctic regions; the other is a *Monomorium*, and although small and "critical," it has characters which distinguish it well from its congeners; besides these he has met with many species of rarity, and the winged forms of several, which are of very great interest.

When I wrote the following list I had not seen Prof. Forel's paper in "Comptes Rendus Soc. Ent. Belg.," April, 1890, p. lxi, *et seq.*, entitled, "Fourmis de Tunisie et de l'Algérie orientale," in which I see he has already described the ♂ and ♀ of *Camponotus Sichelii*, Mayr; his specimens, however, belong to the variety with the head and thorax in part red, whereas Mr. Walker's Gibraltar specimens are quite black. Professor Forel's localities are of course much to the eastward of Mr. Walker's, and he enumerates many species not found by the latter. Three genera, however, *Anochetus*, *Amblyopone* and *Myrmecina*, do not appear from the more easterly localities; the first of these, which used to be considered a great rarity, has turned up abundantly both at Gibraltar and Tangier under the sympathising eyes of Mr. Walker, although not even his attractiveness could induce the ♂ or true ♀ to put in an appearance, in fact, it was only in one or two nests out of very many examined that either Mr. Lewis or Mr. Walker

were able to find even the curious transitional form between the worker and the true female, noted in this Magazine, vol. xxv, p. 61.

I have to thank Prof. Emery, of Bologna, to whom I have submitted all my difficulties, as well as Monsieur E. André and Professors Mayr and Forel, for most kindly helping me when I applied to them.

Family FORMICIDÆ.

CAMPONOTUS, Mayr.

micans, Nul.—♀ major and minor, Tangier, under stones.

cruentatus, Latr.—♀ major and minor, Gibraltar and Tangier, and one ♀, Tangier, under stones, in large communities.

rubripes, Drury: race *cognatus*, Sm.—♂, ♀, ♀, major and minor, Gibraltar, and two ♂, Tetuan, one ♀, Tangier. The females of this race may be known from *sylvaticus* by their dull surface, and by the distinct channelling of the posterior tibiæ, also by the distinctly longer joints of the flagellum and the slightly longer metathorax; the males are larger than those I have of *sylvaticus*, with paler antennæ and longer joints to the flagellum and paler tibiæ and tarsi; the thorax also is distinctly longer, and the metathorax less suddenly declivous posteriorly. The genital armature, however, shows no characteristics of importance, the only apparent one being the greater divergence of the apices of the sagittæ.

Race *Alii*, Forel.—♀, major and minor, Tetuan and Esmir, Morocco.

Race *sylvaticus*.—♂, ♀, ♀, received only from Tangier.

Sicheli, Mayr.—♀, a fair series, major and minor, from Gibraltar. ♀, a few females received with the above workers appear to differ from *lateralis* in having the metathorax slightly narrower posteriorly and not so abruptly declivous; in colour they are black, with only the tibiæ, tarsi and antennæ pitchy. I sent one to Professor Emery, who pointed out the metathoracic character which had escaped my notice. ♂, with the other sexes I have received three males, one of which I have dissected, and the genital armature certainly differs distinctly from that of *lateralis* in being proportionately smaller, with the apical part of the stipites (corresponding to the lacinia in the *Anthophila*) slightly longer and narrower in proportion, and angulated longitudinally, and with the volsella distinctly shorter, narrower and more curved, not nearly reaching to the apex of the sagittæ. Prof. Forel remarks that the metathorax is slightly shorter than in *lateralis*.

COLOBOPSIS, Mayr.

truncata, Spin.—♂, one specimen only, from Tangier.

MYRMECOCYSTUS, Wesm.

viaticus, Fab.—♀, four, Tangier, of rather small size.

pallida, Mayr.—♂, one specimen, from Gibraltar, agreeing well with Mayr's description (Reis. Turk., ii, p. 9), and with the apical ventral valve shaped as in André's figure (Form. d'Eur., pl. ix, fig. 16). The laterally compressed genital armature is very characteristic, and distinct from that of *viaticus*. The stipites, looked at from above, are narrow and long, only slightly divergent and truncate at the apex, near which they are impressed with several very large punctures, and from the lower margin near the apex extends a lateral triangular process, nearly mem-

branous at its base, scleritic and clothed with erect hairs as it narrows to the apex, the sagittæ are long, narrow and slightly divergent, each bearing a spine-like tooth on their inner margin.

cursor, Fonsc.—♀, one, Gibraltar.

FOEMICA, Linn.

fusca, Linn.—one solitary ♀, the only exponent of the genus, Gibraltar.

LASIUS, Fab.

emarginatus, Oliv.—♀, four, Gibraltar.

PLAGIOLEPIS, Mayr.

pygmaea, Latr.—♀, ♂, several, Gibraltar.

ROTHRIOMYRMEX, Emery.

meridionalis, Rog.—♂, ♀, abundantly, and a few ♀, Gibraltar.

TAPINOMA, Foerst.

erraticum, Latr.—♀, several, ♂, numerous, Gibraltar, the latter varying from the jet-black variety to the clear variety with pitchy-brown thorax and legs.

Family PONERIDÆ.

ANOCHETUS, Mayr.

Ghilianii, Spin.—♂, Gibraltar, sparingly, and Tangier, abundantly, and two of the intermediate form between the ♀ and ♂, having ocelli like the ♀ but otherwise of the form of the ♂ (cf. Ent. Mo. Mag., xxv, p. 61), from Tangier. Mr. Walker remarks that although plentiful at Tangier, it is of no use as a host for Myrmecophilous *Coleoptera*.

AMBLIOPONE, Erichs.

denticulata, Rog.—♂, one, Gibraltar, one, Tangier, under stones.

Emeryi, n. sp. (for head, see fig.).—*Ferruginea, capite in medio nitente sparsim punctato, postice et lateribus confertim punctato, lineis obliquis elevatis inter puncta percurrentibus, genis ad basin mandibularum angulatis, clypeo antice convexo, spinulis sex armato tribus centralibus magis productis. Mandibulis elongatis, rectis, apicibus falcatis, dentibus 6-7 reflexis, simplicibus vel raro bifidis. Antennis longiusculis apice gradatim clavatis, scapo capitis basin haud attingente. Thorace nitido, sparsim et minute punctato, inter meso- et metathoracem constricto. Metathorace postice dilatato, apice truncato; abdomine nitido sparsim punctato.*

Long., 5 mm.

A small colony at Tangier, consisting of workers only.

In general appearance resembling the other two European species, but smaller and narrower than *impressifrons*, with a more shining surface, longer, thinner antennæ, and simple or rarely bifid teeth to the mandibles. From *denticulata* it differs

in the rather larger size, the arrangement of the spines on the clypeus, and of the teeth of the mandibles, and the less opaque surface of the head.

PONERA, Latr.

contracta, Latr.—♂, one, and ♀, several. Gibraltar.

punctatissima, Rog.—♀, three, ♂, three, Gibraltar, also one ♂ possibly belonging to this species, but having extraordinarily developed eyes, as large in proportion as those of the ♀. I sent this specimen to Dr. Emery for examination, and he replied that if he had seen two examples of this form he should not have hesitated in considering the character specific, but having only seen one, he thinks it may be an individual anomaly.

Family MYRMICIDÆ.

MYRMECINA, Curt.

Latreillei, Curt.—♂, two, Tangier.

TETRAMORIUM, Mayr.

cæspitum, Latr.—♀, a few, from Gibraltar.

LEPTOTHORAX, Mayr.

tuborum, Fab., var. *luteus*, For.—♀, several, Gibraltar, also a single ♀ and ♀ with the head dark, and the ♀ very small, not larger than the ♂. These I have communicated to Dr. Emery, but he does not think it would be wise to establish a new race on isolated examples.

nigrita, Emery.—♀, a good series from Gibraltar, some with the metathoracic spines quite pale, var. *flavispinus*, André. It is this species which I quoted in error as *Rottenbergi*, Em., in Ent. Mo. Mag., xxv, p. 17.

recedens, Nyl.—♀, two, and ♂, two, of this rare species from Gibraltar.

MONOMORIUM, Mayr.

Andréi, n. sp.—♀. *Testacea, nitens, caput nitidissimum fere impunctatum subelongatum, postice leviter excavatum. Antennarum scapo capitis basin fere attingente, flagelli articulo primo quatuor segmentibus simul sumptis æquali, articulis 2-8 transversis brevissimis, 9-10 subæqualibus articulo apicali elongato quatuor præcedentibus longiore. Mesothorax nitidus, lateribus postice rugulosis; metathorax inermis, rugulosus planiusculus postice decliviter rotundatus. Abdomen nitidum, postice infuscatum petioli articulo primo brevi, postice valde tumido et rotundato, ruguloso, secundo rotundato ruguloso. Pedes flavi.* Long., 2 mm.

Gibraltar, several.

Like *minutum*, Mayr, in shape, but differing in the colour and in the sculpture of the metathorax, also in the much more glabrous surface and the less pilose antennæ; from small workers of *gracillimum*, Sm., to which Prof. Mayr pointed out its resemblance, it differs in the much shorter intermediate joints of the flagellum, the longer head, and shorter 1st joint of the petiole.

Salomonis, L.—♀, ♂, a fair series of each, Cap Negro, ♂, a very few, Gibraltar. var. *subopacum*, Sm.—♀, ♂, plentifully, Gibraltar.

APHÆNOGASTER, Mayr.

barbara, L.—♂, ♀, ♂, common, Gibraltar and Tangier.

structor, Latr.—♂, ♀, ♂, sparingly, Gibraltar.

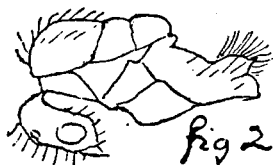
pallida, Nyl., var. *Leveillei*, Em.—♂, ♀, ♂, a fair series of the winged forms, but only five ♀, Gibraltar.

crocea, André.—♀, a fair series from Gibraltar.

testaceopilosa, Luc.—This species has been sent in some numbers from Gibraltar and Tangier; it occurs in large colonies and is very active. The workers from Gibraltar appear to belong to typical *testaceopilosa*, those from Tangier appear to

me to belong to the race *gemella* of Roger. With these workers I have received three distinct males.

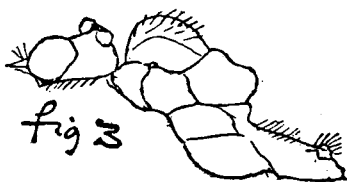
1st, the ordinary ♂ of *testaceopilosa* (see fig. 2 file, head and thorax) from



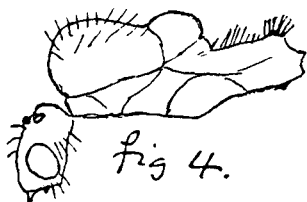
Gibraltar, with eyes and ocelli of normal size, with the mandibles wide and flat, 6 to 7 toothed, with the metathorax produced at the apex on each side into a raised tubercle (as figured by André, Form. d'Eur., pl. xxiii, fig. 17) bearing long hairs, and sometimes terminating in a more or less developed spine,

the femora very long and slender at the base, considerably thickened at a little distance from the apex.

2nd, a form from Tangier (fig. 3), resembling the above in size, colour and general appearance, but with enormous eyes and ocelli, with the mandibles feeble and narrow, having only three teeth, and with the horizontal portion of the metathorax very long and shining, and only very slightly tuberculated at the apex, the femora also are more evenly thickened throughout. This I believe



to be the ♂ of *gemella*, Rog. I sent a drawing of it to Professor Emery for his opinion, and he agrees in thinking that it accords well with Roger's description. He kindly sent me a specimen of a ♂ from Algeria, which, although differing in having the horizontal portion of the metathorax slightly shorter, is, he thinks, clearly referable to the same race.



3rd, a form from Tangier (fig. 4) resembling both the above in general appearance, size and colour, but with normal eyes and ocelli, 4-toothed mandibles, and metathorax shaped as in No. 2.

Of the ♀ also there are three forms, viz. :—

1st, the ordinary form from Gibraltar, as described by André.

2nd, a single specimen of a form from Tangier with much larger ocelli and larger eyes, and with the posterior portion of the metathorax more horizontal and the spines straighter. This I should refer to *gemella*, Rog.

3rd, a single specimen, rather smaller than the above, with normal eyes and ocelli, but with the metathorax similarly shaped, the spines almost horizontal.

sardou, Mayr.—♀, Cap Negro, Tangier, Tetuan, ♀, Tangier and Tetuan, apparently abundant. Mr. Walker says this species occurs in comparatively small colonies, and is less active than *testaceopilosa*.

PHEIDOLE, Westw.

megacephala, Fab.—♀, ♂, of race *pallidula* from Gibraltar.

SOLENOPSIS, Westw.

fugax, Latr.—♂, ♀, Gibraltar and Tangier.

CREMASTOGASTER, Lund.

scutellaris, Oliv.—♂, ♀, ♂, Gibraltar, ♂, Tangier; occurs in old trunks of trees.

sordidula, Nyl.—♂, Gibraltar.

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