

Preliminary report on the larva of *Myrmecaelurus zigan* ASPÖCK, ASPÖCK et HÖLZEL, 1980 (Planipennia: *Myrmeleonidae*)

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ABSTRACT: Larvae *Myrmecaelurus zigan* has been unknown so far. The authors summarize the taxonomical and record datas of two *Myrmecaelurus* species occurring in Hungary. They present the drawing, description and differential signs of *M. zigan* larvae. It is concluded that *M. zigan* is growing for two years and it constructs its pit-fall trap to the stock of the grass, directly on sandy surface.

INTRODUCTION

Two species occur in the *Myrmecaelurus* genus, the Hungarian *Myrmeleonidae* fauna, as follows: *Myrmecaelurus trigrammus* PALLAS, 1781 and *Myrmecaelurus zigan* ASPÖCK, ASPÖCK and HÖLZEL, 1980.

The *M. trigrammus* is a holomediterranean faunistical element ASPÖCK et al, (1980). European spreading of this species can be observed mainly on mediterranean areas. Population in Hungary is considered the northeast part of its distribution area. Spreading in Hungary is present on Fig. 1. From taxonomical point the European population belongs to the basic type. In Asia Minor and Central Asia - which are the Eastern distribution areas - *Myrmecaelurus trigrammus derbendicus* HÖLZEL, (1972) subspecies occur.

The *M. zigan* species were first described in 1846 by STEVEN in FISCHER v. WALDHEIM, as *Myrmecaelurus punctulatus*, but as this name proved to be homonym, the species was called *M. zigan* by ASPÖCK et al in 1980. It is a mongol-eremial faunistical element ASPÖCK et al (1980). Its hungarian population is the west limit of its distribution area. The distribution area is from the lowlands in East Europe until Mongolia. Its locality can be seen on Fig. 2.

The larvae of *M. trigrammus* have been studied and well-know by great number of authors. BRAUER (1867) has given a brief description. REDTENBACHER (1883, 1884) described the larvae but there are some inexactness in his description. BIRO (1885) presented a discription in hungarian language. STEFFAN (1975) and WILLMAN (1977) have described the morphological characters of the larvae. GEPP and HÖLZEL (1989) summarize the data of ant-lion and their larvae occurring in Central Europe. According to these data it can be concluded that the closeness of apical tooth on the mandibula to the next tooth is typical for larvae of *Myrmecaelurus* genus and different from the other genus. A chitin bristle, too, can be between the teeth. The larvae macroscopically are similar to larvae of *Cueta beieri* HÖLZEL (1969) but this species does not occur in Hungary. The differential marks between the larvae are presented by WILLMANN (1977).

Larvae of *Myrmecaelurus zigan* has been unknown so far. The experts collected *Myrmecaelurus* larvae (and-lion larvae) and breded imagos to study and find the difference between the species.

Experimental materials were collected in Bulgaria and Hungary as well as the Soviet Union and Hungary for *M. trigrammus* and *M. zigan*, respectively. Larvae were grown for two years.

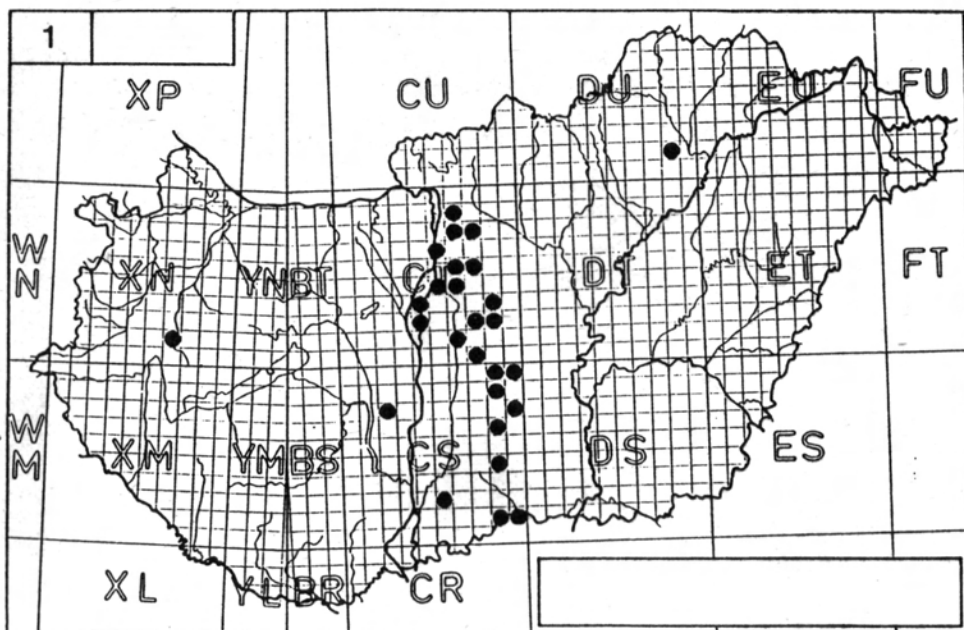


Fig. 1. Distribution of *Myrmecaelurus trigrammus* in Hungary - A *Myrmecaelurus trigrammus* elterjedése Magyarországon.

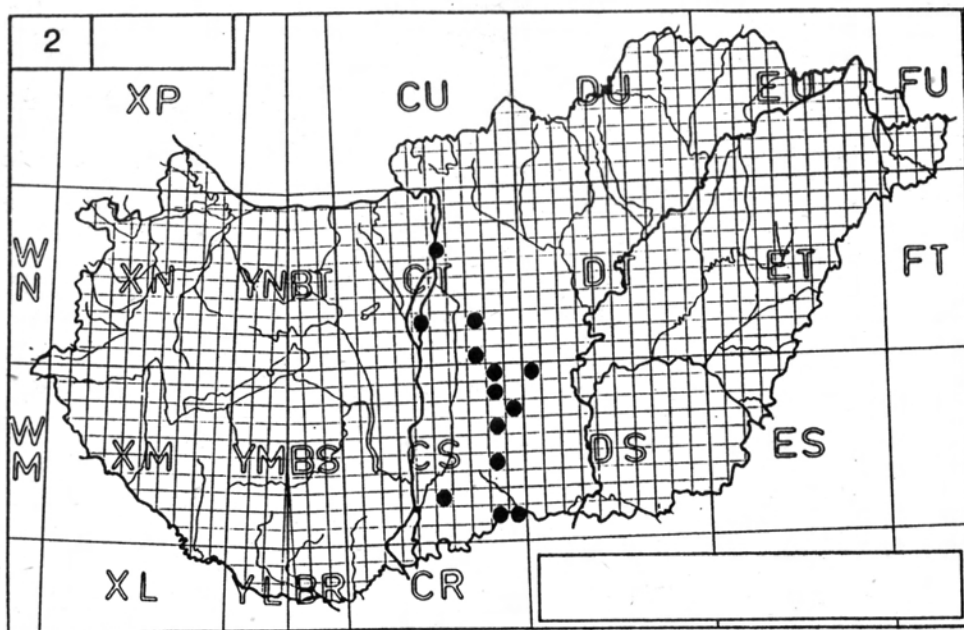


Fig. 2. Distribution of *Myrmecaelurus zigan* in Hungary - A *Myrmecaelurus zigan* elterjedése Magyarországon.

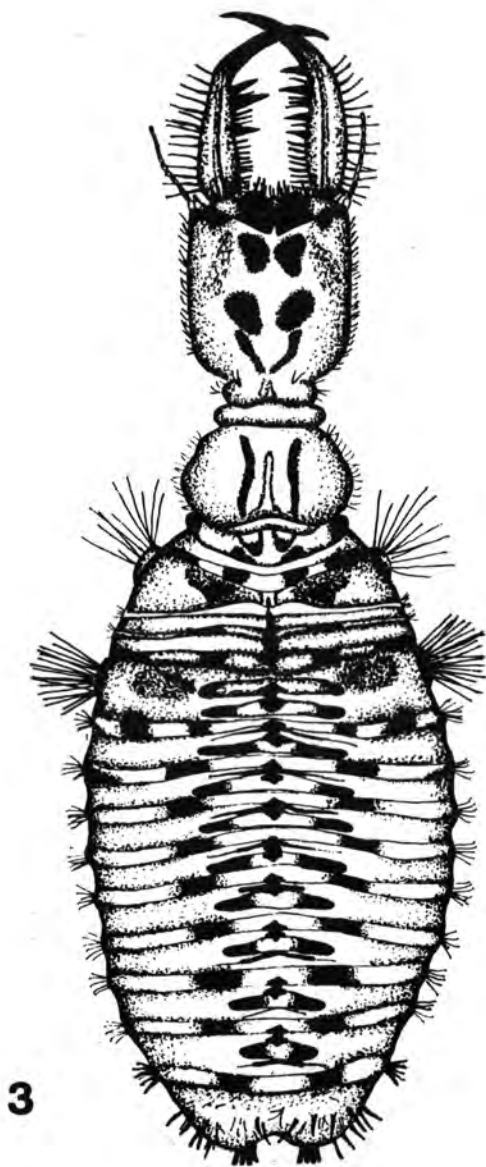


Fig. 3. The habitus of larva of Myrmecaelurus zigan - A Myrmecaelurus zigan lár-
vájának habitusa.

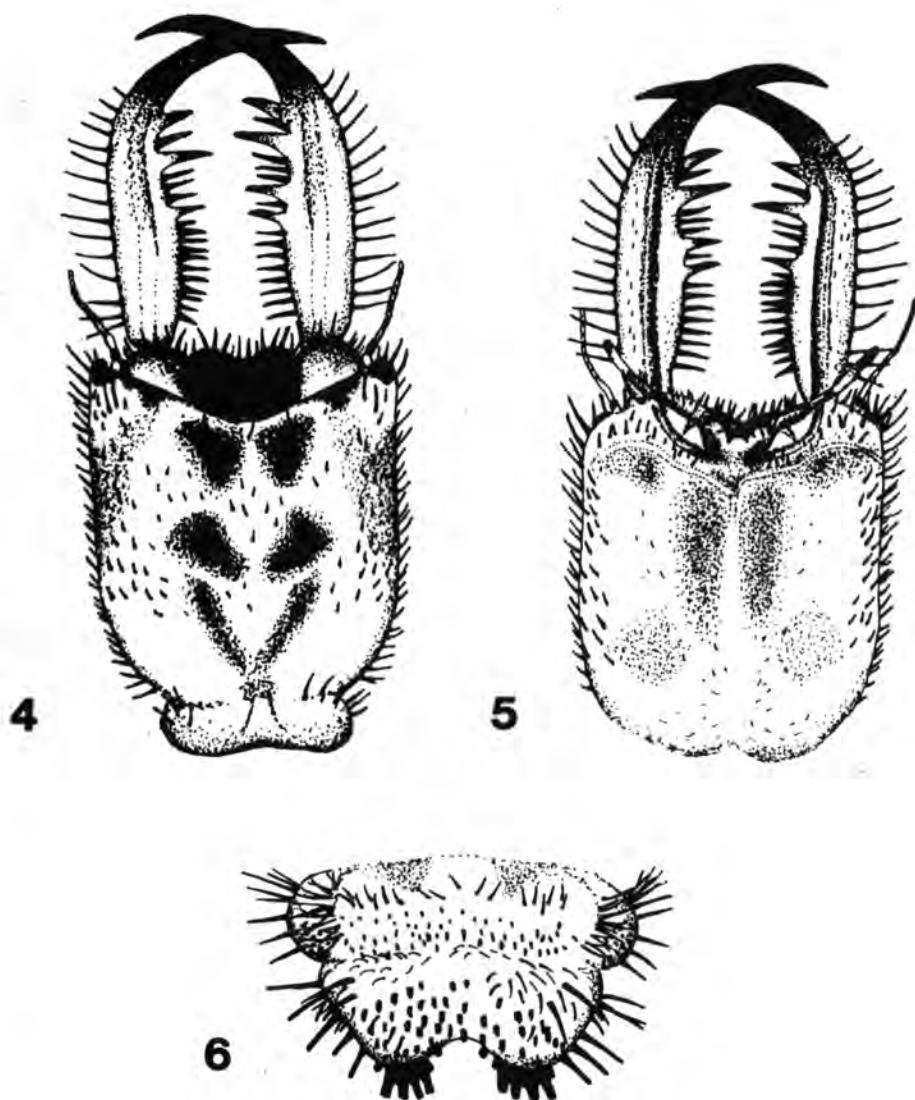


Fig. 4-5. Spots of head in M. zigan Fig. 4. dorsal side, Fig. 5. ventral side -
 Az M. zigan fejének foltozata 4. ábra dorsalis oldaltól 5. ábra ventralis ol-
 daltól.

Fig. 6. 8th and 9th abdominal sternites of larva of M. zigan - A M. zigan lár-
 vájának 8. és 9. sternit lemeze.

CHARACTERIZATION OF MYRMECAELURUS ZIGAN LARVAE:

Length of larvae: 10,5 mm. Length of mandibula: 2 mm. Joint length of head and mandibula: 3,5 mm. Head is 1,5 times longer than wide. The apical and second tooth on the mandibula are close to each other, there is a (probably 2) bristle between them. The scapus is light, the pedicellus is dark, the size of antenna is decreasing from the first segment, its colour is as same as the basic colour.

The stock of mandibula and its 1/3 outer part are dark brown. Fig. 4-5. show the spots and spinosity of dorsal and ventral side respectively. The pigmentation on the dorsal side of head is not contourous, it is dark brown. Spots on the ventral side is light brown. Bristles on the head are black. The head and body are ochre (basic colour). There are two dark stripes on the pronotum. The middle stripe on the abdomen is dark. The scleritum anale on the sternite IX. consists of 4 larger and 1 or 2 smaller spina analis. The smaller ones are on the side of the bigger ones (see M. trigrammus scleritum anale by STEFFAN, 1975).

SOME PIECES OF INFORMATION ABOUT THE LARVAE

Larvae of both species can most easily be collected from the pits. The M. trigrammus larvae have transitional living habit among the larvae constructing pits and hunting on the sand surface BIRÓ, (1985). BRTEK (1961) and POPOV (1984) found that the young larvae construct pits, too, both the older ones hunt on the sand surface moving toward and forward. ASPÜCK, (1964) calls the species constructing pits and freely hunting as "facultative constructors of pits". According to our observations the older larvae of M. trigrammus, also, construct pits.

So far M. zigan larvae have been found only in pits. There is some difference between the location of pits of the species. In Hungary both species construct their pits on area covered with plants in 60-80 %, mainly in the Natural Park of Kiskunság. Pits of M. trigrammus larvae can be found mainly on the middle part of a sandy surface surrounded by Festuca of other type of grasses, but M. zigan usually construct their pits very close to the stock of the grass, on the open area.

Előzetes beszámoló a Myrmecaelurus zigan ASPÜCK, ASPÜCK et HÖLZEL. 1980 lárvájáról

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Az M. zigan lárvája ismeretlen volt. Ez a faj mint az elterjedési térképe is mutatja, hazánkban a Kiskunság homokos vidékein él. Myrmecaelurus lárvákat gyűjtöttünk és neveltünk ki imágókat, hogy megállapítsuk a különbséget a hazánkban előforduló két Myrmecaelurus faj lárvája között. Az M. zigan larva feji mintázata felülről és alulról is jelentősen különbözik az M. trigrammus fejrajzolatától. A mandibulán az apicális és a mellette lévő fog közelsége a genuszra jellemző bélyeg az M. trigrammus esetében nincs köztük kitin túske, míg az M. zigan esetében található egy ritkán két kitintúske. A potroh végi függelékekben (scleritum anale) is különbözik. Az M. trigrammus-nál csupán négy kiálló fog található ezen a lemezen, addig az M. zigannak a négy foga mellett egy vagy két apróbb, kisebb foga is látható.

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