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Notes on the genus Brachyleptus Motschulsky (Coleoptera: Kateretidae), I *

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Abstract: Notes on the genus Brachyleptus Motschulsky (Coleoptera: Kateretidae) - In the present paper female genitalia of all species of the genus Brachyleptus Motschulsky are described and shown for the first time. Brachyleptus auripubens Reitter, 1896 is shown to be a valid species (sp. prop.), not a synonym of B. aurosus Reitter, 1885. The following new synonyms are proposed: Brachyleptus tomentiventris Reitter, 1896 = B. aurosus Reitter, 1885 (syn. n.); Brachyleptus notativentris Reitter, 1902 = B. auripubens Reitter, 1896 (syn. n.)

J. Jelinek (1980) performed a valuable contribution by his studies on the genus Brachyleptus Motschulsky. Nowadays less than ten species are included in the genus, but before Jelinek's excellent revision the resemblance of some species and high intraspecific variability had resulted in welter of names and in confusion (Reitter 1885, 1896, 1919; Ganglbauer 1899; Grouvelle 1912, 1913). I'm indebted to Dr. Jelinek for bringing order out of this chaos.

Nevertheless, as regards the female ovipositors of Brachyleptus species, scarcity of female specimens certainly associated to their males and necessity of relatively high and unusual magnifications to investigate this character (see below) unfortunately induced Dr. Jelinek to underestimate the taxonomic value of female ovipositors.

The purpose of these notes is just to describe the ovipositors of all species of Brachyleptus and the notes intended to be used in conjunction with Jelinek's (1980) revision. The paper also includes two new synonyms and the revaluation of another species, as inferred from morphological evidences by the examination of female ovipositors.

The present paper is mainly based on material recently collected by the author in Algeria, Jordan and Turkey (in 1984 and 1987) and it is my pleasant duty to express my thanks to Dr. O. Merkl (Hungarian Natural History Museum, Budapest) and to my friends Dr. J. Jelinek (National Natural History Museum, Praha), and Dr. A. Kirejtshuk (Zoological Institute, Academy of Sciences, Leningrad) for the loan of type-specimens and comparative material of some species.

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Ovipositors in Brachyleptus spp. are somewhat large, moderately sclerotized, long and more or less narrowed distads, the best taxonomic characters being mainly confined close to the apex (Figs 1-8). The ovipositors need to be observed by relatively high magnifications (x 200/500), and they were mounted on slides with Euparal or analogous compounds.

For the reasons given above, only the apex of each ovipositor has been depicted which is exactly the distal 1/8 of its total length. The shape of the whole ovipositors being only briefly and comparatively described in the text.

In spite of Jelinek's affirmation that ovipositors in Brachyleptus have "very short but distinct styli" (Jelinek 1980), under high magnification styli appear to be absent in all species, partially replaced only by somewhat long sensory hairs (Figs 1-8), in some species being also evident some apical or subapical projections, really similar to short and reduced styli when observed under low magnifications.

Brachyleptus discolor Reitter, 1896

Geographical distribution: Cyprus, Asian part of Turkey, Jordan, Israel, Libanon, Syria, Caucasus (Jelinek 1980; Audisio unpublished data).

Biological notes: Larvae and adults on fruits and flowers of Papaver spp. (chiefly on P. hybridum L.) respectively and on Glaucium corniculatum (L.) Rudolph (Papaveraceae).

Female ovipositor regularly narrowed from base to the apex, 3.7-3.8 times longer than wide; apex distinctly hexalobed as on Fig. 1.

Brachyleptus bicoloratus Reitter, 1896

Geographical distribution: Afghanistan, Turkmen SSR, Kazakh SSR, Kirghiz SSR, Tadzhik SSR, Uzbek SSR, NW China (Tien Shan Mts.) (Jelinek 1980; Audisio unpublished data).

Biological notes: Certainly attached to Papaver spp. in Soviet Middle Asia (Kirejtshuk, in verb. 1988).

Female ovipositor regularly narrowed from base to the apex, as in the preceding species, 3.7-3.8 times longer than wide; apex simple, bilobed (Fig. 2).

Species closely related to the allopatric B. discolor Reitter, but specifically well distinct from it.

Brachyleptus papaveris Grouvelle

Geographical distribution: Morocco, North Algeria, North Tunisia (Jelinek 1980; Grouvelle 1912; Peyerimhoff 1921; Normand 1936; Kocher 1956; Audisio unpublished data).

Biological notes: Larvae and adults on fruits and flowers of Papaver rhoeas L., respectively (Peyerimhoff 1921; Audisio unpublished data).

Female ovipositor somewhat regularly narrowed from base to the apex, but distinctly widening out before the apex (Fig. 3), 3.7-3.8 times longer than wide; apex distinctly tetralobed (Fig. 3).

My opinion is that the species is more closely related to both B. discolor Reitter and B. bicoloratus Reitter than to B. quadratus (Sturm).

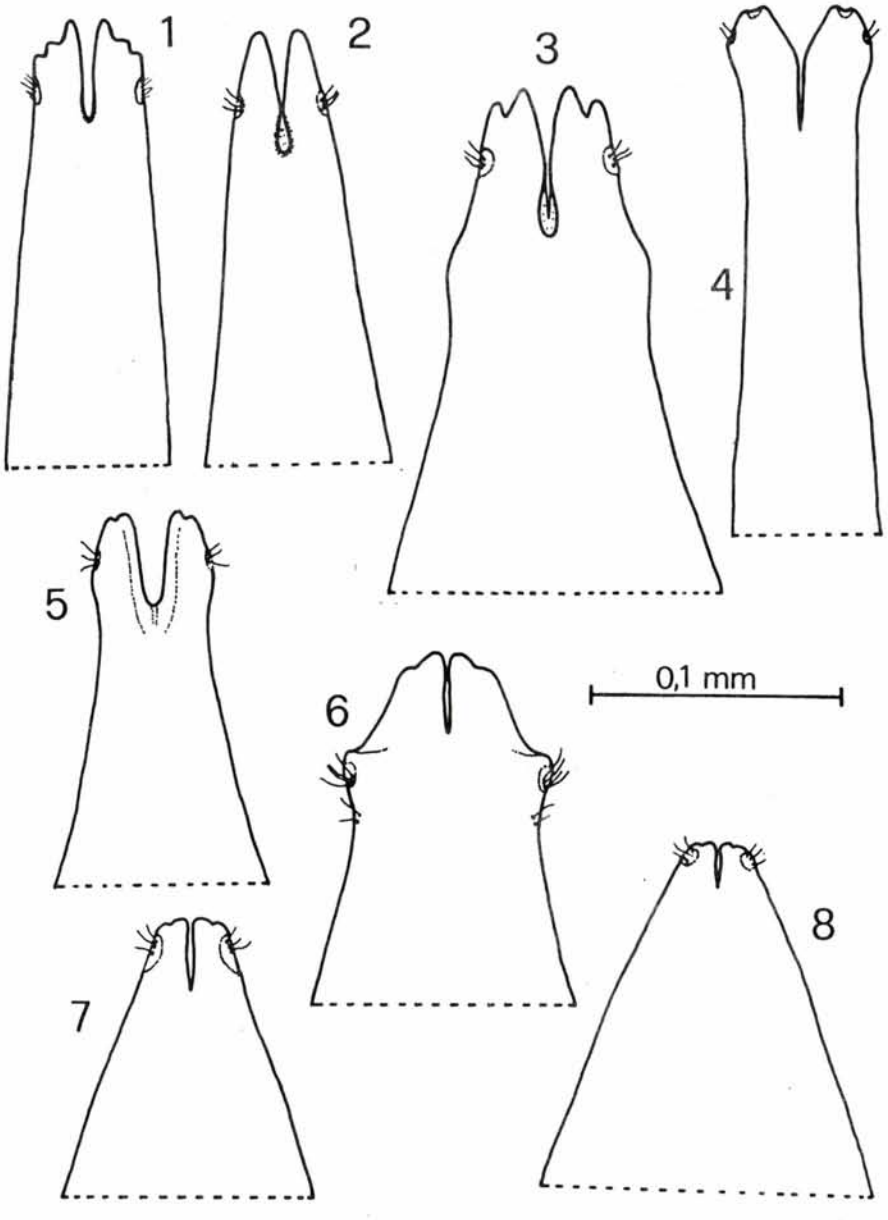
Brachyleptus quadratus (Sturm, 1844)

Geographical distribution: SE Europe, Turkey, Middle East, Caucasus (Jelinek 1980).

Biological notes: Larvae and adults on fruits and flowers of Papaver spp. respectively, particularly on P. rhoeas L.

Female ovipositor very long and narrow, somewhat abruptly and strongly narrowed in its distal fourth, 5.4-5.5 times longer than wide; apex slightly divaricated (Fig. 4).

A very distinct species, related both to B. papaveris Grouvelle and to B. aurosus Reitter, 1885.



Figs 1-8. Apex of female ovipositor 1/8 of their total length in. 1= Brachyleptus discolor Reitter, ♀ from Adana, Turkey; 2= Brachyleptus bicoloratus Reitter, ♀ from Fachrobod, Tadzhik SSR; 3= Brachyleptus papaveris Grouvelle, ♀ from Teniet-el-Haad, Algeria; 4= Brachyleptus quadratus (Sturm), ♀ from Pissonas, Greece; 5= Brachyleptus aurosus Reitter, ♀ from Kenya, Turkey; 6= Brachyleptus auripubens Reitter, ♀ paralectotype from Akbéz, Turkey; 7= Brachyleptus algiricus Grouvelle, ♀ from Boghar, Algeria; 8= Brachyleptus argenteolus Reitter, ♀ from Herat, Afghanistan.

Brachyleptus aurosus Reitter, 1885

= Brachyleptus tomentiventris Reitter, 1896, syn. n.
= Brachyleptus reitteri Ganglbauer, 1899

Geographical distribution: From Greece to Turkey, Turkmen SSR, Central Iran, Caucasus, Syria, Israel, Jordan and North Egypt (Jelinek 1980; Alfieri 1976; Audisio unpublished data).

Biological notes: Larvae and adults on fruits and flowers of many Papaveraceae respectively, chiefly on Papaver spp. and Glaucium corniculatum (L.) Rudolph.

Female ovipositor long and narrow, abruptly narrowed at two thirds of its length, widened distad and narrowed again in its apical fourth (Fig. 5); apex very peculiar, slightly tetralobed but distinctly divaricated (Fig. 5). The taxon B. tomentiventris Reitter, 1896, by Jelinek (1980) reputed to represent a distinct species but my opinion, that it is identical with B. aurosus Reitter, 1885 since both taxa share identical ovipositors (Fig. 5), and the differences in male genitalia illustrated by Jelinek (1980) are not constant. Both the degree of male genitalia sclerification and the body colouration seems to be clinally variable in populations of the two taxa. B. tomentiventris Reitter, 1896 must therefore be regarded as junior synonym of B. aurosus Reitter, 1885.

The species seems to be somewhat isolated from both B. quadratus (Sturm) and from the following species, while not distanctly placed in a phylogenetic system.

Brachyleptus auripubens Reitter, 1896

Brachyleptus auripubens, Reitter, 1896, sp. prop.
= Brachyleptus notativentris Reitter, 1902, syn. n.

Geographical distribution: Inner and Southern Turkey, Syria, Jordan, Israel.

Examined material: Turkey, vil. Hatay, Nur Daglari (= Amanus Mountains), dint. Akbèz, without further data ("Syria, Akbès"), 1 ♀ lectotype and 2 ♀♀ paralectotypes of Brachyleptus auripubens Reitter, 1896 (P. Audisio des., 1987; in the Hungarian National Museum, Budapest); ibidem, 1 ♀ paralectotype (P. Audisio des., 1987; in the National Museum of Natural History, Paris); ibidem, 1 ♀ (in the author's collection, Rome); ibidem, 2 ♂♂ (paralectotypes of Brachyleptus notativentris Reitter, 1902; in the Hungarian Natural History Museum, Budapest); Turkey, Adana, 2. V. 1967, Wittmer leg., 1 ♂ (National Museum, Praha); Turkey, vil. Adana, Tekirbeli, 1300 m, 9. VI. 1986, on Papaver argemone L., M. Bologna leg., 1 ♀ (in the author's collection); Turkey, vil. Kahramanmaras, 30 km NE Elbistan, 1500 m, 18. VI. 1986, on Papaver rhoeas L. (Papaveraceae), P. Audisio leg., 1 ♀ (in the author's collection); Turkey, vil. Nevsehir, Göreme, 1300 m, 20. VI. 1986, on Papaver rhoeas L., P. Audisio leg., 1 ♀ (in the author's collection); Turkey, Afyon, 1000 m, 6. VI. 1986, on Papaver rhoeas L., 1 ♀ (in the author's collection); Turkey, vil. Ankara, Kirikkale, 1000 m, 4. VII. 1987, on Papaver rhoeas L., 1 ♀ (in the author's collection); Turkey, Balikesir, 17. V. 1971, Lodos leg., on barley, 1 ♀ (in the author's collection); Turkey, vil. Kütahya, Tavsanli, 18. V. 1971, 900 m, Lodos leg., 1 ♀ (in the author's collection); Jordan: Amman, 800 m, 29. III. 1959, J. Klapperich leg., 1 ♂ (Zoological Institute of the Academy of Sciences, Leningrad); Israel: Nazareth, without further data, 1 ♂ (in the author's collection).

Biological notes: Adults on flowers of Papaver rhoeas L. and P. argemone L. larvae perhaps also on fruits of the same plants.

Female ovipositor somewhat regularly narrowed from base to the apex, 3.7 times longer than wide; distad with two distinct lateral projections, where the sensory hairs are inserted (Fig. 6); apex somewhat wide and blunt, only feebly sinuated (Fig. 6).

In spite of Jelinek's opinion that B. auripubens is only a junior synonym of B. aurosus Reitter, 1885, the entirely different ovipositors of the two taxa (Figs. 5, 6) show without any doubt that they are specifically distinct, so my opinion is that they are not too closely related.

Brachyleptus auripubens Reitter is identical with B. notativentris Reitter, 1902, described on the basis of some male specimens collected in the same localities above mentioned ("Syria, Akbès"; Jelinek 1980). The name of B. auripubens is thus the valid which were one for this species.

B. auripubens is really very similar to dark and small specimens of B. aurosus, as pointed out by Jelinek (1980), but even female specimens of the two taxa can be somewhat easily separated by the following way:

B. aurosus:

- pronotum with punctures slightly smaller (nearly equal in size to eye facets), spaces between them distinctly more rugose and nearly granulate, apparently duller.
- female ovipositor strongly sinuated laterally at the distal third, much more narrowed distad, and with divaricated apex (Fig. 5).
- anterior angles of pronotum roundly obtuse.

B. auripubens:

- pronotum with punctures larger, (slightly larger than eye facets), spaces between them not rugose of granulate, smooth and more shining.
- female ovipositor regularly narrowed from base to the apex, not sinuate laterally, and with much blunter apex, close to it with two blunt but distinct lateral projections (Fig. 6).
- anterior angles of pronotum somewhat obtuse but more distinct.

Brachyleptus algiricus Grouvelle, 1912

Geographical distribution: Jordan, Northern Tunisia and Algeria, Morocco (Jelinek 1980; Grouvelle 1912; Peyerimhoff 1921; Normand 1936; Kocher 1956; Audisio unpublished data).

Examined material: Algeria: (Medea), Boghar, 1150 m, 18.V.1984, on Roemeria hybrida (L.) DC. (Papaveraceae), 2 ♂♂, 2 ♀♀ (in the author's collection); Algeria: Lalla-Maghnia, 1 ♂ (lectotype of B. algiricus Grouvelle; in the National Museum of Natural History, Paris); Tunisia: Sousse, 1 ♂ (Zoological Museum, Humboldt University, Berlin); Morocco; Berrechit, 4.IV.1974, Olivella leg., 2 ♂♂, 1 ♀ (in the author's collection); Jordan: 15 km NW Irbid, 450 m, 31.III.1987, by sweeping, 1 ♂, 1 ♀ (in the author's collection); Jordan: 15 km W Ez-Zarqa, 750 m, 31.III.1987, on Hypoecum procumbens L. (Papaveraceae), P. Audisio leg., 1 ♀ (in the author's collection).

The presence of this taxon even in Jordan is very interesting, the two closely related species B. algiricus Grouvelle and B. auripubens Reitter are thus sympatric in Palestinian areas, their females have entirely different ovipositors (Figs 6, 7), but the males share very similar ventral tomentose areas, and differ only by the following characters:

B. auripubens (= notativentris):

- paramera shorter;
- tip of aedeagus sharp and finer in lateral view.

B. algiricus:

- paramera longer;
- tip of aedeagus relatively blunter and thicker in lateral view.

Biological notes: Larvae and adults on fruits and flowers of Roemeria hybrida (L.) DC., Papaver argemone L. respectively and perhaps on other small species of Papaver (Papaveraceae).

Female ovipositor: Elongated and regularly narrowed from base to the apex, 3.8-3.9 times longer than wide; apex somewhat blunt, indistinctly bisinuate (Fig. 7).

Brachyleptus argenteolus Reitter, 1896

Geographical distribution: Afghanistan, Tadzhik SSR, Uzbek SSR (Jelinek 1980; Audisio unpublished data).

Biological notes: In Soviet Middle Asia collected on Papaver spp. (Papaveraceae).

Female ovipositor very similar to that of B. algiricus Grouvelle, but larger, 3.7-3.8 times longer than wide, apex relatively blunt and slightly bisinuate (Fig. 8).

While having very different male secondary sexual characters (metasternum and sternites in both sexes without distinct tomentose areas), more elongated and narrower tarsi, and longer whitish pubescence, this species seems to be relatively closely related to both B. auripubens Reitter and B. algiricus Grouvelle.

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