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Title	Discovery of an ant of the Genus Lordomyrma Emery in Eastern Asia (Hym.)
Author(s)	Yasumatsu, Keizo
Citation	Insecta matsumurana, 17(2), 73-79
Issue Date	1950-04
Doc URL	https://hdl.handle.net/2115/9513
Type	departmental bulletin paper
File Information	17(2)_p73-79.pdf

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DISCOVERY OF AN ANT OF THE GENUS *LORDOMYRMA* EMERY IN EASTERN ASIA (HYM.)

By KEIZÔ YASUMATSU

Entomological Laboratory, Kyushu University

Lordomyrma established by Dr. C. EMERY in 1897 is a very interesting genus of the Family Formicidae, and so far represented by only nine species. In the autumn of 1940 I collected three workers of a curious ant on Mt. Hikosan, Kyushu, Japan. After careful examination by the aid of literature, I came to the conclusion that the ant in question may represent a new species of the Genus *Lachnomyrmex* WHEELER hitherto known by only a single species from Central America. Therefore, I reported discovery at the 6th meeting of the Entomological Society of Japan at Tokyo in 1943.

Meanwhile in 1944 Dr. MARION R. SMITH described a second species of the Genus *Lachnomyrmex* from Canal Zone and made some important corrections and additions to the detailed generic characters given by Dr. WILLIAM M. WHEELER. One of the most important of these concerned the correct number of antennal segment. WHEELER's error led me to misinterpret the ant as a representative of the Genus *Lachnomyrmex* in 1943. In 1948 I sent the specimen to Dr MARION R. SMITH to confirm the generic status of the ant in question. Dr. SMITH was kind enough to compare the specimen with types of *Lachnomyrmex scrobiculatus* WHEELER and *L. haskinsi* SMITH and counted again the number of the antennal segment. He informed me that the ant does not belong to the Genus *Lachnomyrmex* but may be a representative of the Genus *Lordomyrma* EMERY. On the other hand, Dr. WILLIAM L. BROWN, JR. was also kind enough as to examine the number of the antennal segment of the cotypes of *Lachnomyrmex scrobiculatus* which are preserved in the Museum of Comparative Zoölogy at Harvard College. After carefully studying the species I came to the conclusion that the ant may apparently be regarded as belonging

to a new species of the Genus *Lordomyrma* EMERY hitherto known only from the Papuan and Australasian Regions as kindly suggested by Dr. SMITH.

In this paper is described the new species, *nobilis*, the tenth in the genus *Lordomyrma*. Before going further I express my hearty thanks to Professor TEISO ESAKI of the Kyushu University for his kind guidance rendered in the course of the present study, and to Doctor MARION R. SMITH of the United States National Museum for his assistance in determining the species, offering suggestions on the manuscript, and other aid. My sincere thanks are also due to Doctor JOSEPH BEQUAERT of the Museum of Comparative Zoölogy and Doctor WILLIAM L. BROWN, JR. of the Harvard University for their kindness in furnishing me reprints of the late Doctor WILLIAM M. WHEELER as well as valuable information, to Mr. HORACE DONISTHORPE of the British Museum (Natural History) for the gift of his reprints, and finally to Mr. TSUNEO TORIKATA of Beppu for the gift of further material.

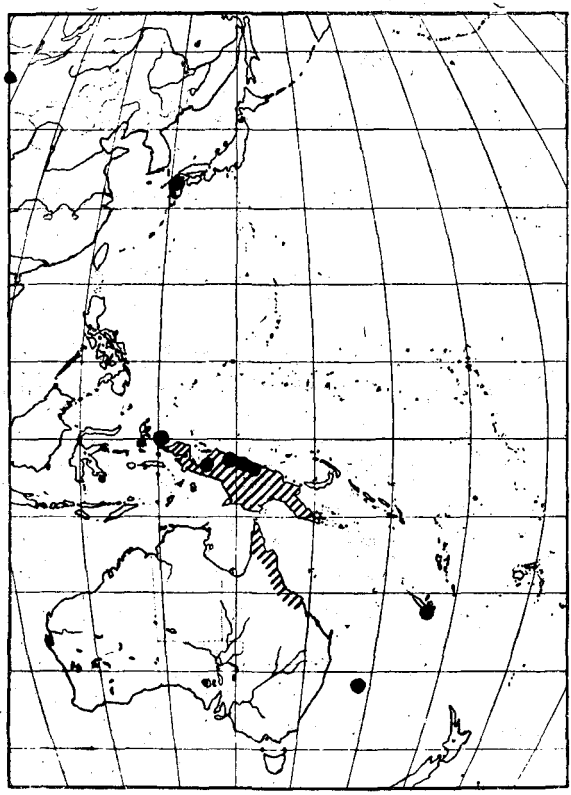

Fig. 1. A map showing the geographical distribution of the Genus *Lordomyrma* EMERY.

As pointed out by Dr. W. M. WHEELER in 1919, the Genus *Lordomyrma* has hitherto been known to occur only in the Papuan and Australasian

Regions in the Southern Hemisphere. Therefore, discovery of the genus in Japan in the Northern Hemiphere is of extreme interest. The Genus *Lordomyrma* has hitherto been represented by the following species.

L. caledonica ANDRÉ, 1889 ... ... New Caledonia (Noumea)
L. leae WHEELER, 1919 ... ... Lordo Howe Island
L. punctiventris WHEELER, 1919 ... ... Queensland (Kuranda)
L. niger DINISTHORPE, 1941 ... ... Waigeu Island
L. furcifera EMERY, 1897 ... ... New Guinea (Berlinhafen)
L. cryptocera EMERY, 1897 ... ... New Guinea (Berlinhafen)
L. crawleyi MENOZZI, 1923 ... ... New Guinea
L. infundibuli DONISTHORPE, 1940 ... ... New Guinea (Jutefa Bay)
L. bensoni DONISTHORPE, 1949 ... ... New Guinea (Maffin Bay)

As seen from above, it is most probable or certain that the genus may have originated in the Papuan and Australasian Regions, or though not absolutely certain, in New Guinea in the early Tertiary period. In this period the Angara Continent seems to have had a direct or an indirect connection with New Guinea and Australia through the Philippines and the Indo-Malayian Islands. I may not be mistaken in assuming that the migration of the ancestors of *Lordomyrma* from New Guinea territory to northern parts took place in these early days. This genus may belong to the first category of the relict genera of insects proposed by Doctor K. ANDER (1942). The discovery of this Papuan and Australasian relict genus in Japan may indicate that other species of *Lordomyrma* may eventually be found in South China, Indo-China, Siam, and some of the islands which are situated between the Asiatic mainland and New Guinea.

Lordomyrma nobilis sp. nov

Worker, length about 3.2 mm.

Head, seen in front, distinctly longer than broad, exclusive of mandibles, approximately one and one-tenth times as long as broad, slightly narrower in front than behind, with feebly rounded sides, nearly straight posterior border and broadly rounded posterior corners; seen from above, posterior margin somewhat deeply excised to receive the neck. Frontal carinae distant from each other, the anterior portions almost parallel, each carina continued posteriorly as the mesal border of the prominent antennal scrobe. No frontal area or groove. Antennal scrobe very broad, almost attaining the postero-lateral portions of the vertex of the head, confluent anteriorly with antennal fovea, scrobe anteriorly divided by a short, weak, median longitudinal carinula into separate depressions for the scape and funiculus as in *L. cryptocera* EMERY. Clypeus in the middle high and convex between the antennal carinae, with two finely raised lines on each side, anterior border broadly rounded and entire, feebly sinuate on the sides. Eye situated anterior to the middle of the sides of the head, with about

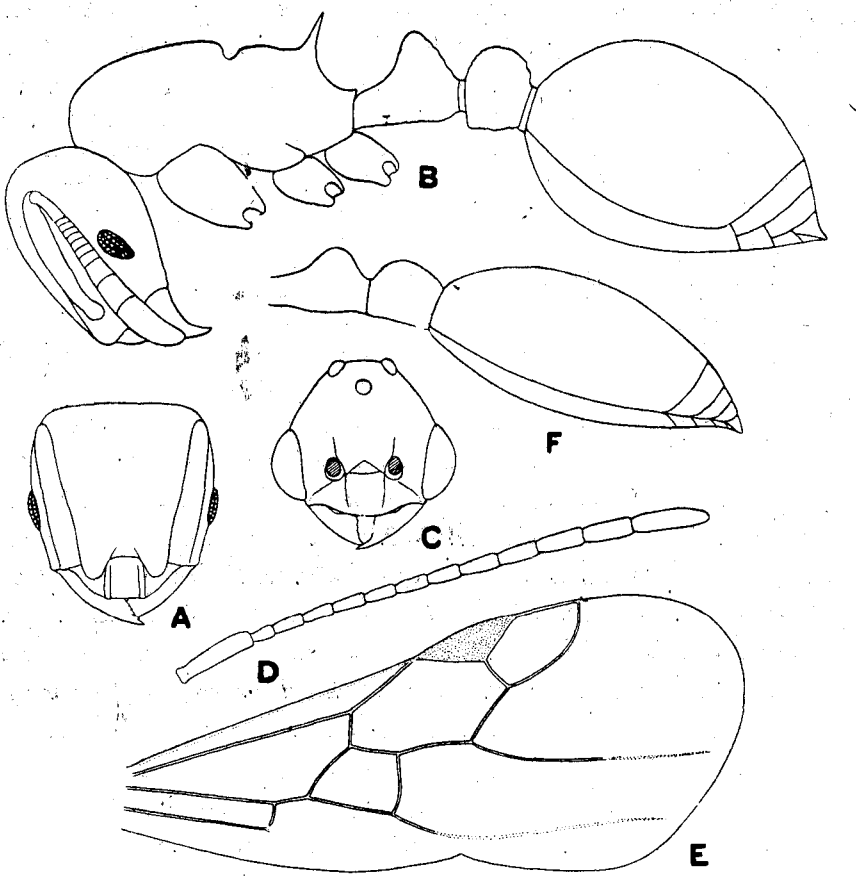

Fig. 2. *Lordomyrma nobilis* sp. nov.
A : Head of the worker, seen in front.
B : Worker, seen in profile.
C : Head of the male, seen in front.
D : Antenna of the male.
E : Fore wing of the male.
F : Petiole, postpetiole and abdomen of the male, seen in profile.
(A, B, C, D and F are drawn in the same scale)

7 facets in its longest diameter, slightly narrowed anteriorly, ending antero-ventrally in a more or less distinct angle. Distance between the base of the mandible and the lower margin of the eye distinctly more than the greatest diameter of the eye, that between the inner orbit of the eye and the posterior margin of the scrobe about as wide as the shortest length of the eye. Mandibles rather convex, thick, more deflected at the tip, with somewhat straight

external border, with 6—7 teeth, the 2 at the apex of the masticatory border stout, the 2 near the middle small, and the 2—3 near the base much smaller. Antennae 12-segmented; scape slightly incrassated distally, as long as the scrobe, about six-times as long as broad at the middle; funiculus gradually increasing in width, a prominent 3-segmented club which is distinctly longer than remainder of the funiculus, segments 2—7 narrow, but broader than long, segments 9 and 10 distinctly longer than broad, taken together, slightly shorter than the apical segment, which is twice as long as broad at the base and about twice as long as the preceding one, segment 11 slightly longer than the first segment of the funiculus. Promesonotum forming a hemispherical convex mass, slightly longer than broad, the humeri subdentate; seen from above, distinctly narrowed posteriorly, the suture between the pronotum and the mesonotum absent. Mesonotum behind falling abruptly to the pronounced mesoepinotal constriction. Epinotum, seen from above, almost as long as broad, parallel-sided; in profile, lower than promesonotum, with two very sharp, straight and long spines which are broad at the base and directed dorsally at a very pronounced angle; epinotum with anterior border neither feebly raised nor margined, dorsal surface slightly convex, not margined; its base, seen in profile, feebly convex, slightly longer than the sloping, feebly concave declivity. Metasternal angle on each side sharply pointed. Petiole longer than broad, about twice as long as broad at the widest portion, its peduncle comparatively long, distinctly narrower than the postpetiole, with the sides nearly parallel except the anterior and posterior portions; seen in profile, very slightly longer than high, with angularly pointed node, its anterior slope concave, its posterior slope almost straight, posterior border with raised margin, the ventral surface of peduncle without a carina. Postpetiole, seen in profile, subcircular in outline, with a weak tubercle on the ventral side; seen from above, subcircular in outline and slightly broader than long. Abdomen, seen in profile, as in *L. cryptocera* EMERY, but the basal portion of the basal tergite much more gently curved; seen from above, oval in outline, distinctly longer than the thorax, distinctly shorter than the thorax and petiole taken together, the first segment forming greater part of the gaster. Femora flexuous and incrassated in the middle.

Head, thorax, petiole and postpetiole for the most part reticulate; head sculptured with distinct longitudinal rugulae. Mandibles with a few scattered, piligerous punctures and several distinct, somewhat longitudinal striae near the base. Antennal scrobes, epinotal declivity and mandibles shining. Antennal scrobes minutely reticulate, epinotal declivity with some transverse rugulae. Clypeus smooth and shining. Middle of clypeus without any longitudinal rugulae except those at the lateral borders. Metapleurae with about four strong, longitudinal rugulae each. Fore coxae slightly reticulate, with somewhat minute, but a number of transverse rugulae. Abdomen not smooth but with sparse, piligerous punctures all over the surface.

Hairs moderately long, erect or suberect, covering all parts of the body, shorter and sparser on the legs and scapes, rather dense on the funiculi.

Dark piceous brown; appendages, the sides of the gaster and the apical margin of each abdominal segment lighter in colour.

Male, length about 3.2 mm., fore wing about 3.1 mm.

Head (excluding of mandibles), seen in front, much broader than long, broadly rounded behind, without posterior angles. Malar space very narrow. Clypeus much as in the worker. Front with a faint median longitudinal but not conspicuous carina. Distance between the insertions of the antennae very slightly longer than the postocellar line. Second antennal segment shorter than the third, which is distinctly less than twice as long as the second.

Pronotum visible from above. Mesonotum as broad as long, with a distinct median longitudinal carina anteriorly. Scutellum not very prominent. Epinotum sloping, armed with a pair of short spines beyond the middle. Petiole, seen in profile, about twice as long as high, node as long as peduncle; seen from above, more than twice as long as broad, very slightly diverging posteriorly. Postpetiole, seen from above, nearly square and as broad as long, broader than the petiolar node; seen in profile, very slightly longer than high. Eyes pubescent. Hairs finer and more oblique than in the worker. Very numerous on antennae and wings, which are unusually pubescent as in *L. leae* WHEELER.

Dark piceous brown, nearly black; clypeus, mandibles and appendages paler. Wings opaque brownish, veins and pterostigma brownish, venation like that of *L. punctiventris* WHEELER, but the discoidal cell is much larger. Body irregularly punctate-rugulose. Abdomen shining.

Habitat : Japan (Kyushu).

Holotype : worker, 6. viii. 1940, Mt. Hikosan, Kyushu, Japan, 650 m. in altitude, K. YASUMATSU leg.

Allotype : male, 21. iv. 1937, Beppu, Kyushu, Japan. Mr. T. TORIKATA leg.

Paratypes : two workers, 6. viii. 1940, Mt. Hikosan; two workers, 21. iv. 1937, Beppu.

Types are preserved in the Entomological Laboratory of the Kyushu University, Fukuoka. One paratype will be deposited in the United States National Museum, Washington.

This ant is a timid, slow moving species.

Lordomyrma cryptocera EMERY is very closely allied to *nobilis* in having the antennal scrobe anteriorly divided by a short median longitudinal carinula into separate depressions for the scape and funiculus, but differs in the following characters : eyes situated at the middle of the sides of the head; a transverse carina behind the mesoepinotal constriction; epinotal spines oblique and curved; posterior portion of the promesonotum and the basal portion of the epinotum both in the same level when the thorax is seen in profile.

While studying the descriptions of all the known species of the Genus *Lordomyrma,* I have noticed some generic characters which should be emended or added to the diagnoses made by EMERY and WHEELER. I append such characters as follows : worker caste—frontal area impressed, either distinct or indistinct (instead of "frontal area distinct, impressed"); male caste—eyes pubescent, epinotum either unarmed or armed with spines (instead of "epinotum unarmed").

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