

Review of the *Myrmecaelurus (Nohoveus) zigan* Group (Neuroptera, Myrmeleontidae), with Description of a New Species from Armenia*

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Abstract. A review of the *Myrmecaelurus (Nohoveus) zigan* groups, including 3 species, one of which is a new species: *M. (N.) armenicus*. Anatomical figures are included for all 3 species.

Key words: Neuroptera; Myrmeleontidae; *Myrmecaelurus* (systematics; new species)

At present, the genus *Myrmecaelurus* Costa, 1855 includes approximately 60 Palearctic species. In the subgenus *Nohoveus* Navás, 1919, the principal characters of which are narrow wings, absence of a gradate series in apical field of hindwing, short abdomen in ♂s (shorter or slightly longer than hindwing), arcuate coxopodite in ♂, the closely related *Zigan* group is set apart; it includes *M. zigan* Asp., Asp., and Hz. and 2 species that until now were considered 1 species, *M. atrifrons* Hz. In this work, based on materials from the Zoological Institute, Russian Academy of Sciences (SPb), the *Zigan* group is described with the new species, *M. armenicus* sp. n. The type material is deposited in the Zoological Institute, RAN.

Myrmecaelurus (Nohoveus) zigan group, gr. n.

Type species *Myrmecaelurus zigan* Aspöck, Aspöck, & Hölzel, 1980. *M. atrifrons* Hz. and *M. armenicus* sp. n. are sympatric with the type species in the peripheral parts of its range.

The distinctive characters of the group are as follows: predominance of dark over pale sections in wing vein coloration; presence of brown interantennal spots; long ectoprocts in ♂ projecting beyond abdominal margin; especially long white hairs on abdominal tergites I-IV in ♂.

Myrmecaelurus (Nohoveus) zigan Aspöck, Aspöck, & Hölzel, 1980 (Figs. 1, 4).

Myrmeleon punctulatum Steven in Waldheim, 1846: 49 (nom. praeocc.).

Myrmeleon punctulatus: Hagen, 1858: 126

Myrmecaelurus punctulatus: Esben-Petersen, 1918: 121; Luppova, 1961: 203; Zeleny, 1964: 323; Aspöck & Aspöck, 1969: 34; Kis, Nagler, & Mandru, 1970: 331.

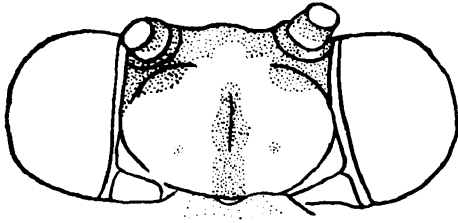
Nohoveus punctulatus: Navás, 1919: 169; Kis, 1959: 341; Hölzel, 1969: 286; 1970b: 116; 1972: 18.

Löveus punctulatus: Navás, 1920: 29.

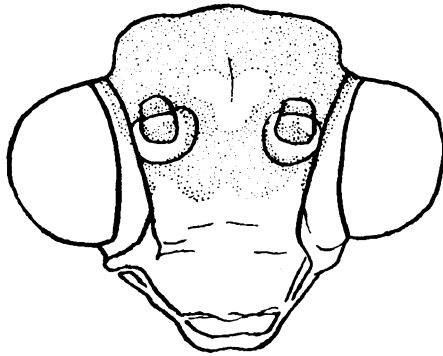
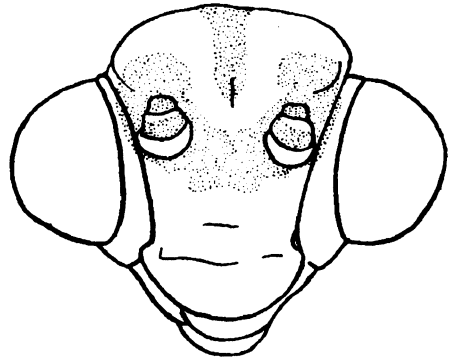
Myrmecaelurus (Nohoveus) zigan Aspöck, Aspöck & Hölzel, 1980: 288 (nom. n.); Zakharenko, 1986: 85; Makarkin, 1987: 76.

Material. More than 200 spms. from Romania, Ukraine (Odessa, Nikolayevsk, Kherson Provs.)

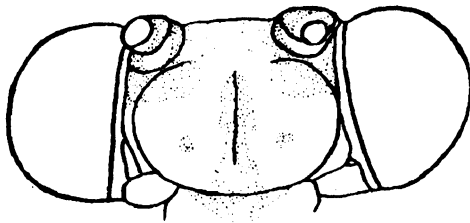
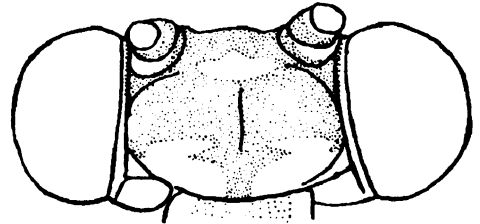
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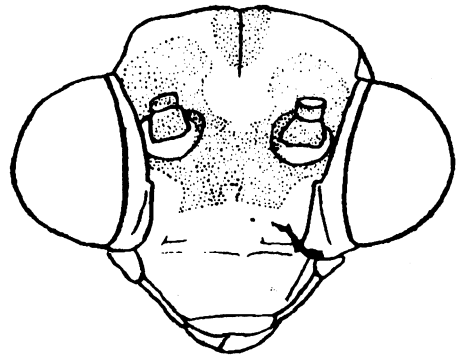
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3



Figs. 1-3. *Myrmecaelurus* Costa. Head markings. 1) *M. zigan*,
2) *M. atrifrons*, 3) *M. armenicus*.

Georgia, Armenia, Azerbaijan, Russia (Dagestan, Kalmykia, Tatarstan, Astrakhan Prov.), Kazakhstan (Atyrauskaya, Ural, Aktyubinskaya, Turgay, Shymkent, Dzhambul'skaya, Alma-Ata, Zheskazganskaya, Taldy-Kurganskaya, Semipalatinsk Provs.), Turkmenistan (Balkanskiy, Dashvuzskiy vilayets), Uzbekistan (Karakalpakiya, Burkhara Prov.), Tajikistan, Mongolia (Bayan-Ulegeyskiy and Kobdoskiy aymaks).

Distribution. Albania, Hungary, Romania, Ukraine, Georgia, Armenia, Azerbaijan, Dagestan, Kalmykia, Tatarstan, Astrakhan Prov., Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan, Buryatia (?), Mongolia.

Myrmecaelurus (Nohoveus) atrifrons Hölzel, 1970 (Figs. 2, 5).

Myrmecaelurus atrifrons Hölzel, 1970a: 248; 1970b: 116; 1972: 18.

Material. More than 40 spms. from Mongolia (Kobdoskiy, Ubsunurskiy, Gobi-Altayskiy, Bayan-Khongorskiy, Khubsugul'skiy, Yuzhno-Gobiyskiy, Tsentral'nyy, Vostochno-Gobiyskiy aymaks); China: 1 ♀, Ala Shan Mts, 15.VI-15.VII.1871, Przheval'skiy; 4 ♂s and 8 ♀s Bain-Khuduk, Ala Shan, 8-9.VII.1908; 1 ♀, 9-13.VII.1908, P. Kozlov; 1 ♀, S. Ala Shan, Darbakhay Well, 6-8.VII.1908, P. Kozlov; 1 ♂, 2 ♀s, Chzhunvey, Nan Shan foothills, 7.VII.1908, P. Kozlov; 1 ♀, ? E. Tsadam, VII.1901, P. Kozlov; Russia: 1 ♀, Altay, Barnaul, 3.VIII.1981, K. Sedykh; 1 ♀, Tuva, 10.VII.1956, Ye. Pridantseva; 1 ♂, Buryatia, Durena, Troitskosavskiy Distr., 12.VII.1924, B. Vinogradov; 1 ♀, same locality, 25.VI.1925; 1 ♀, same locality, 1.VI.1925, Mikhno; 1 ♂, Troitskosavsk (Kyakhta), 11.VII.1928, Luk'yanovich; 1 ♂, Lake Baykal, 4.VII.1902, Korotnev.

Distribution. Mongolia, China!, Russia!: Buryatia, Altay. Indications of records in Turkey and Iran (Hölzel, 1970b, 1972) evidently refer to the next species.

Myrmecaelurus (Nohoveus) armenicus Krivokhatsky, sp. n. (Figs. 3, 6).

Holotype: ♂, Armenia, steppa pr. Echmiadzin, 27.VII.1925; paratypes: 1 ♂, Armenia, val. Araxis, pr. Davain, 24.VI.1928; 1 ♂, Karabakhlar, Vedi, 29.V.1960, G. Dlusskiy, 1 ♂; Vedi, 12.VII.1961, D. Panfilov.

Medium-sized, forewing length 25 mm, hind 22.5, abdomen length 22 mm.

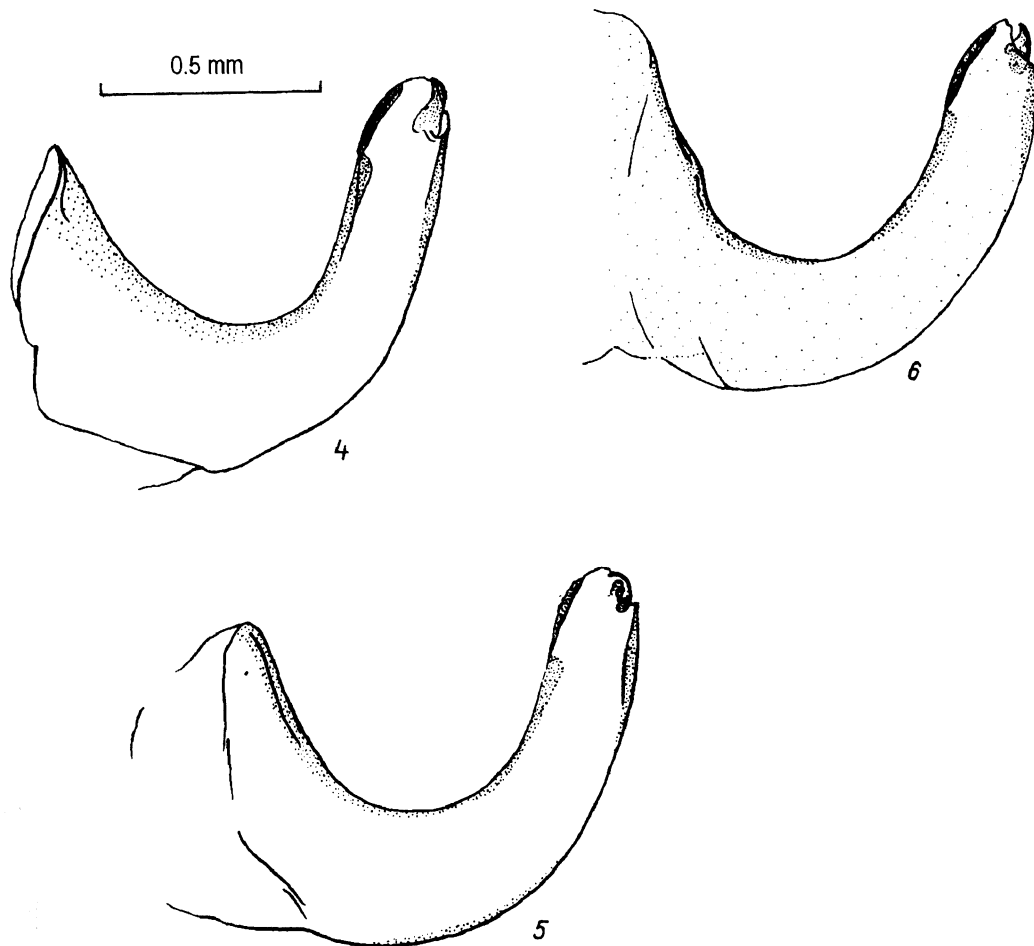
Head yellow, with wide brown interantennal spot, with round spots behind antennae and longitudinal dark band with 2 punctations along sides. Clypeus, frons, and vertex with sparse short dark hairs. Antennae brown, with paler club. 1st segment of scape with yellow annulus. Palpi yellow, 2nd and 3rd segments of maxillary palpi with brown annuli, 4th entirely brown. Ultimate segment of labial palpi almost entirely brown, with fusiform thickening and flattened, expanded, and weakly notched tip. Sensory pit weakly defined.

Prothorax yellow, with 3 longitudinal brown bands (lateral bands not reaching tip of prothorax), with erect white hairs and setae. Pattern continuing on meso- and metathorax; prescutum and apical part of scutum of metathorax basically brown. Cervical sclerites brown.

Legs yellow. Forecoxae with brown spot basally, all femora with longitudinal lateral brown bands. Spurs a little longer (on hindtibiae a little shorter) than 1st tarsal segment. 5th tarsal segment of all legs only slightly shorter than segments 1-4 combined.

Wings narrow, with rounded apex, hyaline, membrane without shadows. R and CuP+A₁ on forewing, C, Sc, R, RS₁+Ma, MP₂ on hindwing mostly brown. Other longitudinal veins yellow, with dark punctations. Most crossveins at least partially brown. Venation typical of *Myrmecaelurus*: in presectoral field of forewing 6 (8 on right wing), and 5 crossveins on hindwing. Pterostigma well defined.

Abdomen yellow with dorsal and 2 lateral brown bands. Sternites almost entirely yellow. Abdomen with white hairs, longest, dense, and protruding on tergites I-VI. Abdominal tergites VI and VII with 2 pairs of pale brown compact hair combs. Ectoprocts projecting beyond abdominal margin, cylindrical; genitalia as in Fig. 6, coxopodite arcuate.



Figs. 4-6. *Myrmecaelurus* Costa, ♂ genitalia: 4) *M. zigan*,
5) *M. atrifrons*, 6) *M. armenicus*.

♀ not known. Paratypes resembling holotype in size and coloration. 1 ♂ from Vedi with small pale brown punctations along clypeal margins (Fig. 3); other individuals with weak darkening where punctations occur.

Diagnosis. The species is close to *M. atrifrons* and *M. zigan*, differing from the former in markings on head and in even coloration of MP_2 on hindwing; differing from the second species, which it resembles in head markings, in absence of shadows on membrane in costal field of forewing. Difference in structure genitalia not noted.

Most likely, specimens from Anatolia and Iran captured on the Armenian border (Täbris and Dogubayazit) or more to the west (Karapinar) and identified by Hölzel (1972) as *M. atrifrons* belong to the described species.

Distribution. Southern Armenia, Iran?, Turkey?

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