A Key to the Palaearctic *Mesocoelopus*, with Description of a New Species (Col., Anobiidae)

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Abstract

ISRAELSON, G. A key to the Palaearctic *Mesocoelopus*, with description of a new species (Col., Anobiidae). — Ent. Tidskr. 97: 9—14, 1976.

An identification key is given to the Palaearctic species of *Mesocoelopus* Duv. Some key characters are discussed. *M. leileri* sp.n., recently discovered in the Canary Islands, is described and notes on its biology are provided. The genus was previously unknown in the Macaronesian archipelagos.

Introduction

The incentive of the present paper was a Canarian specimen of a somewhat *Lasioderma*-like anobiid which my friend T.-E. Leiler sent me for determination. The insect turned out to be a new *Mesocoelopus* which shall be described below. It is a particular pleasure for me to name it *leileri* after its discoverer.

The genus *Mesocoelopus* was established on *Ptilinus niger* Müller (1821) by Jaquelin du Val (1860). During the following century its distribution appeared to be nearly worldwide and the number of recorded species grew, mainly by Pic's activity, to reach 26. Español in his badly needed revision (1967) removed 11 species from the genus and added 2 new ones. Of the resulting 17 species 4 were Palaearctic.

Best known among the latter are *niger* (Müller) and *collaris* Mulsant & Rey (1864) both developing in dead ivy (*Hedera helix* L.), the former in Middle and South Europe, the latter in the western Mediterranean region and in North America. About the remaining species, *ingibbosus* Pic (1924) and *mimeuri* Pic (1953), described from Egypt and Morocco respectively, our information is extremely poor.

Material

Several persons have most obligingly supplied comparative material.

Dr. F. Español, Barcelona, sent the following series: 4 examples of *niger* from France (Fontainebleau), 11 examples of *collaris* from Spain (Barcelona), and 2 examples, determined as *ingibbosus* from Afars and Issas (Obock). As regards the last-named species it is to be regretted that no type was available for examination. Actually the body was not narrower in the examples at hand than in *collaris* which it should be ("forme plus étroite") according to the original description.

Professor B. O. Landin, Lund, acted as an intermediary in a loan transaction involving 2 examples of *mimeuri* from Morocco (Tiznit), now in the Paris Museum. These latter examples doubtless belong to the original series and might well be syntypes.

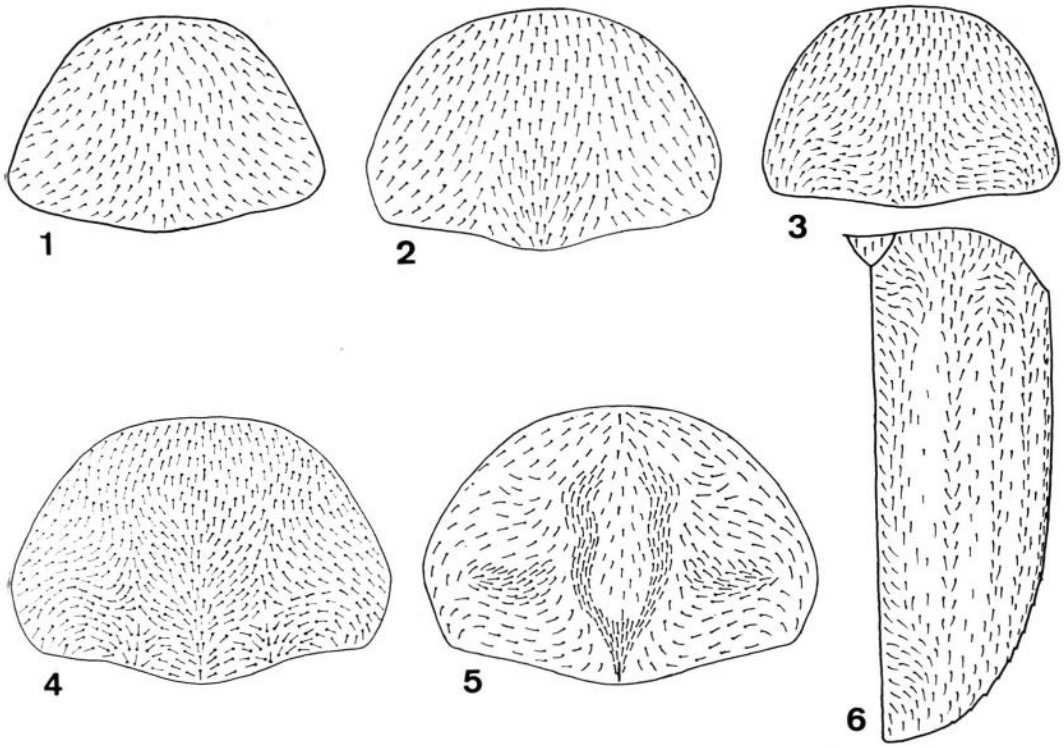
Mr. T.-E. Leiler, Stockholm, in addition to the contribution mentioned above, also produced 3 examples of *niger* from Yugoslavia (Ulcinj).

Dr. R. E. White, Washington, lent 2 examples of *collaris* from U.S.A. (Franklin Co.).

Finally I have reared 10 examples of *leileri* from host material collected in the Canary Islands (see below).

Some taxonomic characters

Usually *Mesocoelopus* is assigned to the subfamily Dorcatominae because of the pres-



Figs. 1—6. Pattern of pronotal and elytral pubescence (simplified) in some species of *Mesocoelopus*. — 1, *mimeuri* Pic; 2, *niger* (Müll.); 3, *ingibbosus* Pic; 4, *collaris* Muls. & Rey; 5, *leileri* sp.n. pronotum); 6, *leileri* (right elytron).

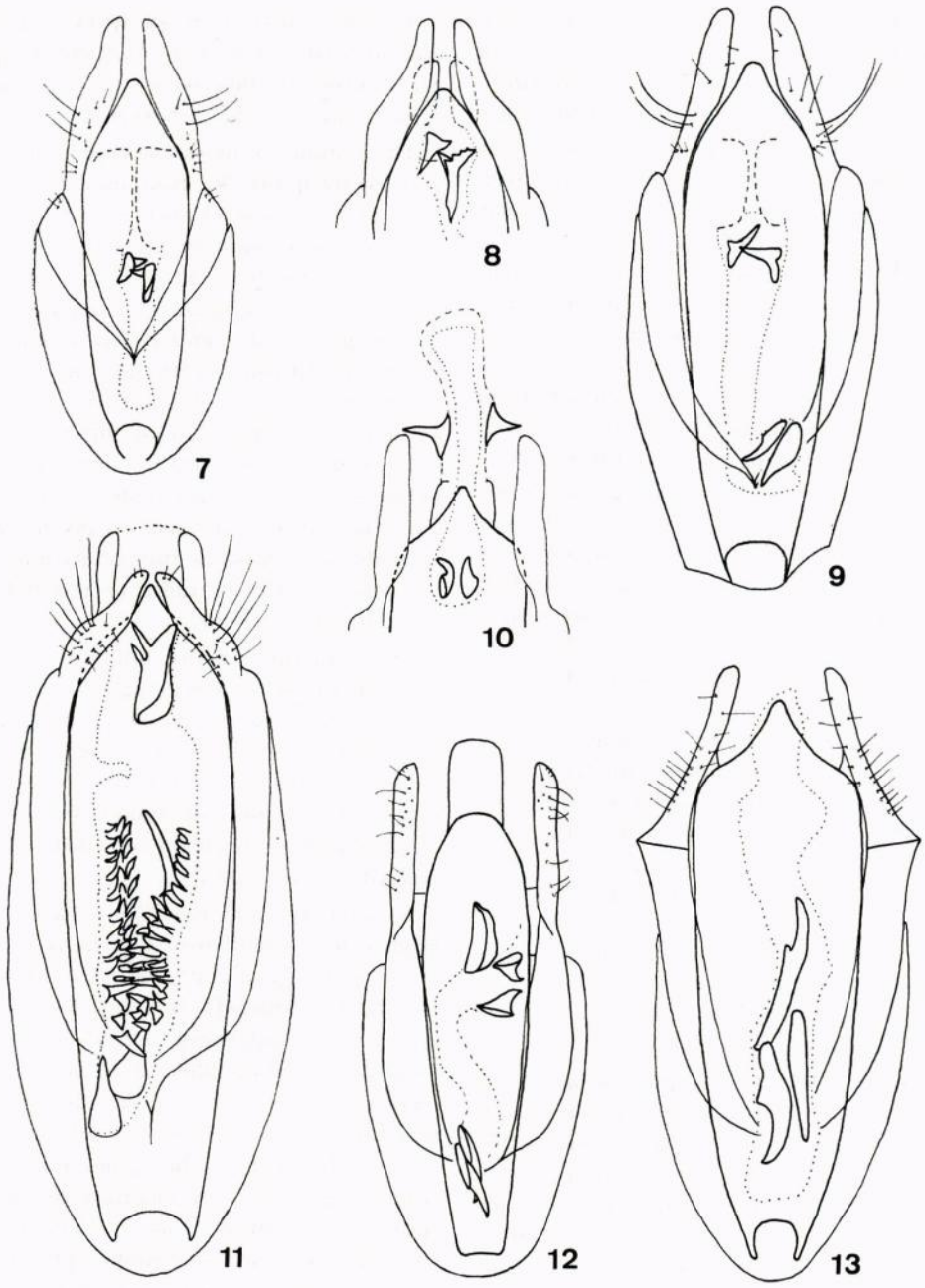
ence on the metasternum and on the first abdominal segment of distinctly limited depressions for the 4 posterior legs in repose.

The 11-segmented, serrate antennae with no distinct club together with the absence of elytral striae, even near the lateral margin, will be sufficient for separation from the other genera of the subfamily. For a more complete description of the generic features the reader is referred to the excellent papers of Español (1967 and 1968).

In reflected light and normal outside view the elytra lack proper striation, as just mentioned. Nor are series of distinctly impressed punctures to be seen. The puncturation appears to be quite irregular.

The elytra being viewed from the inside, however, the picture stands out as more complex. In *niger* and *collaris* the puncture series (10 in each elytron plus a short sutural one) are all beautifully retained, though with a slight tendency toward reduction in the latter species. In fact, the integument being pale (reddish yellow) and consequently more transparent, as in *collaris,* the serial punctures are also discernible from the outside, somewhat dimly though. In *mimeuri* the sutural series and series 1, 9 and 10 are still to be found. Also in *ingibbosus* the system of puncture series is strongly reduced about to the same extent as in the foregoing. In *leileri,* finally, series 9 is still well developed, of 1 and 10 only traces are present, the remaining ones are entirely missing.

In transmittent light the serial punctures vary in total diameter from about 15 to 45 µm. The ground puncturation appears to be dual, consisting of both finer and larger



Figs. 7—13. Aedeagus (ventral view) of some species of *Mesocoelopus*. — 7, *niger* (Müll.) (Ulcinj); 8, *niger* (Müll.) (Fontainebleau), apical portion, sensorial hairs omitted; 9, *collaris* Muls & Rey (Barcelona); 10, *collaris* Muls & Rey (Franklin Co.), apical portion, sensorial hairs omitted, penial sac partly turned out; 11, *leileri* sp.n. (Grand Canary); 12, *mimeuri* Pic (Tiznit); 13, *ingibbosus* Pic (Obock).

punctures. The finer and at the same time denser punctures are 4—5 μm in diameter in *niger, collaris,* and *ingibbosus,* 2 μm in *leileri,* and about 1.5 μm in *mimeuri.* The larger punctures enclose a finer puncture near their fore margin. They are sparser, slightly oval, 10—12 μm in diameter and about similar in all species examined.

The lateral margin of the elytra is delicately serrate in the posterior portion. The approximate number of discernible teeth is somewhat varying with the species: in *niger* and *mimeuri* 30 or more (very small and not very distinct, particularly toward the suture), in *collaris* and *ingibbosus* 20, and in *leileri* 10.

The pubescence of the upper side is depressed (in *mimeuri* less pronouncedly so), rather uniform as far as hair dimensions are concerned; length of the hairs about 40 μm, exceptionally shorter; only *mimeuri* differs by distinctly smaller hairs, at most 30 μm in length. The hairs invariably emerge from the finer ground punctures.

The pronotal hairs in principle radiate from a centre in the middle of the front margin, in *mimeuri* (Fig. 1) fairly regularly so. Minor but significant irregularities are to be found in *niger* (Fig. 2) and *ingibbosus* (Fig. 3). In *collaris* (Fig. 4) and *leileri* (Fig. 5) the pattern is more conspicuously whirled.

The elytral pubescence is normally more uniform, the hairs pointing about straight backward except on the posterior declivity where they point obliquely outward. Only *leileri* differs. In that species 5 longitudinal stripes are more or less clearly discernible on each elytron (Fig. 6). Along the stripes the hairs tend to converge. On the intervals between the stripes they are mostly more scattered, shorter, or at places missing. Whirled patterns occur both on the anterior part of the disc and on the declivity.

Español (1967) found the abdominal sutures to have a slight median sinuosity in *niger* but not in *collaris.* In my material, however, the sinuation may perhaps be a little less conspicuous in the latter species than in the former but as a matter of fact it is rather distinct in all species examined and, at least as far as the Palaearctic species are concerned, this seems to be a generic rather than a specific character.

The outline of the male copulatory organ was depicted for the first time by Español (l.c.) and for several species. On the whole this approach appears to have been very fruitful but hardly so in respect of the Palaearctic species (*mimeuri* was not examined). The aedeagus of *collaris* was stated to be practically identical with that of *ingibbosus* while, according to the drawings (l.c. Figs. 16 and 17), it showed some differences from that of *niger.* But then the differences are perhaps not very representative. The tegmen, its basal portion at least, seems to be less strongly sclerotized in this genus and therefore might easily be more or less deformed in preparation.

The armature of the internal penial sac was not considered but actually seems to provide an excellent means to separate species. In addition to numerous very small and short spines this armature consists of some larger pieces in the form of spines or plates the number and arrangement of which are characteristic of the species.

As appears from Figs. 7—13 *niger* has 2 large spines, *ingibbosus* 3, *collaris* 4 (2 anterior and 2 posterior), *mimeuri* likewise 4 (similarly arranged) but besides with an arched plate posteriorly, *leileri* about 50 and, in addition, with a plate as in *mimeuri.* The form and size of the pieces is subject to some variation within the species. A French form of *niger* has one of the spines multi-tipped (Fig. 8) whereas in a Yugoslavian one both spines were simple (Fig. 7). The plate of *leileri* usually carries a single spine but occasionally there may be two (Fig. 11). The North American male of *collaris* (Fig. 10), on the other hand, does not differ in any fundamental respect from the Spanish one (Fig. 9), this meaning a confirmation of White's (1961) opinion that the species has been introduced into the United States.

Key to Palaearctic *Mesocoelopus*

1 (4) Pronotum with a more or less apparent, very finely granulate median elevation behind. Eyes small: separation 2.0—2.25 (♂) or 2.3—2.45 (♀) times as long as the eye-length, 0.6—0.7 times as wide as the head. Puncturation simple, moderately strong and dense; puncture diameter on the elytral middle about as long as the intervals. Puncture series all present but not necessarily visible from the outside.

2 (3) Body somewhat shorter, at most about 1.75 times as long as wide, about uniformly dark brown to blackish. Pronotal elevation less marked. Pattern of pronotal pubescence comparatively simple (Fig. 2); hairs nowhere pointing forward. Aedeagus Figs. 7 and 8; penial sac in repose with 2 large posterior spines ..... *niger* (Müller)

3 (2) Body somewhat more elongate, at least about 1.85 times as long as wide, uniformly reddish yellow. Pronotal elevation more conspicuous. Pattern of pronotal pubescence complicated (Fig. 4): hairs radiating from the hind margin on a small area at each side of the median elevation. Aedeagus Figs. 9 and 10; penial sac with 4 large spines (2 anterior and 2 posterior) ..... *collaris* Mulsant & Rey

4 (1) Pronotum with no trace of a median elevation, not granulate. Eyes either distinctly larger or distinctly smaller. Puncturation either dual or very fine with puncture diameter appearing much smaller in the elytral middle than do the intervals. Elytral puncture series largely but not entirely missing (inside view!).

5 (8) Body a little shorter, at most about 1.8 times as long as wide. Pattern of the upperside pubescence comparatively simple (Figs. 1 and 3). Posterior half of the elytral margin with at least about 20 but not always very distinct teeth. Penial sac with 3 or 5 large sclerites.

6 (7) Body more elongate, 1.75—1.8 times as long as wide, about uniformly reddish yellow. Upper side puncturation dual: of denser and finer and besides more scattered and larger punctures. Eyes large: separation about 1.1 (♂) or 1.45 (♀) times as long as the eyelength, 0.45 (♂) or 0.55 (♀) times as long as the width of head. Pubescence of normal length. Pronotal pubescence fig. 3. Elytral teeth fine, about 20 in number. Aedeagus Fig. 13; penial apex pointed; internal sac with 3 spines .... *ingibbosus* Pic

7 (6) Body shorter, about 1.65 times as long as wide, bicolourous; head and pronotum reddish yellow, elytra brown (except for outer margin being paler). Upperside puncturation simple, very fine. Eyes very small; separation 2.6 (♂) times as long as the eye-length, 0.7 times as long as the width of head. Pubescence shorter. Pronotal pubescence Fig. 1. Elytral teeth at least 30, extremely fine, somewhat indistinct. Aedeagus Fig. 12; penial apex broadly rounded; internal sac with 5 sclerites, 4 of which being spine-shaped ..... *mimeuri* Pic

8 (5) Body more elongate, at least about 1.85 times as long as wide. Pattern of upperside pubescence complicated (Figs. 5 and 6). Posterior half of elytral margin with few but rather distinct teeth. Aedeagus Fig. 11; internal sac with numerous sclerites .. .. *leileri* sp.n.

Mesocoelopus leileri sp.n.

Description. Male. Body relatively elongate, subparallel, very convex 2.2—2.65 mm in length (in repose slightly shorter), 1.15—1.4 mm in width. Head blackish, anteriorly paler; pronotum reddish yellow with a brownish transversal fascia in and a little before the middle; elytra appearing brownish with all margins more or less broadly and diffusely paler; antennal segment 1, femora and tibiae reddish yellow; remaining parts of appendages yellow. Surface shining. Puncturation dual, of both very fine and more or less dense punctures and larger and more scattered ones. Pubescence of normal length, decumbent, strongly tending to form defined patterns on the upper side.

Eyes rather large, separated by 1.2—1.3 times their length. Antennae normal. Terminal segment of maxillary palpi slightly more than twice as long as wide, obliquely pointed; that of labial palpi broadly triangular.

Pronotum not gibbose, not granulate; hair-pattern peculiar (Fig. 5), including a somewhat lyre-like median marking caused by denser pubescence.

Elytra about 1.35 times as long (from scutellar apex) as wide. Pubescence (Fig. 6) forming 5 more or less distinct longitudinal stripes on each elytron and with whirled patterns in front and at the declivity. Lateral margin finely serrate in posterior half, with about 10 teeth. Puncture series almost completely indistinguishable from the outside but traces of series 1, 8, 9, and 10 visible from the inside.

Metasternum normal, with no longitudinal depression.

Aedeagus Fig. 11. Posterior parameral processes (bearing sensorial hairs) remarkably short. Inner sac with a large posterior sclerite with one or two spines and with an anterior festoon-like series of numerous spines the two anteriormost of which as well as one of the posterior ones being very long.

Female. The 2 examples examined happened to be comparatively small: 1.8—2.2 mm in length and 1—1.2 mm in width. Eyes small; separation 1.55—1.75 times as long as one eye.

Material. Grand Canary, Playa del Ingles, 16.ii.1975, No. 5649 (Israelson leg.), ♂ (holotype), 7 more ♂♂, 2 ♀♀, all in my collection. San Augustin, 25.xi.1974 (Leiler leg. and coll.), ♂.

Biology. Developing in dead branches of *Periploca laevigata* Ait. (determination kindly confirmed by Dr. P. Sunding, Oslo) where the larva feeds from the pith gnawing a central duct at one end of which is formed a slightly widened cylindrical pupal chamber. The latter is about 3.5 mm in length and 1.5 mm in diameter and delimited in each end by a thin transverse membran. Near the distal membran there is a perpendicular duct to the bark. The exit holes are circular and about 1.5 mm in diameter.

In my branch material, preserved at room temperature, adults turned up from February 23 to June 3. A few larvae and pupae were noticed to be attacked by a parasitic mite.

The host plant occurs all over the Archipelago in the lower arid zone and is also known from the Cap Verde Islands; moreover it is stated to be widely distributed in the Mediterranean region from Morocco to Syria.

The genus *Mesocoelopus* seems to be new to the Middle-Atlantic archipelagos.

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