

3399

W. L. BROWN

1928  
cl.

WILLIAM MORTON WHEELER

---

**Ants Collected by Professor F. Silvestri**  
in CHINA

1928 h



PORTICI  
STAB. TIP. ERNESTO DELLA TORRE  
1928 - Anno VI

WILLIAM MORTON WHEELER .

1928h

ANTS COLLECTED BY PROFESSOR F. SILVESTRI  
in CHINA. <sup>(1)</sup>

---

The study of the Formicidæ taken by Professor Silvestri in many localities during his sojourn in China shows that the ant-fauna of that country is much richer and more interesting than we had assumed. His collections contain specimens of no less than 110 different forms, twenty-six of which, comprising fifteen species, seven subspecies and four varieties, are here described as new to science. As in his collection made in Indochina, most of the new forms belong to rare and diminutive species which have been overlooked by all previous collectors. I congratulate Professor Silvestri on discovering so important a portion of the Chinese ant-fauna and thank him for permitting me to study and describe the specimens.

FAMILY **Formicidae.**

SUBFAMILY **Dorylinae.**

1. *Dorylus (Alaopone) orientalis* Westwood. -- A large and a small worker from Yi Leang; one small worker from Yolushan.

SUBFAMILY **Cerapachyinae.**

2. *Cerapachys (Syscia) sinensis* sp. nov. \ \

*Worker.* Length 2.4 mm.

Head suboblong, as broad posteriorly as anteriorly, with nearly straight sides and rather acute, marginate posterior corners; the posterior border broadly but not deeply concave. Eyes lacking. Mandi-

---

(1) Contribution from the Entomological Laboratory of the Bussey Institution, Harvard University. N.º 287.

bles flattened, deflected, pointed, their apical borders indistinctly denticulate. Clypeus short, depressed, with rounded, entire anterior border. Frontal carinae high, erect, rounded and approximated; carinae of the cheeks distinct. Antennae 9-jointed; scape incrassated, about half as long as the head; apical funicular joint enlarged, glandiform, slightly shorter than the remainder of the funiculus. Thorax subcylindrical, not much longer than the head plus the mandibles, only feebly convex above, as broad posteriorly as anteriorly, slightly narrowed in the middle, without sutures; pronotum anteriorly marginate; epinotal declivity somewhat concave, distinctly marginate at the sides, more indistinctly above, the marginations denticulate on the episternal angles. Petiole narrower than the epinotum, subcuboidal, scarcely broader behind than in front and not longer than broad; its median ventral projection large, laterally compressed, in profile broadly rounded, translucent apically. Postpetiole broader than the petiole, trapezoidal, not longer than broad, distinctly broader behind than in front, with straight sides, anterior and posterior borders; ventrally with a large rounded convexity. Gaster long, first segment forming nearly four-fifths of its length, elongate elliptical, somewhat flattened, its anterior border feebly concave; terminal segments small and short. Legs moderately long.

Subopaque: mandibles somewhat shining, coarsely and sparsely punctate apically, more opaque and more densely punctate at the base. Body rather densely punctate throughout, the postpetiole and gaster more coarsely than the head, thorax and petiole.

Body and legs covered with short, golden pubescence, interspersed with rather bristly, erect hairs which are longest and most conspicuous on the postpetiole and gaster.

Ferruginous red; legs and terminal joint of antennae somewhat paler.

A single specimen from Shanghai.

This species is closely related to *C. (S.) biroi* Forel of Singapore, but can be at once distinguished by its erect pilosity, less convex cheeks, somewhat longer antennal scapes, shorter terminal funicular joint, longer postpetiole, etc.

#### SUBFAMILY **Ponerinae.**

3. *Stigmatomma rothneyi* Forel. — Numerous workers from three colonies taken at Macao.

4. *Centromyrmex feae* Emery. — A single worker from Taipò.

5. *Harpegnathos venator* F. Smith var. *rugosus* Mayr. — The head of a worker from Macao.

6. *Odontoponera transversa* F. Smith. — One worker from Hongkong and a dealated female from Foochow.

7. *Odontoponera transversa* var. *biconcentrica* Wheeler and Chapman. — Two specimens from Shatin. This variety was described from a single specimen from the Philippines. Dr. Silvestri's specimens resemble the type in their pale color, the body being brownish yellow, with the head darker behind above and the petiole blackish. In all of them the sculpture of the pronotum is similar as is also the form of the petiolar scale which has the upper border very feebly emarginate compared with typical *transversa*. This form may deserve to rank as a subspecies. A preliminary study of the many specimens of *O. transversa* in my collection shows that the species will have to be resolved into a number of races and varieties.

8. *Diacamma rugosum* F. Smith subsp. *geometricum* F. Smith. — A single worker from Kowloon.

9. *Diacamma rugosum* subsp. *vagans* F. Smith var. *anceps* Emery. — Numerous workers from Repulse Bay, Hongkong; Tungshan, Canton; Taipò; Shatin and Macao. This variety was originally described from Hongkong.

10. *Bothroponera rufipes* Jerdon. — Two workers from Taipò.

11. *Bothroponera rubiginosa* Emery. — Three workers and two females from Macao. The female (undescribed) measures 5.5 - 6 mm. and closely resembles the worker, except that the petiolar node is more narrowed above in profile, i. e. not so thick anteroposteriorly. The wings are uniformly pale brownish, with brown veins and pterostigma. The posterior border of the pronotum is reddish, as in the worker, like the posterior borders of the gastric segments, the antennæ, legs and mandibles; the remainder of the body is black. Since the worker is somewhat more robust, more opaque and more sharply sculptured than in a cotype specimen of *rubiginosa* from Tenasserim in my collection, Dr. Silvestri's specimens may represent a distinct variety, but I have very similar specimens from India.

12. *Ectomomyrmex astutus* F. Smith. — Two workers, one from Kusan and one from Repulse Bay, Hongkong.

13. *Ectomomyrmex japonicus* F. Smith. — A single workers from Foochow.

14. *Euponera* (*Brachyponera*) *solitarius* F. Smith. — Single workers from Shanghai, Sanshaci and Yolushan.

15. *Euponera* (*Brachyponera*) *luteipes* Mayr. — Several workers from Taipò; Ausu, Foochow; Kusang and Macao.

16. *Euponera* (*Brachyponera*) *luteipes* subsp. *chinensis* Emery. — Two workers from Repulse Bay, Hongkong and two from Kowloon.

17. *Euponera* (*Trachymesopus*) *sharpi* Forel. — Several workers from Macao and Foochow.

✓ 18. *Ponera sinensis* sp. nov.

*Worker*. Length 2.5 mm.

Head about one-fifth longer than broad, slightly narrower in front than behind, with convex, rounded sides and broadly concave posterior border. Mandibles moderately large and broad, triangular, their apical borders with two or three small terminal but no basal teeth. Clypeus very short, somewhat convex but neither carinate nor tuberculate in the middle, its antertor border entire and broadly rounded. Frontal carinæ small, rather depressed; frontal groove continued back to the middle of the head. Antennal scapes nearly reaching the occipital border of the head; funiculi strongly thickened at the tip; joints 2-6 small and transverse, 7-10 nearly one and one-half times as broad as long, terminal joint pointed, as long as the three preceding joints together. Eyes very small, apparently consisting of a single ommatidium, situated very near the anterior sixth of the head. Thorax in profile with rather straight dorsal outline and very distinct promesonotal and meso-epinotal sutures; from above broadest through the pronotum which is somewhat less than twice as broad as long, rounded and semicircular anteriorly, with arcuate posterior border; mesonotum somewhat narrower, twice as broad as long, with straight posterior border; epinotum compressed laterally, narrower than the mesonotum, its dorsal surface suboblong, about half again as long as broad, with rather steep and distinctly concave declivity, which is sharply margined on the sides and in profile as long as the base. Petiole from above broader than the epinotum, subtriangular, broader than long, with straight posterior border corresponding with the posterior truncated surface; in profile the scale is straight in front and convex behind, with narrow superior border. Gaster large but of the usual shape, its first segment nearly as long as broad. Median tibiæ very short but not bristly.

Somewhat shining, finely, evenly and densely punctate; head and first gastric segment more subopaque and distinctly more coarsely

punctate. Mandibles smooth, scarcely shining, except along their internal borders.

Hairs and pubescence white, very fine, the former short, very sparse on the head, except the clypeus, moderately abundant on the remainder of the body, except the appendages; long and conspicuous on the terminal gastric segments. Pubescence very short, rather abundant on the body and appendages and giving the insect a somewhat pruinose appearance.

Brown-black; mandibles, frontal carinæ, antennæ, legs, and basal, apical and lateral borders of the gastric segments brownish yellow. Anterior border of clypeus black.

A single specimen from Hongkong.

At first sight this species might be mistaken for *P. punctatissima* Roger, but the structure of the thorax and petiole is very different.

✓ 19. *Ponera excœcata* sp. nov.

*Worker.* Length 2.2 mm.

Body rather slender; head nearly a fourth longer than broad, as broad in front as behind, with evenly rounded, convex sides and feebly and broadly concave posterior border. Eyes lacking. Mandibles long and narrow, with concave external borders, the apical borders with five widely spaced, acute and rather oblique teeth. Clypeus rather large, convex in the middle but neither carinate nor tuberculate; its anterior border broadly rounded and entire. Frontal carinæ very small; frontal groove extending back to the middle of the head. Antennæ slender, the funiculi not enlarged apically; scapes extending a little beyond the occipital border of the head; funicular joints 2-6 small, strongly transverse; joint 7 one and one-half times as broad as long; joints 8-10 as long as broad, together somewhat longer than the terminal joint. Thorax small; the dorsal outline in profile slightly impressed at the promesonotal and mesoëpinotal sutures, which are not very distinct; from above through the pronotum, narrowed and compressed in the epinotal region; pronotum with neck nearly as long as broad; mesonotum transversely elliptical, slightly broader than long; epinotum rounded in profile, the base and declivity subequal and not separated by a distinct angle, the declivity sloping, not marginate on the sides. Petiole short, from above nearly twice as broad as long, rounded in front and straight behind; in profile somewhat narrowed above, with straight, truncated anterior and posterior and somewhat rounded superior surfaces; the ventral lobe thick and prominent anteriorly. First gastric segment as long as broad, the second slightly shorter.

Shining; mandibles sparsely punctate; body finely and more densely punctate, the head and thorax more superficially than the gaster.

Pubescence yellowish, rather dilute, most distinct on the gaster. There are only a few pale erect hairs and these are confined to the dorsal surface of the second and terminal gastric segments.

Brownish yellow; mandibles and legs of a paler and less sordid yellow.

A single specimen from Taipò.

This species approaches *P. ceylonensis* Mayr in lacking eyes and in color, but it is decidedly smaller, the mandibles have fewer teeth, the head is shorter and the petiole is much thinner anteroposteriorly.

20. *Leptogenys (Lobopelta) minchini* Forel. — Numerous workers from Hongkong, Hongkong Peak, Kowloon and Macao and one male from the latter locality.

21. *Anochetus risi* Forel — Numerous workers from Repulse Bay, Hongkong and Kusang and several workers, females and males from Taipò

*Female* (undescribed). Length 7.5 - 8 mm.

Resembling the worker. Head somewhat broader and antennal scapes somewhat shorter. Mesonotum and scutellum smooth and shining. Petiole somewhat higher and with more acute point than in the worker. Wings with a distinct brownish tint; veins and pterostigma dark brown.

22. *Odontomachus punctulatus* Forel. — Five workers from Hongkong Peak; one from Hongkong, one from Repulse Bay and one from Yolushan.

#### SUBFAMILY **Myrmicinae**.

23. *Myrmica margaritae* Emery var. *serica* var. nov.

*Worker*. Length 5.3 mm.

Differing from the typical form from Tenasserim, to judge from Emery's description, in having the appendages and gaster darker, the mandibles, antennæ, epinotal spines and legs being reddish brown, the legs a little lighter, the gaster castaneous with only the terminal segments yellow. The metasterna of the epinotum are developed into large flat, acute, reddish brown teeth which are as long as broad at their bases and with their tips slightly recurved forward. These structures seem to be much larger than those described by Emery as *spinis*

minutis ad articulationem petioli ». The petiole and postpetiole are subopaque and rather strongly longitudinally rugose, though less coarsely than the thorax (certainly not « subtiliter reticulatorugoso », as Emery says of the type). The hairs on the legs are long and distinctly appressed or subappressed.

A single specimen from Yunnanfu.

Professor Silvestri has also taken at Funkikò, Formosa, several specimens of another form of this beautiful species which will be described in a later paper as var. *formosæ* var. nov.

24. *Aphaenogaster smythiesi* Forel subsp. *sinensis* subsp. nov.

*Worker.* Differing from the typical *smythiesi* and the subsp. *kurdica* Ruzsky in having the prominent welt at the anterior end of the mesonotum less acute in profile, though very prominent, and in the more pronounced sculpture, especially of the thorax. Pronotum rugulose, the rugules rather irregular, transverse anteriorly and longitudinal on the posterior and greater portion of the surface. The head is also less smooth, with coarser longitudinal rugules. Petiole and postpetiole smooth and shining, the extreme base of the gaster finely longitudinally striate. Head distinctly narrower than in typical *smythiesi*, with less pronounced posterior corners and therefore subelliptical as in smaller specimens of *subterranea* Latr. Antennal scapes extending more than twice their greatest diameter beyond the posterior border of the head. Pilosity and color as in *smythiesi*.

Two workers from Peking.

This subspecies seems to connect *smythiesi* with the common palearctic *subterranea*. Ruzsky, in fact, regarded *kurdica*, which is known only from the Caucasus, as a form of the latter species.

Two workers from Peking.

This subspecies seems to connect *smythiesi* with the common palearctic *subterranea*. Ruzsky in fact regarded *kurdica*, which is known only from the Caucasus, as a form of the latter species.

25. *Messor aciculatus* F. Smith. — Five workers from Peking and five from Moukden.

A study of these specimens and of many others from several other localities in China and from Japan convinces me that *Messor lobulifer* Emery and *M. brunneicornis* Forel are merely synonyms of Smith's *Aphaenogaster aciculata*. Smith's description of the female, which was unknown to Emery and Forel, agrees perfectly with the females of a long series of *M.*



*lobulifer* from Soochow in my collection. Smith mentions no teeth on the epinotum simply because there are none in the specimens and he was dealing with a *Messor* and not with an *Aphaenogaster*. Of course, he overlooked the small lobe at the base of the antennal scapes.

26. *Pheidole rhombinoda* Mayr. — Soldiers and workers from Shatin, Hongkong, Foochow, Mt. Ausu near Foochow, Petà, Taipò and Kusang.

27. *Pheidole indica* Mayr. — Soldiers, workers, females and a male from Changsha, Petà and Macao.

28. *Pheidole javana* Mayr var. — A single soldier of a small dark form of this highly variable species from Petà, Foochow. I refrain from describing it till I can make a more careful study of the materials in my collection.

29. *Pheidole sulcaticeps* Mayr subsp. *indosinensis* subsp. nov.

*Soldier*. Length nearly 4 mm.

Most closely related to the subsp. *yeënsis* Forel from Burma and with very similar sculpture of the head, thorax, and pedicel, but decidedly smaller (*yeënsis* measures 6 - 6.3 mm.). The head has a less angular and more rounded occipital excision and a much feebler transverse impression behind the vertex, so that the posterior corners are less reflected upward. The eyes are smaller, the antennal scapes decidedly longer, reaching half way between the eyes and the posterior corners of the head. Clypeal border less deeply notched in the middle; the median clypeal tubercle less distinct. The superior border of the petiolar node is nearly entire. Transverse rugæ on the occipital lobes finer, closer together and less distinct, the gaster shining, without striation but with the surface uneven and beset with sparse, minute, piligerous tubercles. In one specimen from Coxan the gaster is opaque and finely punctate at the base. Head and thorax deep ferruginous brown as in *yeënsis* but the gaster and legs pale yellowish brown; the pedicel also paler than in the Burmese subspecies.

*Worker*. Length 2.2 - 2.3 mm.

Smaller than *yeënsis*, which measures 2.75 - 3 mm., and paler, with the head more narrowed and rounded behind and with less distinct posterior border. Epinotal spines smaller and more slender; petiolar node much more compressed anteroposteriorly and more scale-like. Yellowish brown, legs scarcely paler; head darker brown.

One soldier and seventeen workers from Yi Liang (type locality) and one soldier from Coxan.

30. *Pheidole megacephala* Fabr. — Numerous soldiers and workers and three dealated females from Repulse Bay, Hongkong.

31. *Pheidole rinae* Emery subsp. *hongkongensis* subsp. nov.

*Soldier*. Length 3-3.5 mm.

Closely resembling the typical *rinae* in the structure, proportions and sculpture of the head and with very similar pronounced transverse impression on the vertex, so that the posterior corners seem to be turned slightly upward and forward. Gular teeth well-developed. Antennae very short, the scapes reaching only to the middle of the sides of the head as in the subsp. *tipuna* Forel from Formosa (decidedly longer in the typical form of the species). Rugose reticulation of the occipital lobes pronounced, but the meshes smaller than in the type. Epinotal spines stout, erect, diverging. Superior border of petiolar node emarginate; postpetiolar node trapezoidal, transverse, more than twice as broad as long, with sharp anterior corners.

Hairs pale, rather long and abundant, erect or suberect on the body, sparser and short on the appendages, lacking on the scapes; the latter and the legs with long, rather sparse, appressed, pale pubescence.

Dark reddish brown; the gaster and in some specimens the posterior portion of the head darker and more blackish; borders of gastric segments, legs and antennae brownish yellow; anterior border of clypeus and borders of the mandibles, which are nearly as dark as the head, blackish.

*Worker*. Length 1.5 - 1.6 mm.

Very similar to the worker of the subsp. *tipuna*. Head subrectangular, as broad as long, with rounded posterior corners and the posterior border slightly concave in the middle. Antennal scapes distinctly extending beyond the posterior corners of the head. Epinotal spines small and acute, erect as in the soldier. Petiolar node with entire border, postpetiolar node broadly and transversely elliptical.

Mandibles, head, thorax and pedicel subopaque, very finely reticulate-punctate; head also faintly longitudinally rugulose.

Pilosity similar to that of the soldier but shorter and sparser on the body and absent on the appendages.

Yellowish brown or brownish yellow; the median portion of the gaster darker brown; legs and antennae somewhat paler.

*Female* (dealated). Length 4 mm.

Head rectangular, slightly broader than long, as broad in front as behind, with sharp anterior and posterior corners and broadly and very feebly concave posterior border. There is no transverse impression on the vertex. Antennal scapes reaching the middle of the lateral borders of the head, flattened above. Epinotum very short, very concave medially, with stout, triangular, backwardly directed spines. Petiolar node

strongly compressed anteroposteriorly, with rather sharp transverse superior border, entire in some specimens, in others slightly emarginate in the middle. Postpetiolar node shaped somewhat as in the soldier, broad, nearly three times as broad as long, widest in front where its anterior corners are produced and somewhat conulate, narrowed and rounded behind.

Head longitudinally rugose, the rugæ breaking up into coarse, transverse meshes on the occiput. Mesonotum rather smooth and shining in the middle line, on each side sharply longitudinally rugulose. Scutellum and mesopleuræ smooth and shining, the former coarsely and sparsely punctate. Gaster shining, first segment more opaque, especially towards the base, densely and finely punctate, with scattered, coarse piligerous punctures.

Pilosity uneven, similar to that of the soldier.

Coloration darker, especially the thorax, which is dark brown like the posterior portion of the head.

Described from three soldiers, ten workers and four females from Hongkong.

32. *Pheidole rinae* subsp. *taipoana* subsp. nov.

*Soldier*. Length 2.4 - 2.8 mm.

Very similar to *hongkongensis* in the shape and proportions of the head, antennal scapes, thorax and pedicel, but differing in its smaller size, in the more laterally rounded postpetiolar node, in sculpture and in color. The longitudinal rugæ on the head are less numerous and less pronounced, especially on the front which is rather smooth and shining. The pronotum, too, is smooth and shining, with only faint traces of the transverse rugules of *hongkongensis*. The erect hairs on the legs are extremely few. The color is much paler, being brownish yellow, with paler yellow legs and antennæ, the median portions of the gastric segments infuscated and the borders of the mandibles, clypeus, frontal carinæ and articulations of the funicular joints dark brown. The mandibles are reddish and somewhat darker than the head.

*Worker*. Length 1.3 - 1.4 mm.

Somewhat smaller than the worker of *hongkongensis*. Head narrower behind and less rectangular, with the antennal scapes extending fully twice their greatest diameter beyond its posterior corners. Epinotal spines small but distinct. Much smoother than *hongkongensis*, the posterior half of the head, the pronotum and postpetiole being shining and without sculpture. Brownish yellow; legs and antennæ scarcely paler; gaster in some specimens brown in the middle; mandibular teeth and border of clypeus dark brown.

Three soldiers and nine workers from Taipò.

33. *Pheidole rinae* subsp. *incensa* subsp. nov.

*Soldier*. Length 2 - 2.3 mm.

Smaller than *taipoana*. Head very different, being only a little longer than broad, with decidedly less excised posterior border and less developed occipital lobes and with the impression on the vertex, though quite distinct, not prolonged laterally but confined to the middle region. Antennal scapes reaching a little less than half the distance between the eyes and the posterior corners. Pronotum less transverse, with less prominent humeri; epinotal spines erect but much more slender than in the two preceding subspecies. Petiolar node with entire superior border; postpetiolar node only one and one half times as broad as long, with acute lateral angles somewhat in front of the middle.

Sculpture, pilosity and color much as in *taipoana*.

*Worker*. Length 1.2 - 1.4 mm.

Very similar to the worker of *taipoana* but the antennal scapes are slightly longer and the epinotal spines are reduced to extremely minute teeth. Yellow, with scarcely paler legs and antennæ. Mandibular teeth reddish.

Described from four soldiers and nine workers from Petà, near Foochow. A single soldier from Hongkong may be referred to this subspecies though it approaches *taipoana* in having a slightly longer head and *hongkongensis* in having the surface of the body somewhat less shining and the pronotum distinctly transversely rugulose. Were it not for this specimen, *incensa* might be regarded as a distinct species. On looking over the many specimens of *Pheidole* from the Philippines and other East Indian islands in my collection I find several undescribed forms representing either subspecies of *rinae* or allied species. We seem here to be confronted with a very difficult group of forms like those belonging to the *Ph. flavens* group in the Neotropical Region.

34. *Pheidole concinna* sp. nov. (Fig. 1).

*Soldier*. Length 2.5 - 2.6 mm.

Head large, about one-fifth longer than broad, a little broader in front than through the posterior corners, the sides subparallel, feebly convex, the posterior border deeply and angularly excised. Occipital groove deep, continued evenly into the well-marked frontal furrow. There is no transverse occipital impression. In profile the head is somewhat thicker anteriorly than through the occiput, evenly convex dorsally and ventrally. Gular teeth large and prominent. Eyes small, flat, their posterior orbits at the anterior fourth of the head. There are no distinct scrobes for the antennæ but a large, shallow impression

at the side of each of the rather high but short and posteriorly diverging frontal carinæ. Mandibles stout and convex. Clypeus short, sharply carinate in the middle, its anterior border sinuate on each side and with a rather broad excision in the middle. Frontal area small, rounded and moderately impressed. Antennal scapes short, somewhat less than half as long as the distance between their insertions and the posterior

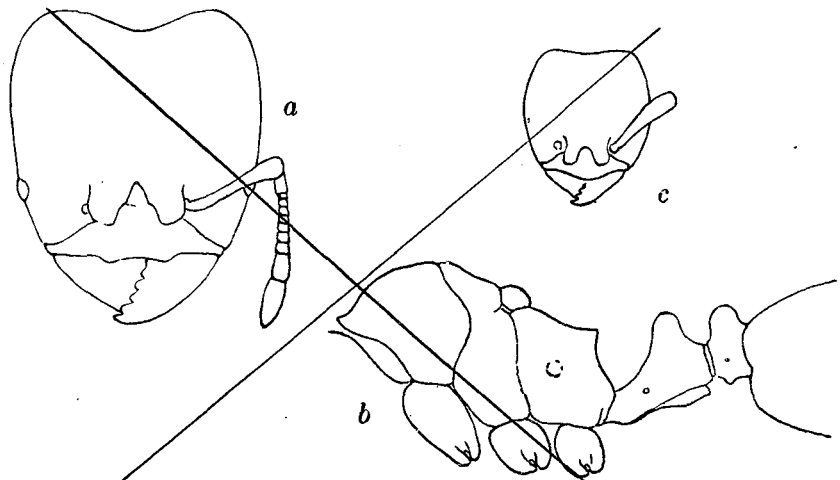


Fig. 1.

*Pheidole concinna* sp. nov. *a*, head of soldier; *b*, thorax and petiole of same in profile; *c*, head of worker.

corners of the head; joints 2-8 of the funiculus distinctly broader than long; club slightly longer than the remainder of the funiculus; its terminal joint thicker and slightly longer than the two subequal basal joints together. Thorax small, shorter than the head. Pronotum nearly half as broad as the latter, somewhat convex behind, with very prominent, bluntly pointed humeri. Promesonotal suture distinct. Mesonotum strongly declivous, longer than broad, with a feeble transverse groove anteriorly and behind it a blunt, not very prominent torus. Mesoëpinal impression deep but not very acute. Epinotum small and low, longer than broad, the base in profile straight and horizontal, longer than the declivity, marginate on the sides, scarcely concave in the middle; the spines slender and rather acute, about one-third as long as the base, directed backward and outward and slightly upward. Petiole small, half again as long as broad, with subparallel sides, the node compressed anteroposteriorly, with transverse, distinctly emarginate superior border. Postpetiole half again as broad as the petiole, fully twice as broad as long, with the sides conulate in the middle. Gaster elongate elliptical, much smaller than the head. Legs moderately long, the femora and tibiæ slightly thickened.

Mandibles smooth and shining, sparsely punctate, longitudinally rugulose along their external borders. Clypeus shining, finely longitudinally rugulose on the sides. Head, thorax and pedicel subopaque, finely, evenly and densely punctate, the punctures shining under a high magnification. Head also with faint longitudinal rugæ, diverging posteriorly and becoming rather large, regular but not very distinct reticulations on the posterior corners. Scrobal areas merely punctate. Pro- and mesonotum also reticulately rugulose, base of epinotum more finely and transversely rugulose. Anterior half of first gastric segment subopaque and densely punctate, longitudinally striate and also with a few large scattered punctures; remainder of gaster smooth and shining with small, sparse piligerous punctures. Antennal scapes subopaque, reticulate; legs more shining.

Hairs yellowish, rather short, moderately abundant and uniformly distributed, erect or suberect both on the body and appendages. Pubescence absent.

Ferruginous red; mandibles more yellowish red, with broad black borders. Clypeus and first gastric segment black, the base of the latter ferruginous red, remaining gastric segments piceous, their borders yellowish. Antennæ and legs yellow.

*Worker.* Length 1.4 - 1.6 mm.

Head subrectangular, as broad as long and as broad in front as behind, with evenly convex sides and a distinct notch in the middle of the posterior border. Eyes small, convex, just in front of the middle of the head. Mandibles with nearly straight external borders. Clypeus evenly and moderately convex, with perfectly straight, transverse anterior border. Frontal area very small, semicircular; frontal groove indistinct. Antennal scapes extending about twice their greatest diameter beyond the posterior corners of the head. Thorax resembling that of the soldier but the pronotum much less transverse and with much feebler humeral projections. The pro- and mesonotum together form a subhemispherical mass. Mesonotum in profile with only a trace of the torus. Promesonotal suture indistinct. Epinotal spines very small slender and perfectly erect. Petiolar node rather high, rounded, with entire upper border; postpetiole rounded, scarcely larger than the petiolar node.

Pilosity similar to that of the soldier but finer and less abundant.

Mandibles, clypeus and legs slightly shining, very finely and sparsely punctate; head, thorax and pedicel subopaque, finely and densely punctate; head also feebly and loosely, longitudinally rugulose; pro- and mesonotum feebly and reticulately rugulose. Nodes of petiole and postpetiole smooth above; gaster smooth and shining throughout, with sparse, indistinct, piligerous punctures.

Ferruginous red; antennæ, legs and basal two - thirds of first gastric segment yellow, remainder of gaster infuscated.

Described from two soldiers and eight workers from Laokay (type-locality), and one soldier from Lo Choei.

This pretty little Pheidole belongs to the group of Indomalayan species comprising *Ph. sauteri* Wheeler, *rinae* Emery, *nodgii* Forel, etc., but seems to be quite distinct from any of the forms hitherto described.

35. *Cardiocondyla nuda* Mayr. — A winged and a dealated female from Base Kusang, near Foochow evidently belong to this species though they are darker than a female from India in my collection. The gaster is dark brown, the remainder of the body black, with the neck, legs, scapes and mandibles, except the teeth, dull yellowish brown. The wings are clear and glassy, with colorless veins.

36. *Crematogaster (Acrocoelia) dohrni* Mayr subsp. *artifex* Mayr. — Numerous workers from Taipò, Foochow, Hongkong, Kowloon, Base Kuliang and Macao.

37. *Crematogaster (Acrocoelia) dohrni* subsp. *artifex* var. *macaoënsis* var. nov.

*Worker.* Length 3-4 mm.

Very dark brown, nearly black, except the mandibles, clypeus, cheeks, antennal funiculi, legs and the articulations of the pedicel, which are brownish red. Middle portions of femora and tibiæ dark brown. Sculpture coarse so that the head and thorax are somewhat more opaque than in typical *artifex*. The fine dense punctures on the head predominate over the longitudinal rugules, so that the latter are indistinct, especially on the vertex. The rugæ and reticulations on the pronotum are coarse. The angles at the sides of the petiole are rather blunt and rounded.

Six workers from Macao.

38. *Crematogaster (Acrocoelia) dohrni* subsp. *kiangsiensis* Forel. — Five workers from Shatin and three from Petà, near Foochow seem to be referable to this subspecies.

39. *Crematogaster (Acrocoelia) brunnea* F. Smith var. *ruginota* Forel. — Numerous workers from Kusang.

40. *Crematogaster (Acrocoelia) egidyi* Forel. — A single worker from Hongkong, which is the type locality of this species.

41. *Crematogaster (Orthocrema) biroi* Forel. — Numerous workers from Macao, Yolushan and Repulse Bay, Hongkong, and several ergatoid females from the locality last mentioned.

42. *Crematogaster (Oxygyne) ebenina* Forel var. *corax* Forel. — Several workers from Yi Leang.

43. *Monomorium pharaonis* L. -- Several workers from Foochow and Kowloon.

44 *Monomorium minutum* Mayr. var. *chinensis* Santschi. I refer seven workers from Soochow to this variety, since they agree closely with Santschi's description.

45. *Monomorium latinodoides* sp. nov.

*Worker.* Length 2 - 2.6 mm.

Very similar to *latinode* Mayr, but smaller. Head somewhat more elongate; pronotum less convex behind and the mesoëpinotal constriction feebler so that the dorsal outline of the promesonotum and base of epinotum are straight. Petiolar and postpetiolar nodes distinctly lower and somewhat narrower but both are nevertheless broader than long.

Sculpture and pilosity as in *latinode*, but the striation of the epinotum more distinct.

Color darker, as in the var. *brunneum* Emery of Ceylon, the head, thorax and pedicel being dark brown as well as the gaster; legs mandibles and antennæ brownish yellow.

*Female* (deälated). Length 4 mm.

Much smaller than the female of *latinode*, which measures 5.3 mm. Head much longer and narrower, at least one fifth longer than broad, with straight, parallel sides and broadly excised posterior border. Mandibles large and convex, with numerous denticles (only five coarse teeth in *latinode*). Antennæ very short, the scapes reaching only slightly beyond the eyes. Thorax much narrower than in *latinode*, the epinotum longer and more cuboidal, the base and declivity much more rectangular in profile. Petiolar node much thicker anteroposteriorly.

Body more densely and finely punctate than in *latinode*, the petiolar and postpetiolar nodes subopaque.

Pubescence more abundant; erect, long and conspicuous, especially on the head and gaster; erect pilosity grayish, finer and less developed, absent on the legs and scapes, short on the head, pedicel, base and tip of gaster.

Dark brown; apical borders of mandibles red; funiculi, tips of scapes and legs sordid yellow; anterior and posterior borders of femora blackish.



Described from five workers and a single female from Kowloon.

This form can hardly be a mere subspecies of *latinode* since the female is so very different.

46. *Monomorium impezum* sp. nov.

*Worker.* Length 1.6 – 2.2 mm.

Head subrectangular, slightly longer than broad, with straight, subparallel sides and nearly straight posterior border. Eyes small, distinctly in front of the middle of the head. Mandibles narrow, with very oblique apical borders armed with five subequal teeth. Clypeus short, abrupt, somewhat convex, not distinctly bicarinate, its anterior border entire, broadly rounded. Frontal area distinct, semicircular. Antennæ rather long, scapes slender, reaching a little beyond the posterior corners of the head; funiculi with very distinct, but not very strongly thickened, 3-jointed club; joints 2-6 very small, twice as broad as long; seventh joint a little longer; club much longer than the remainder of the funiculus, the two basal joints subequal, distinctly longer than broad and together much shorter than the terminal joint. Thorax short, not much longer than the head including the mandibles; pronotum convex and rounded; mesoepinotal constriction distinct but short; epinotum small and low; its base and declivity subequal, rounding into each other, the former feebly convex, the latter feebly concave. Petiole with long slender peduncle, somewhat shorter than the node which is higher than long and rounded and subconical in profile; seen from above as long as broad and but slightly narrower than the much lower postpetiolar node, which is convex and subhemispherical, slightly broader than long. Gaster rather large, elongate-elliptical, the first segment narrowed anteriorly, with the articular border somewhat concave. Legs moderately long and slender.

Smooth and shining, with only fine, very sparse and indistinct piligerous punctures.

Hairs yellow, erect or suberect, long and bristly, rather abundant over the whole body, including the scapes and legs; on the latter shorter and somewhat more oblique; funiculi clothed with long, dense, subappressed pubescence.

Brownish honey yellow; legs somewhat paler; mandibular teeth and funicular articulations brown.

Described from seven specimens taken at Shatin.

This species is sufficiently different from all the other Indomalayan *Monomoriums* of which I have seen specimens or descriptions.

47. *Monomorium bimaculatum* sp. nov.

*Worker.* Length 1.8 – 2.2 mm.

Head subrectangular, somewhat longer than broad, with rather straight, subparallel sides and feebly concave posterior border. Mandibles narrow, with oblique apical borders bearing only three teeth, the apical large, the two others small and oblique. Clypeus short, vertical, indistinctly bicarinate, its anterior border straight and transverse in the middle. Eyes rather small, distinctly in front of the middle of the head. Antennæ slender; scapes reaching somewhat more than half the distance between the eyes and the posterior corners of the head; first funicular joint equal to joints 2 – 5 together; joints 2–7 small, subequal, broader than long; the two basal joints of the very pronounced club subequal and together much shorter than the enlarged terminal joint. Thorax small and narrow, with distinct but short mesoëpinotal constriction; promesonotum with neck nearly twice as long as broad; humeri rounded and sloping; the dorsal outline evenly convex; epinotum small, narrow, convex and rounded, sloping, without distinct base and declivity. Petiole and postpetiole small, their nodes subequal in width but in profile the petiolar decidedly higher and more conical than the postpetiolar node; ventral border of the petiole convex in profile. Gaster moderately large, rounded anteriorly, elongate-acuminate posteriorly. Legs slender.

Smooth and shining; mandibles sparsely punctate; the piligerous punctures on the remainder of the body very small, sparse and indistinct.

Erect hairs whitish, delicate, sparse, evenly scattered over the head, thorax, and abdomen, but absent on the appendages, which are clothed with pale, appressed pubescence.

Whitish yellow; appendages scarcely paler; head honey yellow; first gastric segment with a large, conspicuous, subtriangular dark brown spot on each side; mandibular borders and teeth and the articulations of the funicular joints brownish.

Numerous specimens from Hongkong Peak.

This species is readily recognized on account of the two large brown spots on the gaster. It is evidently closely related to *M. nipponense* Wheeler of Japan but this species is more robust, has a broader head and a deeper yellow color and its gaster is dark brown, except a small yellow spot at the base above.

48. *Monomorium* (*Parholcomyrme*) *destructor* Jerdon. — Numerous workers from Canton, Honam, Amoy and Kowloon.

49. *Anillomyrma decamera* Emery subsp. *continentis* Wheeler. — A dozen workers from Tungshan.

50. *Solenopsis geminata* Fabr. subsp. *rufa* Jerdon. — Several workers from Kowloon and Macao.

51. *Solenopsis indagatrix* sp. nov.

*Worker.* Length 1.8 - 2 mm.

Head rectangular, distinctly longer than broad, as broad in front as behind, with straight, parallel sides and nearly straight posterior border. Eyes very small, with four or five facets in their greatest diameter, situated at the anterior fourth of the head. Mandibles narrow, with oblique, 4-toothed apical borders, the terminal tooth long and cute, the others shorter, subequal. Clypeus sharply bicarinate, the carinae continued into distinct, acute median teeth, the lateral teeth small and indistinct. Antennal scapes not reaching to the posterior corners of the head, funicular joints 2-6 very small, nearly twice as broad as long; club long, the basal joint a little longer than broad, one-third as long as the terminal joint, Thorax rather slender; dorsum of promesonotum and base of epinotum forming a continuous, nearly straight line, except for the acute but rather shallow mesoepinotal impression; base of epinotum not more than half as long as the sutureless promesonotum but nearly twice as long as the sloping epinotal declivity into which it passes with only a very indistinct angle. Petiole with short peduncle, armed beneath with a small acute tooth; node in profile not as high as the length of the petiole, rather abrupt, narrowed apically and rounded above, its anterior and posterior slopes subequal; seen from above the node is broader than long and of the same width as the postpetiolar node, which is transversely and broadly elliptical in profile, convex and rounded above, though much lower than the petiolar node.

Smooth and shining, very sparsely and finely punctate; mandibles more subopaque.

Hairs white, delicate and erect on the clypeus, thorax and abdomen; head, legs and antennae with denser, shorter, oblique, white hairs, or long pubescence.

Rather pale yellow; mandibles and clypeus reddish, the borders of both and the teeth of the former blackish

Three specimens Yolushan (type-locality) and three others of a somewhat more brownish tint from Foochow and Ausu, near Foochow.

This species resembles *S. jacoti* Wheeler of northern China but is smaller, of a paler color, with much smaller and narrower

head, somewhat longer antennal scapes and a quite different dorsal thoracic outline. *S. tipuna* Forel of Formosa is also an allied form but has a shorter head than *indagatrix*, longer antennal scapes, much smaller eyes (only one to two facets) and a longer epinotum (more than half as long as the promesonotum). *S. indagatrix* may, perhaps, represent the unknown worker of *S. soochowensis* which I described in 1921 from female and male specimens taken by Professor N. Gist Gee at Soochow.

52. *Oligomymrex polyphemus* sp. nov.

*Soldier.* Length 3 - 3.5 mm.

Head large, suboblong, fully one and one-third times as long as broad, including the mandibles longer than the thorax; its sides subparallel but slightly concave in the middle, the posterior border deeply and angularly excised and each occipital lobe produced as a large, acute, flattened tooth which is somewhat longer than broad at the base and directed upward and slightly forward, as in *O. capreolus* Wheeler. Median ocellus present, large, situated on a projecting tubercle. Eyes minute, vestigial, consisting of a few indistinct facets, situated at the anterior third of the head. Mandibles very convex, with five coarse, subequal teeth. Clypeus short, bluntly bicarinate, concave in the middle; the anterior border straight and transverse in the middle, sinuate on the sides. Antennæ 9-jointed, small and slender; scapes reaching back to the middle of the head; funicular joints 2-6 small, subequal, broader than long; club slender, its basal joint twice as long as broad and only two-fifths as long as the terminal joint. Promesonotum rounded and convex, promesonotal suture very faint; pronotum with neck nearly as broad as long; mesonotum transverse, broadly subelliptical; metanotum very small; epinotum small, very concave dorsally, its sides in profile with subequal base and declivity, the former horizontal, the latter sloping, meeting to form a distinct angle but not dentate. Petiole pedunculate, somewhat longer than the height of the node which is subcuneate and rounded in profile, with concave anterior and slightly convex posterior slope. Postpetiole broader than long, rounded above and on the sides. Gaster large, elongate-elliptical. Legs rather slender.

Smooth and shining; head very finely and indistinctly striate anteriorly, its dorsal surface sparsely and rather coarsely punctate; punctures on the remainder of the body minute and indistinct.

Hairs yellow, short, erect, of uneven length, moderately abundant on the head, thorax and pedicel, sparser on the gaster, short, abundant and oblique on the scapes and legs.

Yellowish ferruginous; head darker than the thorax and pedicel; gaster and legs yellow; teeth and borders of mandibles and tips of occipital teeth reddish brown.

Described from six specimens from Tungshan, near Canton.

This species is readily distinguished by the large and prominent median ocellus.

53. *Oligomyrmex lusciosus* sp. nov.

*Soldier*. Length about 2 mm.

Head large, suboblong, including the mandibles longer than the thorax, nearly one and one-fourth times as long as broad, as broad in front as behind. with subparallel sides which are somewhat sinuous in the middle. Occipital border somewhat excised in the middle, without teeth. Ocelli absent; eyes very minute, at the anterior two-fifths of the head. Mandibles convex, with five coarse, subequal teeth. Clypeus short, abrupt, bluntly bicarinate, its anterior border straight and transverse in the middle, sinuate at the sides. Antennæ 9-jointed; scapes barely reaching the middle of the head; funicular joints 2-6 small, subequal, very short and transverse; club not swollen, basal joint longer than broad, one-third as long as the terminal joint. Promesonotum moderately convex and rounded, longer than broad; promesonotal suture obsolete; mesoëpinotal constriction distinct, but rather shallow and acute; epinotum with subequal base and declivity, together forming a rounded obtuse angle in profile, the declivity only slightly concave in the median line. Petiole pedunculate, longer than the node, which is abrupt and roundly cuneate in profile. Postpetiole somewhat broader than long, broadly elliptical. Gaster elongate-elliptical, not much larger than the head. Legs moderately long.

Smooth and shining; cheeks anteriorly finely striated; head rather superficially and sparsely but not more coarsely punctate than the remainder of the body.

Hairs white, soft, erect, of uneven length on the thorax and abdomen, even and more abundant on the head; gaster and appendages with fine, pale, rather dense, subappressed pubescence.

Yellowish white; thorax and especially the head darker, yellow; mandibles and clypeus reddish, with fuscous borders; teeth of the former black.

*Worker*. Length 1.2 mm.

Head small, rounded-subrectangular, very slightly longer than broad, as broad in front as behind, the posterior border concave in the middle. Eyes lacking. Mandibles less convex than in the soldier, with more oblique and more acutely toothed apical borders. Antennal

scapes reaching to the middle of the sides of the head. Thorax and pedicel shaped much as in the soldier but the epinotum more rounded, with less distinct base and declivity. Gaster small.

Sculpture and pilosity as in the soldier but head less clearly punctate.

Willowish white throughout, except the mandibular teeth which are reddish.

Described from four soldiers and two workers from Tungshan, near Canton. These specimens were mixed with those of the preceding species under the same number.

In lacking the occipital teeth *O. lusciosus* is allied to *O. bouvardi* Santschi of Cochinchina and *O. overbecki* Viehmeyer of Singapore, but is clearly distinct from either. I have compared the new species with cotypes of *bouvardi* received from Dr. Santschi.

54. *Oligomyrmex silvestrii* sp. nov.

*Soldier*. Length 2 - 2.2 mm.

Head large, suboblong, including the mandibles longer than the thorax, about one-fifth longer than broad, with straight, parallel sides, rather deeply and angularly excised posterior border and each occipital lobe produced in the middle into an acute tooth which is as long as broad at its base and turned upward and slightly forward. Ocelli absent, but the anterior ocellus is represented by a small elevation, or tubercle. Eyes minute, at the anterior third of the head. Mandibles convex, with four coarse, subequal teeth. Antennæ 9-jointed; scapes reaching the sides of the head at one-third the distance between its anterior and posterior corners; funicular joints 2-6 small, distinctly broader than long; club slender, the basal joint nearly twice as long as broad and nearly half as long as the terminal joint. Clypeus steep, convex and obscurely bicarinate in the middle, its anterior border depressed, straight and entire. Promesonotum short, subhemispherical, convex and rounded, with obsolete promesonotal suture; mesoëpinotal constriction pronounced but short; epinotum short and low, subdentate, with subequal base and declivity, both sloping. Petiole and postpetiole much as in *O. lusciosus*. Gaster large, decidedly more voluminous than the head. Legs rather slender.

Mandibles smooth and shining; head subopaque, densely longitudinally rugulose and reticulate, between the occipital teeth transversely rugulose. Thorax and pedicel more shining than the head, very finely and distinctly shagreened or reticulate. Gaster smooth and shining; with very sparse piligerous punctures.

Hairs yellowish, erect, very sparse, absent on the head and appendages. Pubescence pale, rather dense, fine and short on the dorsal surface of the head, longer and sparser on the appendages and gaster, especially on the latter.

Head, thorax and pedicel yellowish ferruginous, the head somewhat darker; gaster, legs and antennæ yellow; mandibular teeth and borders and anterior border of clypeus blackish.

*Worker.* Length. 9-1 mm.

Head small, subrectangular, scarcely longer than broad, a little narrower in front than behind, with straight posterior border and without occipital teeth. Eyes present, but very minute, just in front of the anterior fourth of the head. Mandibles less convex than in the soldier, with more oblique apical borders. Antennal scapes reaching two-thirds the distance between the anterior and posterior corners of the head. Thorax and pedicel resembling those of the soldier but the promesonotum less convex and the epinotum more rounded in profile and without distinct base and declivity. Gaster small.

Head subopaque, very finely punctate-reticulate, with very indistinct traces of longitudinal rugules. Thorax and petiole more shining, nearly smooth; gaster even more shining.

Erect hairs very sparse, present only on the clypeus and gaster; pubescence on the head and thorax very fine, subappressed.

Ferruginous yellow; gaster and appendages yellow; mandibular teeth brown.

Described from eight soldiers and numerous workers from Hongkong.

55. *Oligomyrmex silvestrii* subsp. *taiponicus* subsp. nov.

*Soldier.* Length. 2.2 mm.

Differing from the typical form of the species in having the head somewhat broader, with somewhat smaller occipital teeth and no elevation marking the position of the anterior ocellus. Eyes distinctly larger, at the anterior fourth of the head. Promesonotum slightly more convex but epinotum smaller and not dentate, with rather convex base.

Head shining, with a few straight, transverse occipital rugules; cheeks striate anteriorly and upper surface of head with sparse and rather superficial longitudinal rugules, most distinct on the front. Thorax and abdomen smooth and shining.

Pilosity and color very much as in the typical *silvestrii*.

Two soldiers from Taipò.

56. *Oligomyrmex (Hendecatella) capreolus* Wheeler subsp. *laeviceps* subsp. nov.

*Soldier*. Differing from the typical form of the species in having the head more narrowed behind so that it is as broad anteriorly as posteriorly, with distinctly longer and basally broader horn-like teeth on the occipital lobes. The punctuation of the head is distinctly feebler so that the surface is smoother and more shining. Pronotum more voluminous, more convex and rounded dorsally and laterally. Hairs on the head and thorax somewhat sparser and of less even length.

Four specimens from Macao.

57. *Meranoplus bicolor* Guérin var. *lucidus* Forel. — Numerous workers from Taipò.

58. *Pristomyrmex pungens* Mayr. — Numerous workers from Shatin, Taipò and Shanghai.

59. *Leptothorax argentipes* sp. nov.

*Worker*. Length 2.5 – 3 mm.

Head subrectangular, with rounded corners, distinctly longer than broad, as broad in front as behind, with straight sides and posterior border. Eyes moderately large and convex, just in front of the middle of the head. Mandibles with convex external borders, their apical borders broad, with a large terminal tooth and numerous, small, crowded, indistinct basal denticles. Clypeus convex, its anterior border broadly rounded and entire. Antennæ 12-jointed; scapes reaching nearly one-sixth their length beyond the posterior corners of the head; funiculi with long, sharply differentiated 3-jointed club; joints 2-8 small, subequal, distinctly longer than broad; the two basal joints of the club subequal, nearly twice as long as broad, together as long as the terminal joint. Thorax long; promesonotum moderately convex, from above roundly subtriangular, longer than broad, with obsolete promesonotal suture; mesoëpinal constriction feeble, but distinct; base of epinotum long in profile, distinctly concave, longer than the somewhat sloping declivity, the spines slender, nearly as long as the base, directed backward and somewhat upward and outward and curved slightly downward. Petiole with a very distinct peduncle provided with a minute tooth on its anterior ventral surface, node not longer than the peduncle, rather low, rounded above; from above the petiole is about two and one-half times as long as broad, gradually widening posteriorly. Postpetiole more than half again as broad as the petiole, transversely elliptical, about one and one half times as broad as long. Legs rather long, femora thickened in the middle.

Subopaque; gaster smooth and shining; mandibles very finely, densely and indistinctly striate and sparsely punctate; clypeus more finely, head more coarsely longitudinally reticulate-rugulose, the ru-



gules on the latter interrupted. Psomesonotum coarsely and vermiculately, pleuræ, epinotum, petiolar and postpetiolar nodes more finely and reticulately rugulose.

Erect obtuse hairs on the body rather long and numerous, silvery white; antennæ and legs with short, delicate, appressed hairs, or pubescence.

Pale ferruginous; head brown; middle portions of femora and tibiæ dark brown; clubs of antennæ fuscous; gaster nearly black, with pale incisures between the segments.

*Female* (deälated). Length 3.3 mm.

Resembling the worker. Head with more convex posterior border. Epinotal spines well-developed, but very slender and acute and shorter than in the worker, though longer than broad at their bases. Pedicel very similar to that of the worker.

Head more coarsely rugose; thorax distinctly shining above, the mesonotum finely and regularly longitudinally rugulose; scutellum smooth and shining in the middle, longitudinally rugulose on the sides.

Pilosity much as in the worker but the obtuse, silvery white hairs are less coarse.

Color darker; head blackish brown; thorax and pedicel castaneous; neck yellowish brown; gaster nearly black, darker than in the worker; appendages as in that caste.

Described from five workers and a single female taken at Ausu, near Foochow.

This species resembles *L. galeatus* Wheeler from the vicinity of Peking, but the latter is smaller, differently colored, with much shorter antennæ, scapes and thorax, less pronounced sculpture, etc.

60. *Triglyphothrix striatidens* Emery. — A single worker from Macao.

61. *Triglyphothrix walshi* Forel. — Two workers from Petà, near Foochow.

62. *Tetramorium guineense* Fabr. — Many workers from Macao, Kowloon, Base Kusang near Foochow, and Hongkong.

63. *Tetramorium caespitum* L. subsp. *jacoti* Wheeler. — Nine workers from Peking.

64. *Tetramorium coespitum* subsp. *jacoti* var. *annectens* Wheeler. — Six workers from Changsha and one from Macao.

65. *Rhoptromyrmex* (*Acidomyrmex*) *wroughtoni* Forel subsp. *rothneyi* Forel. — A single worker from Taipò.

66. *Strumigenys godeffroyi* Mayr. var. *lewisi* Cameron.—  
One worker from Shanghai.

67. *Strumigenys* (*Cephaloxys*) *silvestriana* sp. nov.

*Worker*. Length about 1.5 mm.

Head one and one-half times as long as broad, its postclypeal portion subcordate, with the occipital border deeply and semicircularly excised in the middle, the occipital lobes large and angularly rounded, the cheeks straight and parallel. Clypeus rather flat, triangular, broader than long, its anterior border straight and transverse. In profile the front of the head is flattened or slightly concave and forms a blunt obtuse angle with the flattened but shorter occipital portion. Antennal scrobes sharply marginate above; they continue the frontal carinae laterally and ventrally to the posterior third of the head. Mandibles small, their blades nearly three times as broad at the base, their apical borders with nine or ten slender, crowded, acute and rather uneven teeth. Antennal scapes scarcely expanded, very slender and somewhat curved at the base, then rather suddenly broader, with a flattened knife-blade like anterior border, their tips reaching about halfway between the anterior and posterior corners of the head; second and third funicular joints very small, subequal, broader than long, together much shorter than the first joint; the two terminal joints forming an elongate club, the basal joint of which is about one-third as long as the apical. Thorax short and high, especially through the epinotum, without meso-epinotal impression, the dorsal outline of the pro- and mesonotum and the base of the epinotum forming a continuous curve like that in many forms of *Camponotus*; the promesonotal suture distinct but not impressed, the mesoepinotal suture obsolete. The epinotal declivity is nearly vertical, concave in the middle, without teeth and bordered on each side with a pronounced spongiform lamella. The pronotum seen from above is flattened, rectangular, as long as broad, its sides and lateral borders straight and sharply marginate, the anterior corners sharp. Sides of mesonotum distinctly concave so that it becomes suddenly narrower behind the pronotum. Epinotum seen from above somewhat expanded posteriorly. Petiole pedunculate, with a node nearly as long as broad surrounded laterally and posteriorly by spongiform masses and with a deep, lamellar mass of the same structure depending from the midventral line of the peduncle. Postpetiolar node transversely elliptical, nearly twice as broad as the petiolar node and on the sides and ventrally surrounded by voluminous spongiform masses. Gaster elliptical, slightly flattened dorsally, with somewhat truncated anterior border.

Smooth and shining; mandibles finely punctate; postclypeal portion of head subopaque, densely, evenly and coarsely punctate, or foveolate;

clypeus more sparsely and indistinctly punctate. First gastric segment finely striate on each side at the base. Scapes and legs subopaque, rather coarsely reticulate-punctate.

Ordinary erect hairs absent, except at tip of gaster. Anterior border of scape with a row of five curved, spatulate hairs. There are two shorter, club-shaped hairs on the vertex and minute scale-like hairs in the foveolæ. Pubescence whitish, distinct only on the antennæ and legs.

Yellowish ferruginous; legs slightly paler; median portion of gaster darker and distinctly brownish.

Described from six specimens from Macao.

This species is very distinct from the other known Oriental species of *Cephaloxys*, namely *japonica* Ito of Japan, *dohertyi* Emery of Burma and *inezæ* Forel of Java.

68. *Strumigenys* (*Cephaloxys*) *foochowensis* sp. nov.

*Female* (deälated). Length about 2 mm.

Resembling the preceding species, but the head is distinctly shorter, being only one and one-half times as long as broad, with less deeply excised posterior border. Clypeus subtriangular, somewhat broader than long, with convex and expanded anterior corners and convex posterior extremity; its anterior border nearly straight. Mandibles very short and convex, their blades not more than twice as long as broad at the base, their apical borders with about nine or ten subequal, crowded teeth. Antennæ similar to those of *silvestriana* but shorter, the basal joint of the club being nearly half as long as the apical, and the flattened anterior border of the scape less distinct. Thorax short and high; the promesonotal suture impressed, the pronotum very transverse, its anterior and lateral borders marginate but the anterior corners blunt. Mesonotum high but somewhat flattened in the middle, oval, longer than broad, narrowed anteriorly; scutellum small, transversely elliptical. Epinotum, petiole and postpetiole much as in *silvestriana* and with a very similar development and distribution of the spongiform masses. Anterior border of petiolar node straight and transverse; postpetiolar node nearly three times as broad as long.

Sculpture very much as in *silvestriana* but the thorax opaque and densely punctate like the head, though more finely. Mandibles and clypeus less shining and more conspicuously punctate.

In pilosity and color very similar to *silvestriana* but gaster not darker than the remainder of the body. Ocellar triangle black; wing insertions dark brown. Anterior border of scape with six curved, spatulate hairs, but the pair of club-shaped hairs on the vertex lacking.

Legs and scapes subopaque and punctate - reticulate as in *silvestriana*. First gastric segment similarly striate at the base.

A single specimen from Foochow.

This specimen differs so much from *silvestriana* in the mandibles, proportions of the head and sculpture of the thorax that I cannot regard it as a female of that species.

#### SUBFAMILY **Dolichoderinae**.

69. *Dolichoderus (Hypoclinea) sinensis* Wheeler var. *atriiceps* var. nov.

*Female* (deälated). Length 5 mm.

Differing from the typical *sinensis*, which is known from the worker only, in having the head black. The thorax and petiole are blood red, the mesopleuræ and metanotum are black and there are three elongate black spots on the mesonotum. Petiole with a median longitudinal black streak both on the anterior and posterior surface of the node. The spots on the first and second gastric segments are brownish ivory yellow, the pair on the second segment much larger and transversely suboblong. Mandibles and sides of clypeus and the antennæ red, the three apical joints of the antennæ black; the scapes somewhat yellowish, with a brown spot near the tip. Coxæ and legs black, the tips of the coxæ, the trochanters, tarsi and bases and tips of the femora and tibiæ red. Shape of the epinotum very similar to that of the worker *sinensis*.

A single specimen from Kowloon.

70. *Dolichoderus (Hypoclinea) bituberculatus* Mayr var. *emarginatus* Santschi. — Numerous workers from Taipò.

71. *Dolichoderus (Hypoclinea) taprobanae* F. Smith var. *obscuripes* Santschi. — Many workers from Base Kusang, Foochow; Petà, Foochow; Hanoi and Taipò; also a number of winged females from Petà.

72. *Dolichoderus (Hypoclinea) taprobanae* var. *tonkina* Santschi. — Nine workers from Macao.

73. *Liometopum sinense* Wheeler var. *sericatum* Wheeler. — Four workers from Yolushan.

74. *Iridomyrmex anceps* Roger. var. *watsoni* Forel. — Numerous workers from Victoria Peak, Hongkong and Kusang.

75. *Iridomyrmex glaber* Mary. — Several workers from Macao, Yolushan and Petà, near Foochow.

76. *Bothriomyrmex (Chronoxenus) wroughtoni* Forel var. *victoriae* Forel. — Numerous workers from Victoria Peak, (type-locality) and Repulse Bay, Hongkong.

77. *Bothriomyrmex (Chronoxenus) wroughtoni* subsp. *dalyi* Forel. — Numerous workers, females and males from Taipò and Macao.

78. *Tapinoma geei* Wheeler. — Two workers from Peking.

79. *Tapinoma melanocephalum* Fabr. — Numerous workers from Taipò, Shatin, Macao and Tungshan.

80. *Tapinoma silvestrii* sp. nov.

*Worker.* Length 1.5 - 1.7 mm.

Head rectangular-elliptical, distinctly longer than broad, as broad in front as behind, with evenly rounded sides and straight posterior border. Eyes rather large, moderately convex, distinctly in front of the middle of the head, longer than their distance from its anterior border. Mandibles small and convex, with two large, acute apical and five or six small, subequal basal teeth. Clypeus very convex and rounded in the middle, depressed on the sides, the anterior border entire and broadly rounded. Frontal area minute, impressed; frontal groove obsolete; frontal carinae short, subparallel, rather far apart. Antennal scapes nearly or quite reaching the posterior border of the head; second funicular joint small, distinctly broader than long; joints 3-10 slightly longer than broad; the funiculus gradually but distinctly enlarged at the tip. Thorax short and narrow; pronotum transversely elliptical, broader than the meso- and epinotum, which, seen from above, are subequal, with nearly parallel sides. In profile the pro- and mesonotum form a moderately even convexity; the mesoepinotal impression is very distinct, the base of the epinotum short and straight, rising posteriorly and forming a distinct obtuse angle with the straight, sloping declivity, which is nearly three times as long as the base. Petiole elongate-elliptical, with very low, indistinct node. Gaster broadly elliptical, its anterior segment completely covering the petiole as in other species. Legs of the usual structure.

Smooth and shining, thorax a little less so than the head and gaster, very finely shagreened; mandibles distinctly punctate.

Hairs whitish, very few and delicate, confined to the mandibles and tip of gaster; pubescence very short, dilute and indistinct.

Castaneous brown; mandibles, clypeus and thorax somewhat paler; antennae and legs sordid yellowish brown.

Described from a dozen specimens taken at Kusang.

This species is sufficiently distinct from the other small Oriental Tapinomas, *melanocephalum* Fabr., *indica* Forel and *andamanense* Forel, in color and sculpture and in the very different shape of the epinotum.

81. *Technomyrmex albipes* F. Smith. — Many workers from Taipò, Shatin, Honam near Canton, Base Kusang near Foochow, and Macao.

82. *Technomyrmex horni* Forel. — Nine workers from Victoria Peak and Repulse Bay, Hongkong agree perfectly with Forel's description of this species hitherto known only from Formosa.

83. *Technomyrmex schimmeri* Viehmeyer var. *obscurior* var. nov.

*Worker*: Differing from the typical form in the somewhat longer thorax (distinctly longer than the head plus the mandibles), in having the mandibles opaque like the head and in color, being dull chocolate brown with the tarsi, bases and tips of tibiae and femora, trochanters and tips of coxae ivory yellow.

Three specimens from Yi Leang. The types of the species are from Singapore.

#### SUBFAMILY **Formicinae.**

84. *Anoplolepis longipes* Jerdon. — Numerous workers from Kowloon, Shatin and Macao, and several females from Kowloon.

85. *Plagiolepis exigua* Forel. — Several workers from Taipò and one from Petà, near Foochow.

86. *Plagiolepis jerdoni* Forel. — A single worker from Kowloon.

87. *Acropyga (Rhizomyrma) sauteri* Forel (Fig. 2). — Four workers from Macao and three workers and a female from Taipò Markets.

This species has been known only from Formosa. The female (undescribed) measures 3.2 mm. and is brown, with yellow legs. Head rectangular, a fourth again as broad as long, scarcely narrower in front than behind, with straight sides and posterior border. Eyes large and moderately convex, their posterior orbits at the median transverse

diameter of the head, the cheeks very short. Clypeus very short and transverse. Antennal scapes reaching to the posterior corners of the head. Thorax somewhat broader than the head; mesonotum very convex

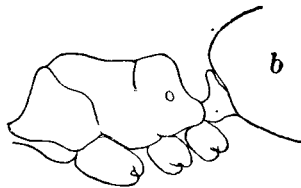
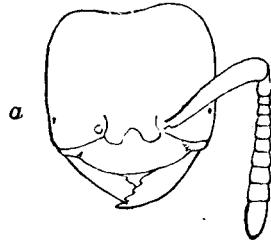


Fig. 2.

*Acropyga (Rhizomyrma) Sauteri*  
Forel: Worker. a, head; b, thorax  
and petiole in profile.

in front, flattened behind. Pilosity very scarce, reduced to a few erect hairs on the clypeus and some shorter hairs at the tip of the gaster. Pubescence golden, very fine and appressed, distinct on the head and thorax. Surface nearly as shining as in the worker. Wings long, hyaline, with narrow pale brown veins and darker stigma.

88. *Camponotus japonicus* Mayr var. *aterrimus* Emery. — Several workers from Peking, Sanshaci and Yolushan.

89. *Camponotus (Tanaemyrmex) barbatus* Roger subsp. *albosparsus* Forel. — Numerous workers from Foochow, Petà and Ausu near Foochow, Macao, Kusang, Tungshan

and Repulse Bay, Hongkong.

90. *Camponotus (Tanaemyrmex) carin* Emery. — Several workers from Victoria Peak and Repulse Bay, Hongkong.

91. *Camponotus (Tanaemyrmex) variegatus* F. Smith var. *dulcis* F. Smith. — Several workers from Taipò, Macao and Repulse Bay, Hongkong.

92. *Camponotus (Tanaemyrmex) variegatus* var. *mitis* F. Smith. — Several workers from Hongkong, Victoria Peak, Macao and Taipò.

93. *Camponotus (Tanaemyrmex) variegatus* var. *proles* Santschi. — Eight workers from Lo Chouei.

94. *Camponotus (Myrmosericus) rufoglaucus* Jerdon subsp. *paria* Emery. — Numerous workers from Macao, Tungshan and Yunnanfu and a deälated female from Kowloon.

95. *Camponotus (Myrmothrix) nicobarensis* Mayr var. *exiguoguttatus* Emery. — Numerous workers, females and males from Canton Honam, Base Kusang, Shatin, Taipò and Repulse Bay, Hongkong.

96. *Camponotus* (*Myrmamblys*) *itoi* Forel subsp. *lighti* Wheeler. — A single minor worker from Shanghai.

97. *Polyrhachis* (*Myrmhopla*) *dives* F. Smith. — Many workers and several males from Kowloon, Petà and Ausu, near Foochow, Kusang and Canton Honam.

98. *Polyrhachis* (*Myrmhopla*) *hippomanes* F. Smith subsp. *lucidula* Emery. — Seven workers from Shatin.

99. *Polyrhachis* (*Myrma*) *mayri* Roger. — Two workers from Lo Chouei-Tong; two workers from Hongkong and two from Shatin.

100. *Pseudolasius emeryi* Forel (Fig. 3). — A number of workers of all sizes from Yi Leang, and a worker, female and male from Lo Chouei.

Bingham (Fauna of British India, Hymen. II, 1903, p. 338) figured and described very superficially some specimens which he erroneously referred to *Ps. familiaris* F. Smith. Owing to discrepancy in the number of mandibular teeth between Bingham's description and figure (4 in the text, 6 in the figure), Emery (1911) inferred that Bingham must have confounded two species. The Italian myrmecologist therefore gave the new names *fallax* and *binghami* to these forms, basing the former on the minor worker (length 3 mm.), the latter on the major worker (3.3 mm.) of Bingham's « *familiaris* ». Forel (1911), however, though also supposing that Bingham had two species, showed that the form named *binghami* by Emery was something different from the ones described by Emery and therefore introduced a new name, *emeryi*. In my opinion neither of the forms named by Emery was seen by Bingham. Both his major and minor workers belong to the same species, namely to Forel's *emeryi*, to which the specimens collected by Dr. Silvestri also belong, whereas Bingham's female « *familiaris* », though very inadequately described, is clearly not conspecific with his workers. It is therefore advisable to clear up the matter by redescribing in detail all four phases of *Ps. emeryi* Forel from Dr. Silvestri's material.

*Worker major.* Length 4-5 mm.

Head as broad as long, somewhat broader behind than in front, with rounded, subangular occipital lobes and deeply and angularly excised posterior border, the sides straight and subparallel behind, evenly convex anteriorly. Eyes small, slightly convex, in front of the



median tranverse diameter of the head. Mandibles strong and convex, their somewhat oblique apical borders with 6 well-developed teeth, the first and fourth largest, the third smallest though nearly as large as the second, the fifth and sixth so closely approximated as to form almost a single bicuspid tooth. Clypeus convex and bluntly, subcarinate, its anterior border rather deeply sinuate in the middle. Frontal area large, triangular, indistinct and not impressed, frontal furrow represented by a line, sometimes smooth and shining, reaching to the middle of the head. Frontal carinae short, subparallel. Antennal scapes

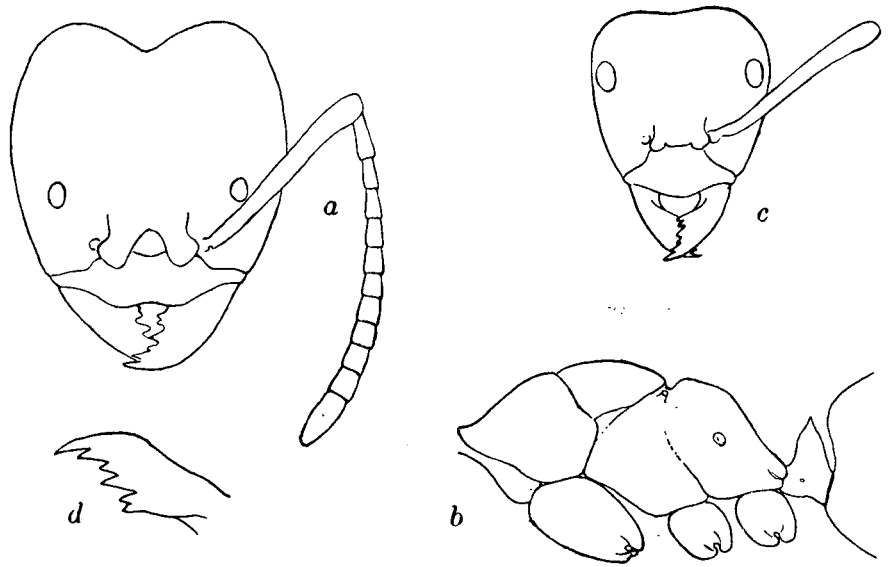


Fig. 3.

*Pseudelastus emeryi* Forel: a, head of worker major; b, thorax and petiole of same in profile; c, head of worker minor; d, mandible of female.

not reaching to the posterior corners; first funicular joint shorter than the second and third together; joints 2-10 distinctly longer than broad. Thorax short and thickset, not longer than the head plus the mandibles. Pronotum broad and rounded, twice as broad as long without the neck; mesonotum convex, seen from above rounded subtriangular, as broad as long. Promesonotal suture strong and somewhat impressed, in profile interrupting the regular convexity formed by the pro- and mesonotum. Mesoepinotal impression short, abrupt, rather deep, with prominent spiracles. Epinotum short, broader than long, with convex base and straight, flattened, sloping declivity nearly half again as long as the base. Petiole in profile with cuneate node and convex ventral

surface, the former somewhat inclined forward, with flattened anterior and posterior surfaces and the superior border compressed, rather sharp and deeply emarginate in the middle. Gaster large, elongate elliptical, with a deep median impression in the first segment for the accommodation of the petiole. Legs long.

Subopaque, finely and densely punctate; the thorax and gaster in some specimens slightly shining or with an oily lustre; mandibles and legs smoother and more shining. Posterior half of head and dorsal surface of thorax and gaster beset with minute, black, scattered, piligerous tubercles.

Pilosity abundant, stiff, erect, bristly and uneven, varying in color from yellowish or grayish to black, the black hairs mingled with paler ones on the thoracic dorsum and first gastric segment. The hairs are somewhat shorter on the head, legs and scapes than on the gaster but the scapes and flexor surfaces of the legs bear a number of long hairs. Pubescence grayish, abundant, appressed, most conspicuous on the head and gaster; on the former nearly concealing the punctate surface, more dilute on the pleuræ and legs.

Reddish brown; cheeks and mandibles more yellowish brown, the latter broadly bordered with black; sides of clypeus behind, a large spot on the front continued as a black stripe along the occipital furrow, some clouds on the pronotum, the disk of the mesonotum and dorsum of gaster, blackish; antennæ, borders of gastric segments, legs and anal region paler brownish yellow.

*Worker minor*: Length 2.3 – 3.8 mm.

Head proportionally smaller, more subrectangular, much less deeply excised behind, with convex sides, very nearly or quite as broad in front as behind. Anterior border of clypeus broadly rounded, entire, the middle less subcarinate. Antennal scapes extending beyond the posterior corners of the head to about one fourth their length in the smallest individuals. In these the petiolar border is merely sinuate in the middle.

Posterior portion of the head, thorax and gaster smoother and more shining than in the major worker. Pilosity somewhat paler, without admixture of black hairs. Color paler and more yellowish brown, gaster darker, but the black markings of the major worker are absent in the smallest and merely indicated in the intermediate individuals. Some of the latter have the head and thorax dark brown like the gaster.

*Female*. Length nearly 8 mm.

Head rather small, broader than long, the posterior border feebly, broadly and angularly excised in the middle, posterior corners rather sharp, sides behind the eyes subparallel, in front of the eyes straight and rather strongly converging. Eyes somewhat longer than their dist-

ance from the anterior border of the cheeks. Mandibles more slender and less convex than in the worker major, with much more oblique apical borders, though the teeth are the same. Clypeus resembling that of the major. Antennal scapes extending about one-sixth of their length beyond the posterior corners of the head. Thorax much broader than the head, the mesonotum large and flat, decidedly broader than long, transversely subelliptical. Epinotum very small, sloping, rounded, without distinct base and declivity. Petiole small, strongly inclined forward, shaped as in the major worker. Gaster voluminous.

Subopaque; dorsum of thorax and gaster more shining, more finely and more superficially punctate than in the worker. The minute piligerous tubercles are absent.

Hairs shorter, finer and less abundant. Pubescence yellow, longer and much more conspicuous than in the worker.

Head, thorax, gaster, coxæ, scapes and femora, except their tips and bases, dark brown; mandibles, funiculi, anal region, margins of gastric segments and remaining portions of legs yellowish brown; petiole pale brown. Wings dull brownish, with dark brown veins and stigma.

*Male.* Length 3.5 mm.

Head, including the eyes, as long as broad, semicircular behind the latter, with short cheeks. Mandibles small, meeting, bluntly and indistinctly tridentate. Clypeus evenly convex, with straight, transverse anterior border. Frontal area indistinct, transversely triangular. Antennal scapes extending about half their length beyond the posterior ocelli. Thorax broad, shaped like that of the female, the mesonotum flattened, about one and three-fourths times as broad as the head including the eyes. Petiole low, with entire, blunt superior border. Gaster elongate. Legs slender.

Somewhat shining; finely, sparsely and indistinctly punctate; head more opaque.

Hairs and pubescence pale, the former very sparse, absent on the appendages; pubescence dilute and inconspicuous.

Brown; head darker; mandibles, mouthparts and tarsi ivory yellow; wings as in the female, but the veins and stigma paler brown.

101. *Pseudolasius risi* Forel. — Numerous workers from Repulse Bay, Hongkong, Base Kuliang, Kowloon and Taipò, and a female from the locality last mentioned. Among the specimens from Kowloon and Taipò are several major workers. Since neither Forel nor I had seen this caste among our specimens from other localities, it is here briefly described.

*Worker major*. Length 3.5 - 4 mm.

Head much larger than that of the minor worker and much more deeply excised behind, but of a similar shape, i. e. subrectangular though with more convex sides. Eyes small, flattened, at the anterior third of the head. Mandibles with only four large teeth as in the smaller workers, but with more convex external and less oblique apical border. Clypeus very convex, less distinctly carinate than in the small worker. Frontal carinae short, subparallel. Antennal scapes reaching the sides of the head about three-fifths the distance from the anterior to the posterior corners. Thorax short and robust, shaped as in the minor worker, but the pro- and mesonotum more convex. Petiolar scale broader above, its superior border slightly emarginate.

Decidedly less shining than the minor worker, with much more abundant erect hairs and pubescence, the latter obscuring the shining integument, especially on the head. The erect hairs on the head, pronotum and gaster arise from raised, brown points. These hairs are brownish yellow in some lights and dark brown in others.

Color of body and appendages darker than in the minor worker, brownish yellow; dorsal portions of gastric segments and a vague spot on the vertex brown.

102. *Paratrechina longicornis* Latr. — Numerous workers from Macao and Repulse Bay, Hongkong and one dealated female from the former locality.

103 *Paratrechina (Nylanderia) bourbonica* Forel var. *amia* Forel. — Numerous workers from Foochow and Macao. This variety was originally described from Formosa.

104. *Paratrechina (Nylanderia) indica* Forel. — Numerous workers from Yunnanfu, Sanshaci, Tungshan Macao, Hongkong, Yolushan, Canton Honam, and Base Kusang, near Foochow. One dealated female from Macao and several winged specimens from Yunnanfu.

The species *indica*, *flavipes*, F. Smith, *vividula* Nyl, and *taylori* Forel are all so closely related that careful comparative study of their various phases will probably prove them to be merely so many subspecies of one highly variable and widely distributed species. The specimens collected by Dr. Silvestri show considerable variation in size, coloration, shape of head and amount of pubescence in workers from the same colony, and the same is true of series of specimens of *flavipes* which he took in a number of localities in Japan.

105. *Paratrechina (Nylanderia) taylori* Forel. — Two workers from Yi Leang.

106. *Paratrechina (Nylanderia) minutula* Forel subsp. *sauteri* Forel. — Ten workers from Taipò. This subspecies was previously known only from Formosa.

107. *Paratrechina (Nylanderia) yerburyi* Forel. — Four workers from Macao, agreeing closely with Indian cotypes received from Professor Forel.

108. *Lasius niger* L. — A single worker from Yi Leang, indistinguishable from the typical northern Eurasian form.

109. *Lasius niger* L. subsp. *alienus* Förster. — Six workers from Yunnanfu.

110. *Formica rufibarbis* Fabr. var. *sinensis* Emery. — Five workers from Peking.