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*Tirage à part*

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TRAVAUX DE L'INSTITUT PALÉOZOOLOGIQUE, T. II

V. POPOV

TWO NEW FOSSIL ANTS FROM CAUCASUS  
(HYMENOPTERA, FORMICIDAE)

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ДВА НОВЫХ ИСКОПАЕМЫХ МУРАВЬЯ С КАВКАЗА  
(HYMENOPTERA, FORMICIDAE)

WILLIAM L. BROWN

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TWO NEW FOSSIL ANTS FROM CAUCASUS (HYMENOPTERA,  
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[В. В. Попов. Два новых ископаемых муравья с Кавказа (*Hymenoptera*,  
*Formicidae*)]

Thanks to the kindness of Prof. Dr. A. B. Martynov I had the opportunity of studying the material concerning two fossil Miocene ants.

*Ponera* (?) *umbra* sp. n.

(Fig. 1)

Female. Head rectangular, longer than broad, with evenly rounded posterior corners and straight occipital border. Eyes rather large, situated one half of their width from the lateral margin of the head. Ocelli present. Mandibles rather large, their teeth, excepting the apical one, are indistinct. Scapus of antennae long and slender, reaching beyond the posterior corners of the head. Fore-wing large and rather broad. Pterostigma rather large. Radial cell <sup>1</sup> large, nearly reaching the apex of the wing. Costal cell narrow, rather long. So-called first cubital cell large, nearly as long as the medial cell, rather narrow and irregular in form. „Second cubital cell“, rectangular, shorter than the first and three times as long as wide. „Discoidal cell“ rather small and seems to be pentagonal. So-called inner part of „cubital vein“ is very long, nearly reaching the apex of the wing. Coxae of all pairs of legs long and narrow. Femora rather long and narrow, especially in the second pair of the legs. Tibiae rather short, not reaching beyond the <sup>2</sup>/<sub>3</sub> of the length of the femora. Abdomen rather large with clear segmentation, but of not very distinct structure between the first and second segments. Petiole as high as

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<sup>1</sup> I employed here the old nomenclature of cells and venation of the wings usual in mirmecological articles.

the first segment of abdomen and more than twice as long as its greatest width, slightly inclined forward.

Measurements: Length—6.25 mm; length of fore-wing—4.50 mm; length of head—1.50 mm; length of thorax—2.00 mm; length of abdomen—2.75 mm.

Described from a single specimen, a negative reprint in marly sandstone in the collection of the State Geological Committee, Leningrad.

This specimen was taken by Mr. A. N. Fedorov in the district Kurganskij, North-West Caucasus (province of Kuban), VIII, 1929 (received from A. N. Rjabinin).

The referring of this new species to the genus *Ponera* could not be accurately justified, because of its unsatisfactory preservation and the impossibility to recognize some of its morphological characters, f. i. spurs of the first and second pairs of legs, form of the funicular joints of the antennae. The exact venation of the fore-wing is also invisible, all the four wings being compressed together. Also quite indistinct is the limit of the fore- and hind-wings and the venation of the latter.

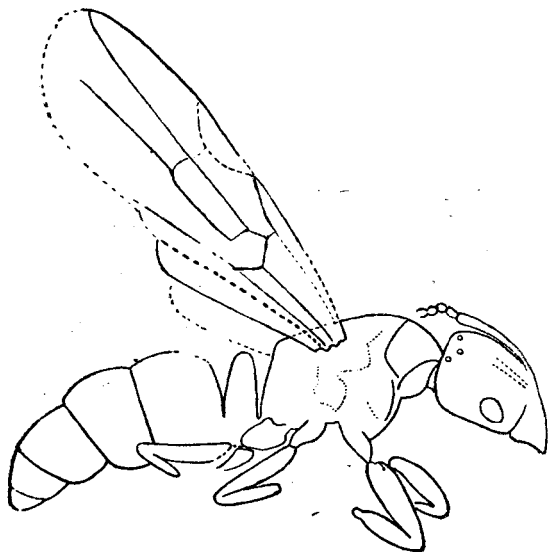


Fig. 1. *Ponera (?) umbra* sp. n. ♀.

The fossil ants of the genus *Ponera* were known a long time ago. They were described from the Baltic amber, Lower Oligocene, two species—*P. atavia* Mayr and *P. gracilicornis* Mayr; (Mayr. Beiträge Naturk. Preussens, herausg.

v. d. physik.-ökon. Ges. Königsberg, 1868, Bd. I; see also Wheeler. Schriften d. physik.-ökon. Ges. Königsberg, 1915, Bd. LV) from the Upper Oligocene of Oberbayern (Rott)—*P. renana* Meun. (Meunier. Verh. Kon. Akad. Vetensk. Amsterdam, (2), XX, I, 1917); from the Oligocene of the Isle of Whight—*P. hypolita* Cock. (Cockerell. Proc. U. S. Nat. Mus., 49, 1916) and *P. minuta* Donist. (Donisthorpe. Ann. Mag. Nat. Hist., 6, 1920); from the Lower Miocene of Croatia (Radoboj)—*P. (?) tenuis* Heer (Heer. Neue Denkschr. Allg. Schweiz. Ges. Naturw., 8, 22, 1867); from the Middle Miocene of Sicilia (amber)—*P. (?) leptcephala* Em. (Emery. Memor. R. Acc. Sc. Ist. Bologna, 5, V, I, 1892) and, finally, from the Upper Miocene of Croatia, Steiermark and Baden were described the five following species: *P. (?) croatica* Heer (Radoboj), *P. crassicornis* Heer (Parschung in Steiermark), *P. ventrosa*

Heer, *P. longaeva* Heer and *P. globosa* Heer, last three in Oeningen, Baden (Heer. Die Insektenfunde d. Tertiärgebilde von Oeningen und von Radoboj in Croatien, 1847).

The specimen of *P. (?) umbra*, sp. n. being of somewhat unsatisfactory preservation, I shall not be able to draw a careful comparison with all fossil species of the genus *Ponera*. It is a great pity also that the descriptions and figures given by Heer are not quite complete and satisfactory, but just Heer's species are the most interesting for such a comparison. However *P. (?) umbra* sp. n. may be distinguished by details of venation, the form of antennae and some other morphological characters.

The recent geographical distribution of the genus *Ponera* is mainly confined to tropical regions of the Globe. Yet, however, the most part of the recent species occur in the tropical region of the Old World and Australia, and in the tropical parts of America occur only few species of this genus. In the Palaearctic Region occur five species and their range encloses especially the south-western part of the region, and only two species — *P. coarctata* (Latr.) and *F. punctatissima* Rog. are distributed northward as far as the southern part of England and Germany (Donisthorpe. British Ants, London, 1927). In North America also one form is widely distributed reaching northward beyond the boundary of Canada. In our country are also occurring two species of *Ponera*, namely *P. coarctata* (Latr.) in the Caucasus and in the Crimea [Ruzskij. Trans. Soc. Natur. of Kazan University, vol. XXXVIII, 4—6, 1905 (in Russian); Karavajev (Karawajew). Traveaux Mus. Zool. Acad. Sc. Ukraine, 2, 1927] with the variety *lucida* Em. (Emery. Ofversigt Finske Vet. Soc. Förhandl., Bd. XX, 1898) known only from Lencoran and *P. eduardi* For. from the West-Caucasus [Karavajev (Karawajew). Konowia, Bd. V, 1926].

Thus, in the Oligocene and Miocene the genus *Ponera* was represented by a large number of species in the region where it may be looked upon as a relic element, which may have disappeared in the recent geological period. From this point of view, the earlier abundance of species in the region mentioned above, the occurrence of a new species from the Miocene of the Caucasus, belonging probably to the same genus — *P. (?) umbra* sp. n., is a fact of certain interest. It is necessary to note the numerous papers of Dr K. Arnoldi on Russian *Ponerinae* demonstrating their relic character.

#### *Lasius martynovi* sp. n.

Female. Head rectangular, longer than broad, a little narrower than the thorax, with evenly rounded posterior corners and right occipital border. Eyes oval, of moderate size, situated at the middle of the sides of the head. Mandibles rather large, triangular. Scapus of antennae long and slender as also its funiculus seems to be. Pterostigma rather large with short apex. Radial cell long and narrow; „cubital cell“ rather large, trapezoidal. Medial cell long,  $1\frac{1}{2}$  as long as the „cubital cell“. Discoidal cell not large and

irregular rhomboidal. Basal vein slightly curved, nervus recurrens strongly curved, medial vein curved strongly at its basal portion. Abdomen broad. Femorae and tibiae of all pairs of the legs rather long and slender.

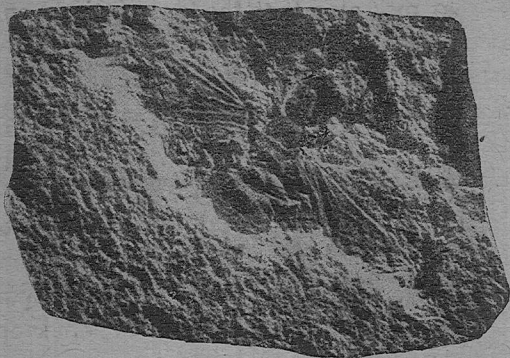


Fig. 2. *Lasius martynovi* sp. n., ♀. A photograph of the cast.

Measurements: Length of fore-wing till the apex of pterostigma—6.5 mm.; length of head—2 mm.; width of head—1.75 mm.; length of thorax—2.25 mm.; width of thorax—2.25 mm.

Upper Miocene (Lower Sarmatian). I have seen two specimens enclosed into clayey limestone taken by S. I. Iljin, 1928, № 297, at Ormety, district of Gory, on the bank of the river Supsa.

It is a great pleasure to me to name this new species after Prof. A. Martynov, zoologist of the Zoological Museum of the Academy of Sciences and a well known Russian palaeoentomologist.

The preservation of both specimens induces me to consider it a new species of the genus *Lasius*. The venation of them furnishes ground for such

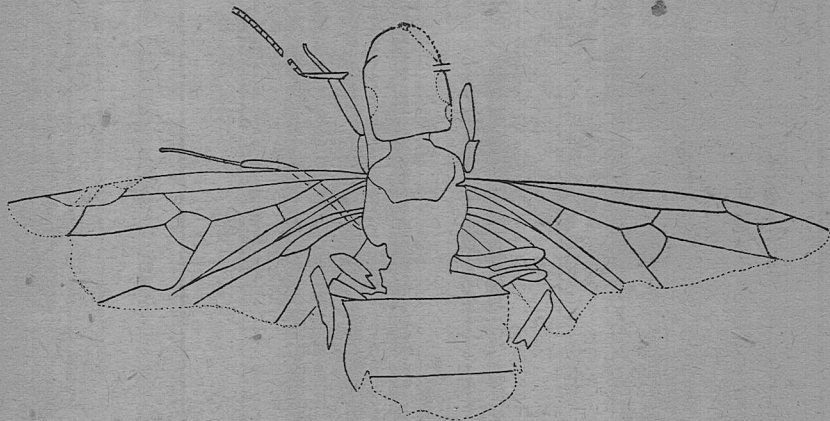


Fig. 3. A schematical view of *Lasius martynovi* sp. n., ♀.

a standpoint. Of all fossil ants of this genus we know more than twenty. *L. martynovi* sp. n. may be easily separated by the form and the size of their head and the details of the fore-wing.

I am much indebted to Prof. Dr. V. Karavajev, Kiev, who kindly examined the manuscript of the description of *P. (?) umbra* sp. n., and gave me some valuable indications.

## РЕЗЮМЕ

Автор описывает два новых вида муравьев из миоценовых отложений Кавказа.

*Ponera (?) umbra* sp. n. Вид устанавливается только по одному негативному отпечатку плохой сохранности, добытому А. Н. Федоровым в Курганском районе, северо-восточный Кавказ (б. Кубанская область). Плохая сохранность и невозможность точного выяснения жилкования, — (все четыре крыла наложены друг на друга), — не позволили автору точно установить род. Наиболее вероятной все же кажется принадлежность этого вида к роду *Ponera*. Если это предположение подтвердится, то нахождение нового ископаемого вида из рода *Ponera* представляет некоторый интерес с точки зрения прежнего большего видового разнообразия в Палеарктике рода, теперь представленного небольшим количеством видов и имеющего здесь ясно выраженный реликтовый характер.

*Lasius martynovi* sp. n. описывается по двум достаточно удовлетворительно сохранившимся экземплярам, добытым С. И. Ильиным из нижне-сарматских отложений Абхазии (Орметы, Горийского района). Нахождение нового ископаемого муравья, относимого к этому обширному и широко распространенному роду, не является неожиданным. Интерес этой находки, как и предыдущей, в том, что это вообще первые экземпляры ископаемых муравьев из пределов нашего Союза.

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