

## The Species of the Family Methocidae (Hymenoptera) in the Carpathian Basin

By

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The family of Methocidae comprises wasps with a particularly marked sexual dimorphism. While the male has kept its primitive type of organism, normally formed thorax and fully developed wings, in the female the reduced wings caused a transformation of the thoracic segments. The presence of the anal thorn in the male induced many authors to include this group of insects in the family of *Tiphidae*. However, the comparatively perfect nervure of the wings in the male, the apterism in the female, the proximity of the median hips, the number of tibial spurs 1-2-1 in the male and 1-1-1 in the female are quite different in these wasps from those belonging to the family of *Tiphidae*. Their representatives are parasites of coleopter larvae belonging to the family of *Cicindelidae*.

The single genus known in Europe, and mentioned in the literature is *Methoca* LATR. By KROMBEIN (1951) preference is given to the name *Methoca* LATR., since in LATREILLE's study both names are alternatively used. Similarly KROMBEIN prefers the denomination *Methoca articulata* to that of *Methoca ichneumonides* LATR.

In the fauna of the Carpathian Basin, as well as in whole Europe, the family Methocidae is represented only by the above mentioned species. Data referring to the distribution of this species are found in the studies of MOCSÁRY (1881, 1897), SZILÁDY (1914), MÓCZÁR (1938-39), BAJÁRI & MÓCZÁR (1954), and BAJÁRI (1956). Referring to the biology of *articulata* in the Carpathian Basin, and to the systematics of the occurring forms, data may be found in HOFFER's work (1938).

Judged by collected specimens belonging to a new species, we consider the fauna of the Carpathian Basin consisting of the following components:

- 1 (4) Wings fully developed. Males.
- 2 (3) Size small (6.5 mm), vertex from its ventral side slightly concave between the posterior ocelli. Basic segment of radial vein shorter than the median segment.

*M. sisala* n. sp.

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3 (2) Size somewhat larger (7–15 mm). The vertex markedly convex on its ventral side between the posterior ocelli. Basic segment of radial vein longer than the median segment.

*M. articulata* LATR.

4 (1) Wings are missing. Females.

5 (6) Size small (4.5–5 mm). Mesoscutum shorter than half of the scutum.

*M. sisala* n. sp.

6 (5) Size bigger (6–11 mm). Mesoscutum longer than half of the scutellum.

7 (8) Entire thorax and legs red.

*M. articulata articulata* LATR.

8 (7) Thorax and legs nearly integrally black.

9 (10) Entire thorax and legs black.

*M. articulata obscura* HOFF.

10 (9) Dorsal side of the pronotum and median part of the propodeum reddish brown.

*M. articulata nigrescens* HOFF.

In the subspecies *obscura* HOFF. and *nigrescens* HOFF. males are as yet unknown.

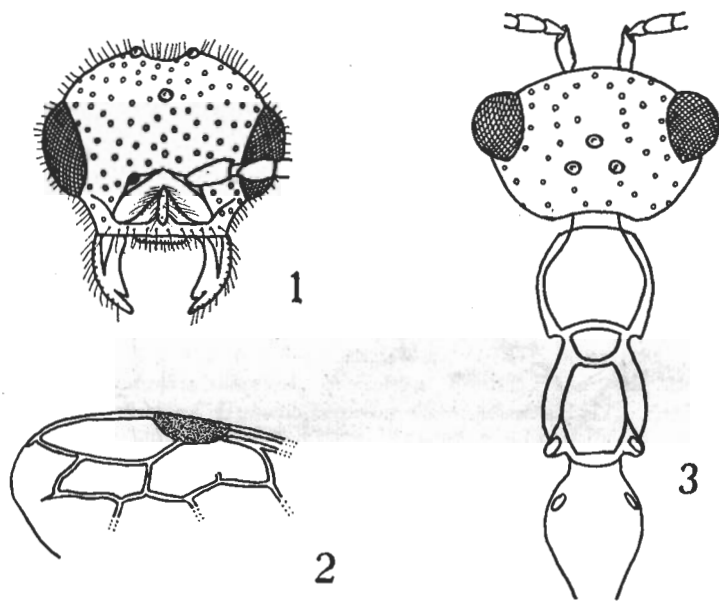
### *Methoca sisala* n. sp.

(Figs. 1–3)

♂ — Length of the body 6.5 mm. Body black, legs, tegulae, and the nervure of the wings are chestnut-brown; top of the mandibles reddish. The whole body is covered with white, rather long pubescence. Head very short and wide, wider than long. Vertex between the posterior ocelli lightly concave, shining, with sparse punctures between the ocelli and the internal margin of eyes. Clypeus with shining median prominence; the anterior lobe is straightly cut. Ratio of the first four antennal segments about 2:1:2:3. The ocello-ocular line is 1.5 times longer than the width of the ocellar triangle. The forehead more densely punctuated, the spaces between the punctures being equal with the diameter of one of them. The propodeum looks like a wrinkled net with big, confused carinas with a median, longitudinal one most conspicuous; wings hyaline. Basic segment of radial veins smaller than median one. For this reason the radial cell is short, scarcely 2.5 times longer than wide. Legs are densely covered with pubescence, middle and hind tibiae equipped with minute spires. Abdomen shining, with fine, microscopical punctuation on the tergites, and apical two-thirds of the sternites, while on the basic part of the punctures are nearly in contact. Last segment pointed, the anal spine is curved upwards. Genitalia not examined.

♀ — Length of the body 4.5–5 mm. Body black and shining; mandibles, clypeus, the first three segments of the antennae entirely, central part of the remaining segments, mesoscutum, segments of the legs, tarsi, and the apex of the abdomen reddish brown. The whole is sparsely covered with white pubescence. Dorsal side of head is approximately as long as wide (eyes included), sparsely punctuated. Ratio of the first four segments of the antennae about 2:1:1.5:2. The ocello-ocular line is two times longer than the width of the

ocellar triangle. Thorax shining, without any punctuation; pronotum laterally vaulted; mesoscutum shorter than half of the scutellum. Scutellum in its lateral aspect flattened, not more prominent than the propodeum. The propodeum is narrower than the pronotum; metapleura striped askew. Legs sparsely covered with pubescence, middle and hind tibiae with 5-6 minute spines. Abdomen shining, with fine, microscopical punctuation, punctures covered with pubescence. The abdomen is as wide as the head, last abdominal segment having a more dense pubescence.



Figs. 1-3. *Methoca sisala* n. sp. 1: Head of ♂, frontal. 2: Area of the radial cell, ♂. 3: Head ant thorax, ♀

**Holotype:** 1 ♂ collected with the female on the surface of the soil in the forest of Băile Felix (in the neighbourhood of Oradea), 18. VIII. 1965 (C. NAGY).

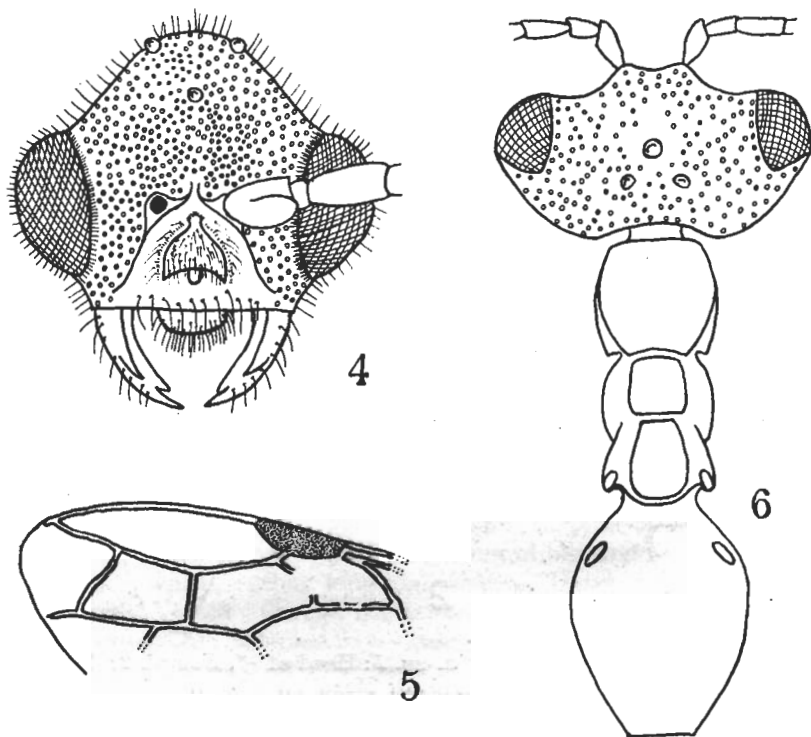
**Allotype:** 1 ♀ with same data as type.

**Paratypes:** 9 ♀♀ in the above mentioned forest, collected 22. VIII. 1965 and the 20. VIII. 1966 (C. NAGY). All the types are in the collection of the author, one paratype in the Natural History Museum "GR. ANTIPA" of Bucharest.

**Remarks:** This species is readily distinguishable from the two species known from the palearctic region, *M. articulata* LATR. widely spread in the whole region, and *M. picipes* MORAW. known only from Turkestan, by the following characters: small size, dark body, very shining and sparsely punctuated tegument, form of the head of the radial vein of male.

*Methoca articulata articulata* LATREILLE, 1804

HOFFER (1938) established for the nominate subspecies a form characterised by thorax and legs entirely red in the female, a single specimen of which had been found in the neighbourhood of Orsova, 7. VII. 1963 (C. NAGY). No male specimens were found in this part of the Carpathian Basin, and for this reason we consider the males collected by us belonging to the following subspecies.



Figs. 4-6. *Methoca articulata nigrescens* HOFF. 4: Head of ♂, frontal. 5: Area of the radial cell, ♂. 6: Head and thorax, ♀

*Methoca articulata nigrescens* (HOFFER, 1938) n. comb.

(Figs. 4-6)

HOFFER (l. c.) described a form of the fauna of Czechoslovakia characterised by its rather dark thorax and legs. We could ascertain that beside this difference it shows a significant difference in geographical distribution, too. While the nominate subspecies is characteristic for the fauna of Southern Europe, this subspecies belongs to the fauna of Central and Northern Europe. Thus, for instance while the subspecies *articulata* had been found in Roumania in the plains under Mediterranean influence, the subspecies is spread in the northern zone of hills and high mountains. The specimens preserved in the collections of the Natural History Museum Bucharest and those of the Museum Brucken-

thal of Sibiu originating from different parts of the Carpathian Basin, belong all to the subspecies *nigrescens* HOFF. as my examinations proved it.

The form *obscura* HOFF. not examined had been only temporarily included.

#### ZUSAMMENFASSUNG

*Die im Karpatenbecken vorkommenden Arten der Familie Methocidae (Hymenoptera)*

Vorliegende Arbeit erörtert die im Karpatenbecken vorkommenden Arten der Familie Methocidae (Hymenoptera). Diese sind: *Methoca articulata* LATREILLE, 1804 — mit der typischen Unterart und der Unterart *nigrescens* (HOFFER, 1938) n. comb. —, sowie eine für die Wissenschaft neue Art, *Methoca sisala* n. sp. Die neue Art läßt sich von den beiden bekannten paläarktischen Arten des Genus leicht unterscheiden, und zwar dadurch, daß ihr Körper klein und dunkelfarbig, das Integument glänzend und schütter gepunkt, ferner die Radialader am Flügel des Männchens charakteristisch ausgebildet ist.

Verfasser gibt auch den Bestimmungsschlüssel der *Methoca*-Arten bzw. Unterarten des Karpatenbeckens an.

#### REFERENCES

1. BAJÁRI, E. & MÓCZÁR, L.: *A Methocidae, Myrmosidae és Mutillidae családok faunakatalógusa* (Cat. Hym. V.). Folia Ent. Hung., 7, 1954, p. 65—80.
2. BAJÁRI, E.: *Törösdarázs alkatiak, Scolioidea*. Fauna Hung., 13, 1956, p. 1—35.
3. HOFFER, A.: *Prodromus Hymenopterorum Cechoslovakiae, II. Fam. Methocidae*. Sbornik Entom. Odd Nár. Mus. Prague, 16, 1938, p. 174—175.
4. KROMBEIN, K. V.: *Studies in the Tiphidae*. Ent. Soc. Wash. Proceedings, 51, 1949, p. 45—73.
5. KROMBEIN, K. V. in MUESEBECK, KROMBEIN & TOWNES: *Hymenoptera of America North of Mexico. Synoptic Catalogue*. U.S. Dept. Agric. Monogr., 2, 1957, p. 1—1450.
6. MOCSÁRY, Al.: *Faunae Heterogynae Hungaricae*. Math. Természettud. Közl., 17, p. 1—93.
7. MOCSÁRY, Al.: *Hymenoptera*. In: *Fauna Regni Hungariae*, 1897, p. 1—113.
8. MÓCZÁR, L.: *Beiträge zur Kenntnis der Hymenopterenfauna des Kudsir Hochgebirges*. Ent. Rdsch., 55, 1938, p. 677—679; 56, 1939, p. 49—52.
9. NAGY, C. GH. & STAMP, H. M.: *Katalog der Heterogyniden (Hymenoptera) aus der Sammlung des Bruckenthalmuseums in Sibiu*. Folia Ent. Hung., 19, 1966, p. 491—500.
10. SZILÁDY, Z.: *Magyarországi rovargyűjtésem jegyzéke*. Rovartani Lapok, 21, 1914, p. 78—95.