

***BRACHYPSECTRA KADLECI* SP. NOV. FROM WESTERN IRAN – THE FIRST PALAEARCTIC MEMBER OF THE FAMILY BRACHYPSECTRIDAE (INSECTA: COLEOPTERA: ELATERIFORMIA)**

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Abstract.— *Brachypsectra kadleci* sp. nov. from Zagros Mts., western Iran, a new species of the genus *Brachypsectra* LeConte, 1874, is described and illustrated. Based on the pectinate club formed by six antennomeres, the new species is closely related to both the previously known Oriental *Brachypsectra*, described by Blair (1930). *Brachypsectra kadleci* sp. nov. represents the first record of the family Brachypsectridae in the Palaearctic region.



Key words.— Coleoptera, Brachypsectridae, *Brachypsectra*, new species, Palaearctic region, Iran.

INTRODUCTION

The elateriform family Brachypsectridae contains a single genus *Brachypsectra* LeConte, 1874 with so far only four formally described extant species: *Brachypsectra fulva* LeConte, 1874 from south-western USA and northern Mexico, *B. vivafosile* Woodruff, 2004 from Dominican Republic, *B. lampyroides* Blair, 1930 from southern India and *B. fuscula* Blair, 1930 from Singapore. In addition, a formally undescribed *Brachypsectra* known only from the larva occurs in Australia, and a fossil species *B. moronei* Branham, 2006 was described from Miocene Dominican Amber (Costa *et al.* 2006). The adults can be recognised based on the relatively flat body, large prominent eyes, antennae forming serrate to pectinate club, and free abdominal ventrites.

Brachypsectra was originally included in the family Rhipiceridae (LeConte 1874) because of its similarity with the genus *Zenoa* Say, 1835 (currently classified in the family Callirhipidae). Subsequently Horn (1881) created a tribe Brachypsectrini within the

family Dascillidae. Blair (1930) associated newly described Oriental species with LeConte's genus and proposed its raising to family rank. Crowson (1955) first placed Brachypsectridae in Cantharoidea, then Crowson (1973) classified Brachypsectridae in his new superfamily Artematopoidea, but Kasap and Crowson (1975) returned the family to Cantharoidea. More recently Lawrence (1988) included Artematopodidae in his expanded Elateroidea (= Artematopoidea-Elateroidea-Cantharoidea complex sensu Lawrence and Newton (1982)).

During organisation of collection of the late Dr. Stanislav Kadlec, I found a single male of *Brachypsectra* from western Iran, which belonged to a species hitherto unknown to science. Therefore I am providing its formal description.

MATERIAL AND METHODS

The material studied was examined under an Olympus SZX12 stereoscopic microscope. The genitalia

were studied in dry condition, and photographed with an Olympus Camedia C5050 ZOOM camera attached to the microscope. The dissected aedeagus was preserved in DMHF (dimethyl-hydantoin-formaldehyde), and mounted on a separate card under the beetle.

Exact label data are cited for the type material. A forward slash (/) separates different lines and a double slash (//) different labels of data. My additional remarks are found in square brackets.

The holotype of the newly described species is deposited in the collection of Národní muzeum, Praha, Czech Republic.

TAXONOMY

Brachypsectra kadleci sp. nov. (Figs 1–6)

Type locality. Iran, Lorestan province, 10 km SW Dorud, ca. 33°26'N, 49°00'E, 1431 m.

Type material. Holotype ♂, labelled: W Iran, Prov. Lorestan / 10 km SW DORUD / 33°26'N, 49°00'E; 1431 m / S. Kadlec lgt. 9.vii.2004 [printed] // ex coll. S. Kadlec / National Museum / Prague, Czech Republic [printed] // HOLOTYPE / BRACHYPSECTRA / kadleci sp. nov. ♂ / Jiří Hájek det. 2010 [red label, printed].

Description. Body elongate oblong, depressed. Surface covered with short recumbent yellowish setation. Body colouring testaceous, elytra darker – reddish-brown, legs almost yellow (Fig. 1).

Measurements. Body length: 5.2 mm; maximum width (in midlength of elytra): 2.2 mm.

Head almost as long as wide with large protruding hemispherical eyes; two shallow depressions between eyes. Punctuation consists of fine irregularly distributed punctures. Antenna with 11 antennomeres; scape elongated; pedicel short, nearly as long as wide; antennomere 3 elongated; antennomeres 4 and 5 subequal, without any expansion; antennomeres 6–10 expanded apically on one side to form (with terminal antennomere) a pectinate club; apical antennomere expanded, with additional trapezoidal broadening apically (Fig. 2).

Pronotum transverse, subtrapezoidal, widest posteriorly. Sides regularly rounded, with slight incision before posterior angles; with distinct lateral carina the anterior third of which is concealed in dorsal view (Fig. 3). Anterior angles obtuse, posterior angles produced laterally and posteriorly, apically truncated, not acute. Short posterior carina developed in posterior angles, well separated from lateral carina in dorsal view (Fig. 4). Posterior edge of pronotum trisinuate. Disc convex, with shallow longitudinal medial furrow. Punctuation consists of fine and sparse punctures on disc,

which become denser in posterior angles. Scutellum subtrapezoidal, about as long as wide.

Elytra with distinct humeral bulge and widened lateral margin; sides subparallel, slightly widened at posterior third; apices conjointly, broadly rounded; disc flattened, with nine very weakly impressed punctate striae. Punctuation very fine, much finer than that of head and pronotum.

Legs slender and simple. Tibial spurs absent. Tarsi 5-5-5; tarsomeres 1–4 combined more than twice as long as tarsomere 5. Tarsal claws simple; empodium small, bisetose.

Ventral part. Prosternum coarsely and densely punctate; prosternal process broadly rounded apically, deformed in type specimen. Metaventrite with very fine and sparse punctures. Abdominal ventrites flattened, simple; ventrites 1–4 subequal in length, ventrite 5 broadly rounded posteriorly; all ventrites finely and densely punctate.

Male external genitalia. Aedeagus trilobate, symmetrical; phallobase shorter than median lobe and parameres, slightly emarginated basally (Figs 5–6). Median lobe subparallel, with slight attenuating before apex; short basal struts slightly diverging anteriorly, U-shaped. Paramere slightly constricted before distinct subapical, broadly rounded lateral projection; apex of paramere slightly projected too.

Female unknown.



Figure 1. *Brachypsectra kadleci* sp. nov.

Differential diagnosis. Based on pectinate club formed by six antennomeres, the new species is undoubtedly related to both Oriental species: *Brachypsectra fuscula* and *B. lampyroides*. In habitus, *B. kadleci* sp. nov. is more similar to the first mentioned species, while in the shape of aedeagus, it is more similar to second one. On first view, the new species could be easily recognised based on relatively slender head with large eyes and bicoloured body. Differences between all three species are summarised in Table 1.

Collection circumstances. Most probably collected at light. The type locality is a river valley with pasture and sparse oak woodland in a karst area of the central Zagros Mts. (Batelka and Hájek 2009: 772), see also Discussion.

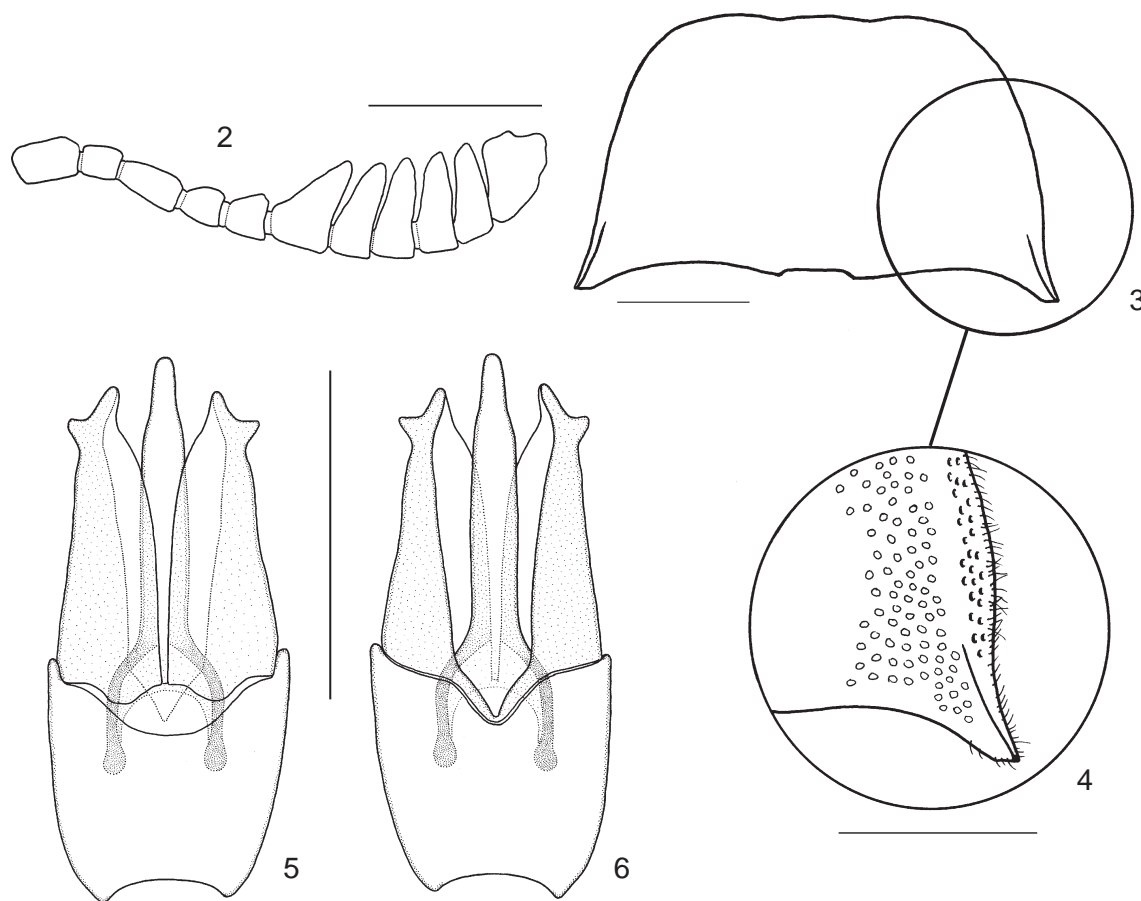
Etymology. The new species is dedicated to its collector, my late friend Stanislav Kadlec (Litvínov, Czech Republic), a specialist on Palaearctic Cerambycidae.

Distribution. So far known only from the type locality in western Iran.

DISCUSSION

The finding of a new species of *Brachypsectra* in Iran, related to both Oriental species, without any doubt considerably increases our knowledge of this family. Nevertheless, little can be written about the general distribution of Brachypsectridae, except for the observation that its current distribution seems to have a highly relictual character. A former wider distribution of the family in the Palaearctic region could be projected, e.g., from records of *Brachypsectra* larvae in Baltic amber (Klausnitzer 2009). More findings of unknown *Brachypsectra* from all zoogeographical regions can be expected.

Zagros Mts. represents part of the Irano-Anatolian biodiversity hotspot (McGinley 2008). The Karst area in central Zagros represents one of the most important habitats in that region. The pastures, or steppes alternate there with sparse forests of the Middle Eastern endemic oak *Quercus brantii* Lindl. (P. Kabátek, pers. comm. 2009). The insect fauna of this area is still



Figures 2–6. *Brachypsectra kadleci* sp. nov. (2) Antenna; (3) pronotum; (4) pronotum, detail of posterior angle; (5) aedeagus in dorsal view; (6) aedeagus in ventral view. Scale bar 0.5 mm.

Table 1. Characters separating *Brachypsectra kadleci* sp. nov. from *B. fuscata* Blair and *B. lampyroides* Blair (males only).

Character	<i>B. kadleci</i> sp. nov.	<i>B. fuscata</i>	<i>B. lampyroides</i>
Coloration of dorsal surface	bicoloured; testaceous with darker, reddish-brown elytra	unicoloured; reddish-brown	unicoloured, yellowish
Head	slender, eyes large; head between eyes ca. 1.9 times as wide as diameter of eye	broad, eyes large; head between eyes ca. 1.9 times as wide as diameter of eye	very broad, eyes rather small; head between eyes ca. 3.4 times as wide as diameter of eye
Apical antennomere	with trapezoidal broadening apically	triangular with apical incision	rounded with indistinct apical incision
Pronotum	slightly converging anteriorly, sides rounded, with slight incision before posterior angles; posterior carina separated from lateral carina in dorsal view; posterior angles obtuse	slightly converging anteriorly, sides tapered anteriorly, rounded posteriorly; posterior carina separated from lateral carina in dorsal view; posterior angles acute	strongly converging anteriorly, sides almost straight; posterior carina conceals lateral carina in dorsal view; posterior angles acute
Punctuation of elytra	very fine, much finer than that of pronotum	equal to that of pronotum	only slightly finer than that of pronotum
Median lobe	subparallel, with slight attenuating before apex, apex subacute; basal struts U-shaped	narrowing from middle to apex, apex subacute; basal struts more diverging	almost parallel-sided, apex broadly rounded; basal struts U-shaped
Paramere	subparallel, constricted apically, with lateral preapical, and apical blunt projections	almost parallel-sided, with lateral preapical acute projection	attenuating and constricted apically, with lateral preapical, and apical blunt projections
Distribution	western Iran	Singapore	southern India

insufficiently known, and many new taxa were described from there in recent years; e.g. a new species of *Lucanus* Scopoli, 1763 (Lucanidae) (Král 2004), a new species of the genus *Mulsanteus* Gozis, 1875 (Elateridae) (Mertlík and Dušánek 2006), a new species of the primitive ripidiine genus *Eorhipidius* Iablokoff-Khnzorian, 1986 (Ripiphoridae) (Batelka and Hájek 2009), and two new taxa of the tribe Phytocini (Cerambycidae) (Sama *et al.* 2007) were recently described from the same locality as *Brachypsectra kadleci* sp. nov.

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