

On a Baltic amber collection of Platygasteridae and Diapriidae (Hymenoptera)

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From a Baltic amber collection five new species, the platygasterids *Acerotella krylovi* sp. n., *Fidiobia microscopica* sp. n., and *Inotemma methusalem* sp. n., and the diapriids *Acropiasta janzeni* sp. n. and *Synacra microptera* sp. n., are described. Their relationship to recent species is discussed. Some other genera and species, some of which seem to have survived unchanged to present times, are listed.

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In December 2001, mr. Jens-Wilhelm Janzen (Seevetal, Germany) offered me a collection of about 150 pieces of amber containing mainly Diapriidae and Platygasteridae, on behalf of dr. Andrey Krylov (Russia). I found a sponsor in the Skagen Amber Museum (NCIR, curator Karin Nordmann), where the collection is provisionally deposited. The holotypes of the species described in the present paper are deposited in the Zoological Museum, University of Copenhagen. The amber is Baltic, from the region of Kalinin-grad.

Of 122 specimens of Diapriidae, 46 belong to the Diapriinae, 76 to the Belytinae. Of these last mentioned, at least 50 belong to the tribe Pantolytini. This is a surprisingly large proportion compared to the relative small proportion of the recent Belytinae fauna belonging to this tribe. Particularly one or a few closely related species of *Pantolyta* dominate the collection; a species which is very similar to recent *P. nixonii* Macek, 1993. None of them, however, are similar to *P. antiqua* Buhl, 1999, also described from Baltic amber (Buhl, 1999). Most major recent Palaeartic genera of Belytinae are present in the amber collection; one or a few specimens of *Miota*, *Aclista*, *Zygota*, *Belyta*, and *Pantoclis* were identified, and several species of *Acropiasta* are present.

Among the Platygasteridae (25 specimens), some poorly characterised species of *Platygaster* could be recognised. Many of the platygasterids are in poor condition, but one very well preserved female specimen could not be distinguished from the recent Palaeartic species *Platystasius transversus* (Thomson, 1859); this is an example from Platygasteridae of a species having survived virtually unchanged during at least 30 million years. Also, a female diapriid was discovered impossible to distinguish from the recent Palaeartic species *Acropiasta macrocera* (Thomson, 1859). A species with a similar accomplishment was described in Scelionidae as *Palaegryon muesebecki* by Masner (1969) based on recent specimens from Mexico and on specimens in late Oligocene Mexican amber.

Numerous specimens obviously looked rather monstrous due to their enclosure in amber. One certainly has to take great care when describing morphology of amber specimens, as e.g. hairs can look much longer than they really are, and antennae much thicker

than real, probably because of the movements of the animal when trapped in resin. Sometimes the result looks surprisingly “natural”, e.g. the antennal structure of the above mentioned *Pantolyta* species shows a great “variation”, with hardly any doubt due to the enclosion in amber. I wonder if this phenomenon is also the explanation for the very thick antennae of a megaspilid described by Muesebeck (1963).

Platygastridae

Acerotella krylovi sp. n. (Figs. 1-2)

Female holotype. Length 1.05 mm. Head densely reticulate-coriaceous, from above twice as wide as long, about 1.1 x as wide as thorax; LOL nearly 3 x OOL, posterior ocelli separated from eyes by about half their diameter. Antenna (Fig. 1) with scape distinctly reticulate, length of this segment 0.7 x width of head. Mesosoma 1.3 x as long as wide, slightly wider than high. Sides of pronotum reticulate-coriaceous. Mesoscutum uniformly sculptured as head, with smooth and complete notauli which are much dilated posteriorly, leaving mid lobe as a narrow point well separated from scutellum by a smooth transverse groove. Scutellum with same sculpture as mesoscutum, 1.4 x as wide as long, with very distinct rim at posterior margin. Fore wing well overreaching tip of metasoma, 2.25 x as long as wide. Metasoma (Fig. 2) about as long as head and mesosoma combined, 0.8 x as wide as thorax.

Named after dr. Andrey Krylov who provided the material. *A. krylovi* belongs to the *boter* species group sensu Masner (1980) because of the sharply 3-segmented antennal club, and it is indeed most similar to the recent Palaearctic species *A. boter* (Haliday, 1838) from which it differs mainly in antennal measurements (basal flagellar segments more slender, club more abrupt) and in less pointed metasoma.

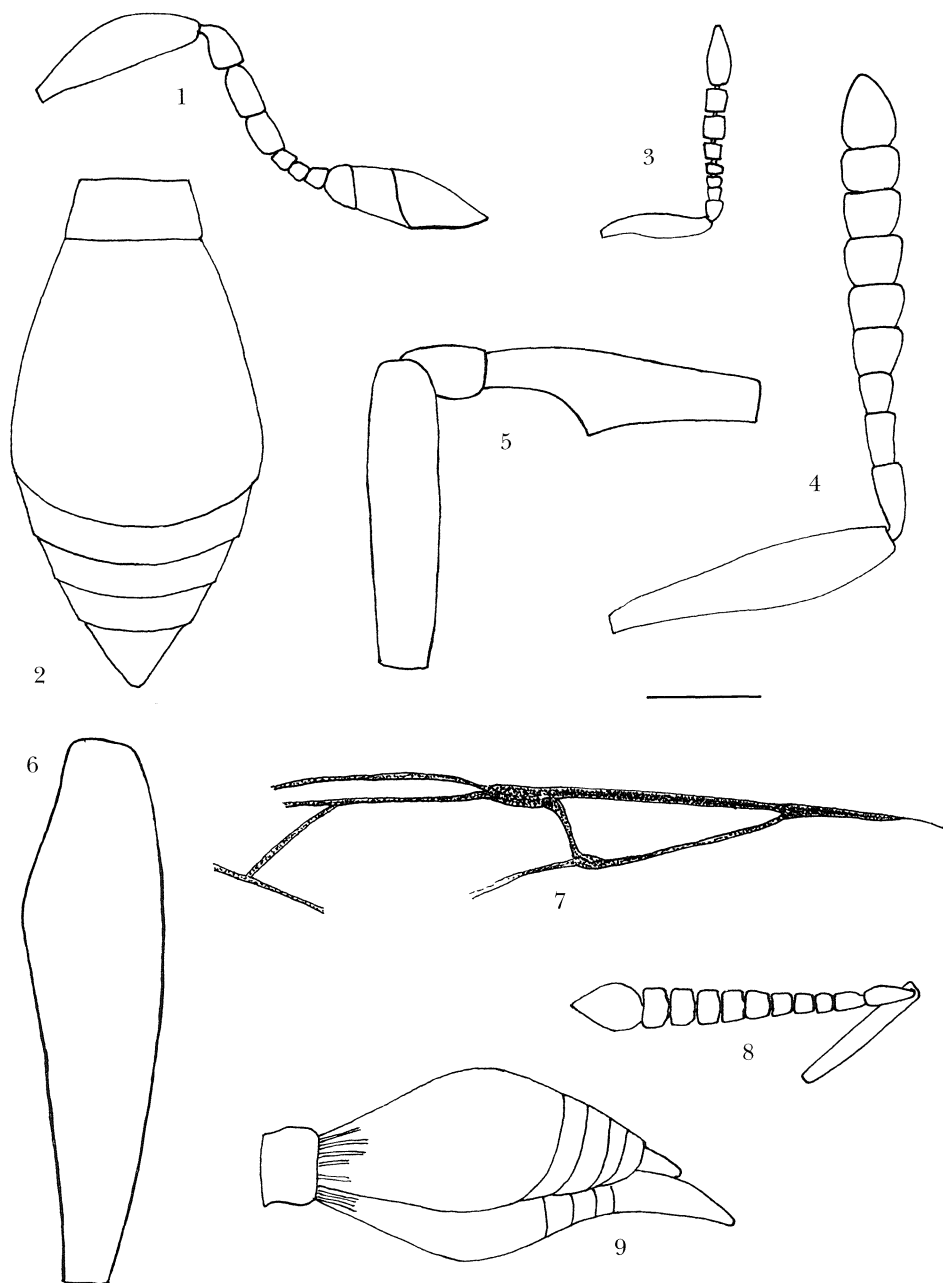
Fidiobia microscopica sp. n. (Fig. 3)

Male holotype. Length 0.45 mm. Head from above fully twice as wide as long, hardly sculptured except for some reticulation on occiput. OOL equal to LOL, posterior ocelli separated from eye margin by almost twice their diameter. Antenna (Fig. 3) with scape about 0.6 x as long as width of head, segment 3 from some angles widened. Mesosoma 1.1 x as long as wide, about twice as wide as high. Mesoscutum smooth except for weak reticulation anteriorly, in posterior half with widely separated, parallel and moderately wide notauli which are dilated posteriorly; hind margin straight. Scutellum smooth, flat, about 1.6 x as wide as long. Fore wing clear, about as long as entire body, 2.3 x as long as wide, subcostalis 0.3 x as long as wing; marginal cilia distinct, fully 0.1 width of wing. Metasoma as long as head and mesosoma combined, virtually smooth, tergite 2 about 1.4 x as long as apical tergites combined.

F. microscopica is even smaller than *F. polita* Buhl, 1998. In general antennal structure it approaches Neotropical *F. citri* (Nixon, 1969), but this species lacks notauli, and it is 0.8 mm. In arrangement of ocelli similar to *F. hofferi* Kozlov, 1971 which, however, is 0.7 mm and has mesoscutum reticulate throughout surface. Cf. also Nixon (1969), Kozlov (1978), and Buhl (1998).

Inotemma methusalem sp. n. (Fig. 4)

Female holotype. Length 2.0 mm. Head rather uniformly reticulate-coriaceous, hardly more than 1.5 x as wide as long, about as wide as thorax; OOL only very slightly shorter than LOL, posterior ocelli separated from eyes by about their longer diameter. Vertex not excavated. Antenna (Fig. 4) with length of segment 1 two-thirds the width of head. Mesosoma 1.3 x as long as wide. Mesoscutum sculptured as head, with complete and slightly converging notauli which are inconspicuously widened behind. Scutellum flat,



Figs. 1-2. *Acerotella krylovi* sp. n., female. 1, antenna; 2, metasoma in dorsal view.

Fig. 3. *Fidiobia microscopica* sp. n., male antenna.

Fig. 4. *Inostemma methusalem* sp. n., female antenna.

Figs. 5-7. *Acropiasta janzeni* sp. n., male. 5, antennal segments 1-3; 6, hind femur; 7, details of fore wing venation.

Figs. 8-9. *Synacra microptera* sp. n., female. 8, antenna; 9, metasoma in lateral view.

Scale bar = 0.1 mm for Figs. 1-6, 0.2 mm for Figs. 7-9.

sculptured as mesoscutum, with rather parallel sides, bluntly angled at posterior corners and medially on posterior margin. Fore wing reaching base of tergite 6, hardly two-thirds as long as entire body, almost clear, about 2.7 x as long as wide; subcostalis almost 0.4 as long as wing. Metasoma 1.3 x as long as head and mesosoma combined; tergite 1 with short but distinct and sculptured hump; tergite 6 rather pointed, about twice as long as wide, and twice as long as tergite 5.

Structure of body (especially tergite 2) much as in recent "*Inostemma* sp. A" in Masner & Huggert (1989, Fig. 17). *I. methusalem* differs from other recent species with somewhat similar shape of tergite 1, e.g. *I. seoulis* (Ko, 1965) and *I. productum* Buhl, 2001, in many characters, e.g. shape of antenna, large body size, and more pointed tergite 6. Cf. also Buhl (2001).

Diapriidae

Acropiesta janzeni sp. n. (Figs. 5-7)

Male holotype. Length 2.5 mm approx. Antennal segment 3 (Fig. 5) with a deep emargination, the segment widened at apex of the emargination; segment 4 0.8 x as long as segment 3, fully 4 x as long as wide; flagellar segments becoming slightly shorter and thinner towards apex, preapical segment about 4.5 x as long as wide. Occiput with only inconspicuous hairs. Hind femur (Fig. 6) with relatively long basal stalk. Fore wing with radial cell rather wide, about 3 x as long as marginalis which is only half as long as its distance from basalis; postmarginalis 1.5 x as long as radial cell (Fig. 7). Propodeal keels out of view. Petiole 2.7 x as long as wide, along middle with three distinct and complete longitudinal keels. Metasoma behind petiole fully twice as long as wide, not compressed.

Named after mr. Jens-Wilhelm Janzen who provided the specimen. *A. janzeni* differs from the known recent species of *Acropiesta* in plesiomorphic conformation of wing venation untypical for the described recent species of the genus which have marginalis longer in relation to distance from basalis, and radial cell narrower, more pointed. *A. janzeni* is however a very typical *Acropiesta* in shape of head (with appendages) and metasoma (though petiole is somewhat longer than in known species).

Synacra microptera sp. n. (Figs. 8-9)

Female holotype. Length 1.6 mm. Head in lateral view higher than long (9:8); eye virtually bare, small, 1.2 x as high as long, as long as temple, 0.7 x as high as malar space. Antenna (Fig. 8) with scape shorter than height of head (8:9), slightly longer than the following 5 segments combined, distal margin of scape hardly raised. Mandibles not prominent (mouth open in unique specimen). Mesosoma not compressed, 1.4 x as long as high; mesoscutum virtually bare, with complete notauli. Fore wings just reaching propodeum which is without posterior transverse keel. Metasoma (Fig. 9) 1.2 x as long as head and mesosoma combined, with ovipositor exerted to a length equal to four last tergites. Petiole distinctly transverse, tergite 2 anteriorly with numerous strong furrows which are fully 0.8 x as long as petiole.

In *S. microptera* characters from the two recent subgenera *Synacra* s.str. and *Parateloipsis* Whittaker sensu Macek (1995) are mixed because of the relative long and unarmed scape (*Parateloipsis*) of *S. microptera* combined with virtually bare eyes and short flagellum (*Synacra* s.str.). The shape of mandibles and striation on base of T2 approach *S. (Parateloipsis) paupera* Macek, 1995, but shape of flagellum, metasoma and microptery resembles *S. (Synacra) brachialis* (Nees, 1834). As Macek (1995) rightly notes, the subgeneric classification of *Synacra* is only preliminary.

Dansk sammendrag

Fra en samling baltisk rav beskrives fem nye arter af micro-hymenopterer: platygastriderne *Acerotella krylovi* sp. n., *Fidiobia microscopica* sp. n., og *Inotemma methusalem* sp. n., samt diapriiderne *Acropiasta janzeni* sp. n. og *Synacra microptera* sp. n. Deres slægtskabsforhold til nulevende arter diskuteres, og nogle yderligere slægter og arter fra ravsamlingen nævnes. Nogle af disse eksisterer tilsyneladende uændret i dag, fx arterne *Platystasius transversus* (Thomson, 1859) og *Acropiasta macrocera* (Thomson, 1859).

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