

## Revision of Central European species of the *Aclista scutellaris* complex (Hymenoptera: Diapriidae)

Jan MACEK

Department of Entomology, National Museum, Kunratice 1, CZ-148 00 Praha 4, Czech Republic;  
e-mail: macjan@seznam.cz

**Abstract.** The *Aclista scutellaris* (Thomson, 1859) species complex (Diapriidae: Belytinae) is defined. Species of the complex from Central Europe are revised and keyed. The female of *Aclista scutellaris*, type species of *Aclista* Förster, 1856, is described. Two new species are described: *Aclista pseudosoror* sp. nov. from Austria, the Czech Republic, England, Germany, Poland, Slovakia, Spain, and Sweden, and *A. pseudobitensis* sp. nov. from Austria, the Czech Republic, England, Finland, Germany, Hungary, Poland, Slovakia, and Sweden. The following new synonymies are proposed: *Aclista angusta* (Kieffer, 1909) = *Anectata (Anectata) fuscicornis* Kieffer, 1909, syn. nov. and *Anectata (Anectata) levifrons* Kieffer, 1909, syn. nov. and *Anectata (Anectata) soror* Kieffer, 1909, syn. nov. and *Oxylabis marshalli* Kieffer, 1907, syn. nov.; *Aclista scutellaris* = *Aclista bispinosa* Wall, 1967, syn. nov. The following new distributions are recorded: *Aclista scutellaris* from Austria, Slovakia, Hungary, and Poland; *A. crassistilus* (Kieffer, 1909) and *A. szelenyii* (Móczár, 1938) from the Czech Republic; *A. bitensis* (Kieffer, 1909) from Austria, the Czech Republic, Hungary, and Poland; *A. neglecta* (Kieffer, 1907) from Austria, Germany, Hungary, and Slovakia; *A. angusta* from Austria, Germany, Hungary, and Poland.

**Key words.** Hymenoptera, Diapriidae, *Aclista*, taxonomy, types, new species, synonymy, key, Central Europe

### Introduction

The cosmopolitan genus *Aclista* Förster, 1856, is one of the most speciose genera of the Diapriidae. However, most of the species included in *Aclista*, particularly those described by Kieffer, are insufficiently diagnosed and cannot be appropriately identified without comparison to type specimens. Moreover, the generic concept of *Aclista* remains unsatisfactory due to incongruences in past interpretations (see Discussion below). A crucial step towards a clear generic concept of *Aclista* is an explicit identification and interpretation of the type species *Aclista scutellaris* (Thomson, 1859). The aim of this paper is to revise this species and the *A. scutellaris* species complex in Europe.

*Aclista*, as proposed by FÖRSTER (1856), is based on a vague generic diagnosis in which no species were originally included. Without any justification or clarification, MARSHALL (1873) listed three species under *Aclista*, including *Acoretus scutellaris* Thomson, 1859. KIEFFER (1907) implicitly included *A. scutellaris* in *Xenotoma* Förster, 1856. Subsequently, KIEFFER (1916) included species of the genus *Zelotypa* Förster, 1856, in *Xenotoma*, thus relegating *Zelotypa* to subgeneric status. MUESEBECK & WALKLEY (1951) designated *A. scutellaris* as the type species of *Aclista*, and included species of the genera *Acoretus* Haliday, 1857, *Anectata* Förster, 1856, *Xenotoma* and *Zelotypa* within *Aclista*. All former species of *Aclista* sensu Förster have been transferred to either *Zygota* Förster, 1856, or *Pantoclis* Förster, 1856 (MACEK 1997).

Until now the concept of *Aclista* auctorum nec Kieffer has been ambiguous and its interpretations frequently conflicting. While NIXON (1957) and JOHNSON (1992) followed MUESEBECK & WALKLEY'S (1951) broadly encompassing interpretation, HELLÉN (1964) held *Acoretus* (= *Xenotoma* sensu KIEFFER (1907), *Aclista* sensu NIXON (1957)) and *Anectata* in separate genera. WALL (1967) formally subdivided *Aclista* into four subgenera (*Aclista* s. str.; *Acoretus*, *Anectata* and *Anecoreta* Wall, 1967). KOZLOV (1978) excluded *Anectata* from the bulk of *Aclista* based on short mandibles, but his concept of *Anectata* is confused, as he also included species with long, sickle-shaped mandibles (e.g., *Aclista neglecta* Kieffer, 1907, and *Aclista soror* auct. nec Kieffer, 1909).

The historical usage of the generic name *Anectata* is similarly intricate with respect to *A. scutellaris*. FÖRSTER (1856) established *Anectata* based on a vague diagnosis (14-segmented antennae in females) and did not name a nominotypical species. ASHMEAD (1893) included three Nearctic species with females having 14-segmented antennae in *Anectata*. KIEFFER (1909) understood *Anectata* in a broader sense, and included species with both 14-segmented (eight species) and 15-segmented (seven species) antennae in females. MUESEBECK & WALKLEY (1951) selected and designated *Anectata hirtifrons* Ashmead, 1893, as the type species of *Anectata* and included it into their broad concept of *Aclista* (see above).

NIXON (1957) treated five species of *Aclista* with 14-segmented antennae in females in his key, and pointed out the prominent malar carina in four species treated in this paper: *A. neglecta* (Kieffer, 1907), *A. szelenyi* (Móczár, 1938), *A. bitensis* (Kieffer, 1909), and *A. soror* (Kieffer, 1909). JOHNSON (1992) followed Nixon's concept of *Aclista* in the World catalogue of Diapriidae. HELLÉN (1964) maintained the usage of the name *Anectata*, having included species with both short and long mandibles. However, he neglected the presence or absence of the malar keel. WALL (1967) followed Hellén's view, but he moreover erroneously substituted *A. scutellaris* Thomson sensu NIXON (1957) by a new name, *Aclista bispinosa* Wall, 1967, likely because he was unaware of the real identity of both *A. scutellaris* Thomson and *A. scutellaris* Thomson sensu Nixon. At the same time he also established the subgenus *Anecoreta*, in which he placed *Aclista angusta* Kieffer, 1909.

As a result, it is evident that the genus *Aclista* represents a highly heterogeneous assemblage of taxa with a mosaic of variable characters. The first step to resolve this complex taxonomical problem is to properly interpret several key species, among them the type species *A. scutellaris*.

The *Aclista scutellaris* species complex is best characterized by the 14-segmented antennae in females in contrast to the remaining *Aclista* species that have females with 15-segmented antennae. Another significant character of the *A. scutellaris* complex is the malar space tending

to form malar keel. It varies from totally absent as in *A. scutellaris* to strongly developed as in *A. neglecta* and *A. pseudosoror* sp. nov., and can be correlated with the form of mandibles (short to long sickle-shaped). Males of *A. scutellaris* complex, except for *A. angusta*, are uniquely distinguished by the heterogeneous pubescence on the protibia composed of short setae with 2-5 intermittent long, stiff bristles. Among the eight species treated here, *A. angusta* seems to me the most distinct based on the absence of modified bristles on the fore tibia (males), conical metascutellum (both sexes), long marginal vein (both sexes) and the unsclerotized, pointed gonoplares (females).

Table 1. Review of generic and subgeneric concepts of *Aclista* Förster, 1856, sensu lato by morphology.

<b>Taxon</b>	<b>Morphology</b>	<b>Sensu</b>
<i>Aclista</i>	mandibles short / long sickle-shaped; female antennae 14/15-segmented	NIXON (1957); JOHNSON (1992)
<i>Aclista</i>	mandibles long sickle-shaped; female antennae 15-segmented	KOZLOV (1978)
<i>Acoretus</i>	mandibles long sickle-shaped; female antennae 15-segmented	HELLÉN (1964)
<i>Anecoreta</i>	mandibles short sickle-shaped; female antennae 14-segmented	WALL (1967)
<i>Anectata</i>	mandibles short sickle-shaped; female antennae 14-segmented	ASHMEAD (1893); HELLÉN (1964); KOZLOV (1978)
<i>Anectata</i>	mandibles short / long sickle-shaped; female antennae 14/15-segmented	KIEFFER (1907)
<i>Xenotoma</i>	mandibles long sickle-shaped; female antennae 15-segmented	KIEFFER (1907, 1916)
<i>Zelotypa</i>	mandibles long sickle-shaped; female antennae 15-segmented	KIEFFER (1907, 1916)

## Material and methods

Specimens including types were borrowed or received from the following institutions:

- BMNH Natural History Museum, London, United Kingdom (D. Notton);  
 HNHM Hungarian Natural History Museum, Budapest, Hungary (J. Papp);  
 MNHM Museum National d'Histoire Naturelle, Paris, France (C. Villemant);  
 MZLU Zoological Museum, Lund, Sweden (R. Danielsson);  
 NHMW Naturhistorisches Museum, Wien, Austria (M. Fischer);  
 NHRS Museum of Natural History, Stockholm, Sweden (I. Persson);  
 NMPC National Museum, Praha, Czech Republic;  
 ZSMC Zoologische Staatssammlung, München, Germany.

Most specimens examined come from NMPC. They were predominately collected in the last two decades. Specimens were collected by flight intercept traps (treated with pyrethroid), pan traps, and screen sweeping. Map field codes for Czech and Slovak localities are based

on PRUNER & MÍKA (1996). Terminology of characters used here is adopted from MASNER (1991), GOULET & HUBER (1993) and MACEK (1995). The territory of the Central Europe as understood here includes all countries surrounding the Czech Republic and Slovakia (excluding the Ukraine).

## Results

### *Aclista scutellaris* (Thomson, 1859)

(Figs. 7, 16, 23, 32)

*Acoretus scutellaris* Thomson, 1859: 159.

*Aclista scutellaris*: MARSHALL (1873): 9.

*Xenotoma scutellaris*: KIEFFER (1907): 24; KIEFFER (1910a): 604.

*Xenotoma (Xenotoma) scutellaris*: KIEFFER (1910b): 34; KIEFFER (1916): 517, 523.

*Xenotoma scutellaris*: MORLEY (1923): 231.

*Aclista scutellaris*: NIXON (1957): 569; KOZLOV (1978): 569; JOHNSON (1992): 42.

*Aclista (Acoretus) bispinosa* Wall, 1967: 153, **syn. nov.**

**Type locality:** Sweden, Småland.

**Type material examined.** *Aclista scutellaris*. HOLOTYPE: ♂, 'Sm. // Holotypus 1859 / Acoretus scutellaris Thomson' (NHRS).

**Additional material examined:** CZECH REPUBLIC: BOHEMIA centr., Praha – Krč (5952), 13.ix.1984, 132 ♂♂ 14 ♀♀, Praha – Nebušice (5852), 31.v.1982, 7 spec. BOHEMIA mer.: Purkarec (6852), 11.vi.1982, 4 spec.; Stráž nad Nežárkou (6955), 22.vi.1986, 1 spec. BOHEMIA bor.: Úhošťany (5645), 3.vi.1982, 2 spec. BOHEMIA or.: Orlické hory Mts., Kačerov (5764), 5.viii.1994, 2 spec., Bukáčka Nature Reserve (5664), 16.vii.1997, 2 spec.; Králický Sněžník Nature Reserve, Mlýnský potok brook (5866), 22.viii.2001, 5 spec. MORAVIA mer.: Bítov (7060), 22.vi.1983, 1 spec. SLOVAKIA centr.: Nízké Tatry Mts.: Heľpa (7185), 31.vii.1984, 1 spec., Ohniště Nature Reserve (7083), 4.viii.1984, 1 spec.; Poľana Mts. (7382), 2.viii.1986, 1 spec.; Silica (7489), 15.v.1985, 2 spec.; Gombasek (7588), 17.v.1985, 1 spec. SLOVAKIA occ.: Nitra district, Zobor hill (7674), 23.v.1987, 1 spec.; all J. Macek lgt. & det. (NMPC). AUSTRIA: STEIERMARK, Gragger Schlucht, Neumarkt, 900-1000 m a.s.l., 10.vii.1971, 1 spec., Fischer lgt., J. Macek det. (NHMW). POLAND centr.: Belsk district, Modrzewina Nature Reserve, 28.ix.1982, 1 spec., Ekipa lgt., J. Macek det. (NMPC). HUNGARY bor.: Pilis Mts., Piliscsaba, 21.viii.1980, 4 spec., J. Macek lgt. & det. (NMPC).

**Diagnosis.** Mandibles short; malar space smooth, without malar keel; antennae 14-segmented in females, 15-segmented in males; pronotal shoulders angular; epomia developed; inner plicae of propodeum converging, not projecting posteriorly; radial cell closed, 2.5 times as long as marginal vein; petiole cylindrical, smooth with longitudinal ribs; basal sculpture of macrotergite with long medial furrow and short adjacent striation; male protibia with several modified setae within unmodified short pubescence.

**Description. Female.** Length: 2.6-2.8 mm. Dark brown; head and mesosoma darker than gaster; antennae and appendages stramineous.

**Head** strongly transverse in dorsal view with prominent antennal sockets and erect pubescence; antennal sockets with slight cleft between toruli anteriorly, malar space smooth, genae granulose; malar keel absent; vertex highly convex; temples strongly converging posteriorly; ocelli large; transverse eye diameter a little shorter than malar space; eyes pubescent; head in lateral view higher than long; head in frontal view subtriangular with smooth face; antennal sockets smooth below; subantennal furrows short, distinct; epistomal sulcus developed; tentorial pits surrounded by deep hollows; mouth aperture shorter than malar space; clypeus unmodified (lateral view), smooth; mandibles prominent, short sickle-shaped. **Antenna** 14-segmented; proximal flagellomeres subcylindrical, distal ones suboval.

**Mesosoma** convex, as wide as head, with long, contiguous pubescence; pronotal collar indistinct, pronotal shoulders angular; epomia developed; lateral pronotum strongly impressed, concave, smooth and lustrous, not perceptible from above; lateral rim of pronotum indistinct; mesoscutum convex; notauli percurrent, diverging posteriorly; scutellum slightly convex, smooth with large, rectangular anterior scutellar pit (ASP); axillar depressions smooth with a very fine tuft of pubescence; mesopleuron smooth with large scrobe in middle; metascutellum rounded; lateral sides of metanotum smooth; propodeum subquadrate with subtrapezoidal, sparsely pubescent dorsal surface, posteriorly bordered by distinct, slightly concave ledge; medial keel of propodeum simple; inner plicae of propodeum converging, not projecting posteriorly. **Wings** slightly infusacate, marginal vein distinctly shorter than parastigma (= abscissa between marginal vein and basalis); radial cell closed, 2.5 times as long as marginal vein; stigmal vein slightly oblique and shorter than marginal vein.

**Metasoma.** Petiole cylindrical, smooth with longitudinal ribs, 1.5 times as long as wide; gaster fusiform, pubescent, pygidium slightly upcurved apically; base of macrotergite slightly wider than petiole; basal sculpture of macrotergite with long medial furrow and short adjacent striation; segments preceding pygidium very short and closely abutted; pygidium very short, slightly upraised.

**Male.** Differs from the female by the cylindrical flagellomeres, modified flagellomere 1, and stiff intermittent bristles on the inner side of the fore tibia.

**Variability.** The species varies in the shape and length of flagellomeres in females (oval to suboval) and the shape of the emargination of flagellomere 1 (shallow to deep).

**Differential diagnosis.** The species is closest to *A. bitensis*, from which it differs by the complete absence of malar keel.

**Bionomics.** Flight period May to September; hosts unknown.

**Distribution.** Sweden (NIXON 1957), Switzerland (WALL 1967), Czech Republic (MACEK 1989). New records: Austria, Hungary, Poland and Slovakia.

**Remarks.** This species remained essentially unrecognizable until NIXON (1957) revised the type and provided a drawing of the front tibia, illustrating the characteristic heterogeneous pubescence. WALL (1967) disagreed with NIXON's (1957) concept of *A. scutellaris* (Thomson, 1859) and proposed for it a new name, *Aclista bispinosa* Wall, 1967. Based on the examination of the type, Nixon's concept is correct and thus *A. bispinosa* is a junior synonym of *A. scutellaris*. Association of both sexes is based on the comparison of a large series of specimens from Praha – Krč, Czech Republic (see Material examined).

### *Aclista crassistilus* (Kieffer, 1909)

(Figs. 3, 11, 19, 27)

*Anectata* (*Anectata*) *crassistilus* Kieffer, 1909: 529.

*Aclista crassistilus*: JOHNSON (1992): 29.

**Type locality.** Hungary, Szovata.

**Type material examined.** HOLOTYPE: ♀, 'Szóvata / Csiki // Holotypus 1909 / *Anectata* (*Anectata*) *crassistilus* Kieffer' (MNHN).

**Additional material examined.** CZECH REPUBLIC: BOHEMIA mer., Třeboň district, Lutová (7055), 20.v.1987, 1 ♀, J. Macek lgt. & det. (NMPC).

**Diagnosis. Female.** Head triangular in frontal view, mouth aperture narrower than malar space;

malar space smooth; mandibles short; toruli entire with upraised anterior margin; antennae short and stout, incrassate, 14-segmented; preapical flagellomere transverse; pronotal shoulders rounded; radial cell long (3.0 times as long as marginal vein); marginal vein short (shorter than half of parastigma); gaster suboval; praepygidium short with praepygidial segments narrow and tightly abutted; pygidium short, slightly upraised in lateral view.

**Male.** Unknown.

**Variability.** No variation was observed in the limited material available.

**Differential diagnosis.** Its short mandibles and smooth malar space suggest a close relationship to *A. scutellaris*, from which it differs by the transverse, loosely articulated preapical flagellomers.

**Bionomics.** This is a very rare species. Besides the holotype, only one additional specimen is known. It was collected in yellow pan traps placed in a tree hollow.

**Distribution:** Hungary (KIEFFER 1909). New record: Czech Republic.

### *Aclista bitensis* (Kieffer, 1909)

(Figs. 2, 10, 18, 26)

*Anectata (Anectata) bitensis* Kieffer, 1909: 501.

*Anectata bitensis*: KIEFFER (1916): 508, 511.

*Aclista bitensis*: NIXON (1957): 68, 81.

*Anectata bitensis*: KELNER-PILLAULT (1959): 418; HELLÉN (1964): 26; KOZLOV (1978): 570; JOHNSON (1992): 27.

**Type locality.** France, Bitche.

**Type material examined.** HOLOTYPE: ♀, 'Bitche // Holotypus 1909 / *Anectata (Anectata) bitensis* Kieffer' (MNHN).

**Additional material examined.** CZECH REPUBLIC: BOHEMIA centr.: Praha – Kunratice (5952), 3.viii.1992, 1 spec.; Roztoky u Prahy (5852), 25.vi.1985, 1 spec.; Hostím (6050), 20.vii.1988, 5 spec. BOHEMIA or., Chrudim district, Bučina hill (6060), 14.vii.1984, 1 spec.; Orlické hory Mts., Kačerov (5764), 5.viii.1984, 1 spec. BOHEMIA mer., Šumava Mts., Bulový hill (7050), 7.vii.1981, 1 spec. AUSTRIA: KÄRNTEN, St. Martin am Silberberg, SO Noreia, 900-1100 m a.s.l., 15.vii.1971, 2 spec., Fischer lgt. POLAND bor., Puszcza Borecka forest, 3.vi.1989, 1 spec. POLAND or., Białowieża National Park, 16.ix.1987, 1 spec. HUNGARY bor., Pilis Mts., Piliscsaba, 21.viii.1980, 1 spec.; all J. Macek lgt. (unless stated otherwise) and det. (NMPC).

**Diagnosis. Female.** Mandibles in appearance similar to *A. scutellaris*, short and crossing; tentorial pits surrounded by large deep hollows; malar space concave at base of mandibles with feebly developed, short malar keel.

**Male.** Differs from the female by the cylindrical flagellomeres and emarginate flagellomere 1.

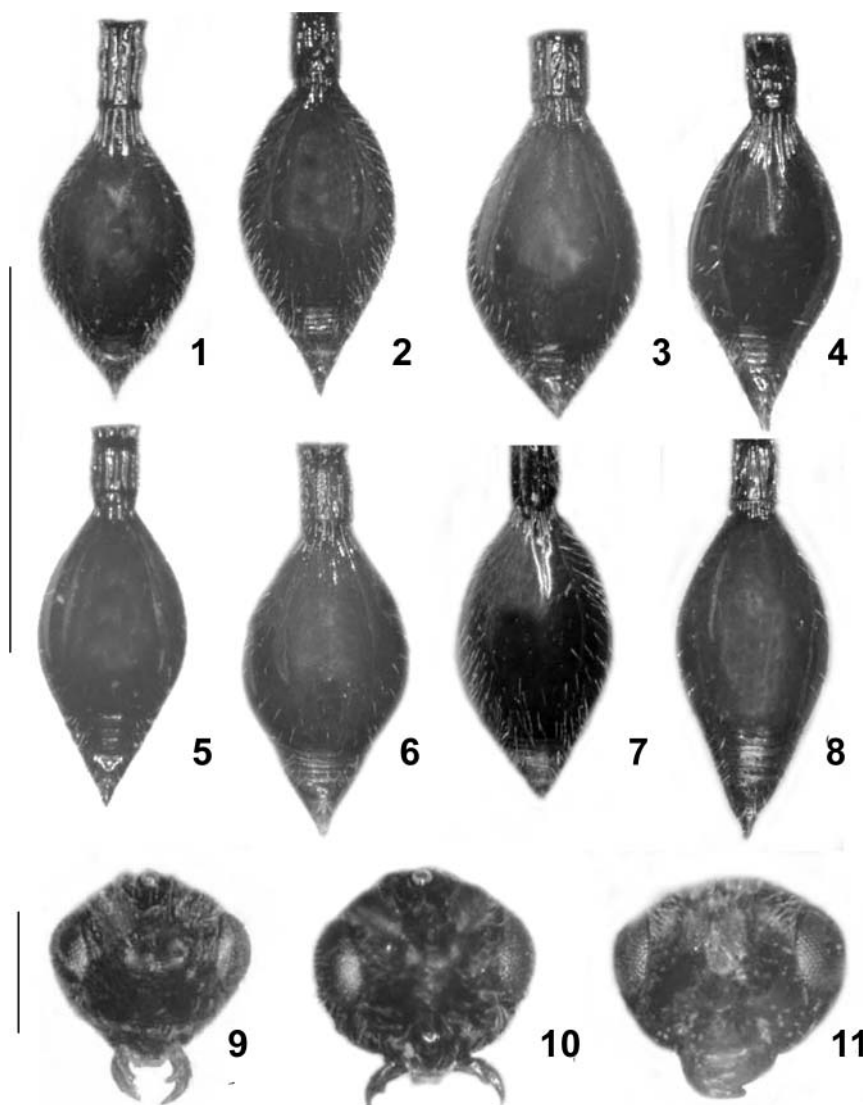
**Variability.** The species varies in the length/width ratio of the flagellomeres, shape of the radial cell, shape of the gaster, and striation at the base of the gaster.

**Differential diagnosis.** This species is closely related to *A. scutellaris* from which it differs by the presence of a short, indistinct malar keel and short mandibles.

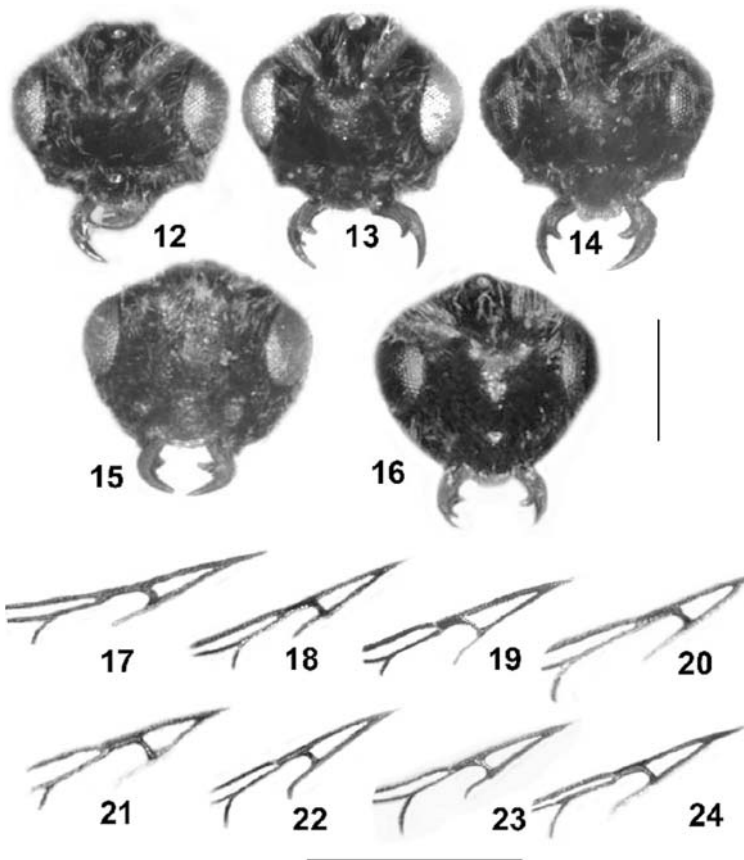
**Bionomics.** Flight period July to September; hosts unknown.

**Distribution.** France (KIEFFER 1909). New records: Austria, Czech Republic, Hungary, Poland.

**Remarks.** NIXON (1957) misinterpreted *A. bitensis* and ascribed the name to another, in fact undescribed species (see *A. pseudobitensis* sp. nov. below).



Figs. 1-11. 1-8 – metasoma. 1 – *Aclista angusta* (Kieffer, 1909); 2 – *A. bitensis* (Kieffer, 1909); 3 – *A. crassistilus* (Kieffer, 1909); 4 – *A. neglecta* (Kieffer, 1907); 5 – *A. pseudobitensis* sp. nov.; 6 – *A. pseudosoror* sp. nov.; 7 – *A. scutellaris* (Thomson, 1859); 8 – *A. szelenyii* (Móczár, 1938). 9-10 – head, frontal view. 9 – *A. angusta*; 10 – *A. bitensis*; 11 – *A. crassistilus*. Scale bars: 2.0 mm (Figs. 1-8) and 0.5 mm (Figs. 9-10).



Figs. 12-24. 12-16 – head, frontal view. 12 – *Aclista neglecta* (Kieffer, 1907), 13 – *A. pseudobitensis* sp. nov.; 14 – *A. pseudosoror* sp. nov.; 15 – *A. szelenyii* (Móczár, 1938); 16 – *A. scutellaris* (Thomson, 1859). 17-24 – fore wing, radial cell region. 17 – *A. angusta* (Kieffer, 1909); 18 – *A. bitensis* (Kieffer, 1909); 19 – *A. crassistilus* (Kieffer, 1909); 20 – *A. neglecta*; 21 – *A. pseudobitensis* sp. nov.; 22 – *A. pseudosoror* sp. nov.; 23 – *A. scutellaris*; 24 – *A. szelenyii*. Scale bars: 1.0 mm.

### *Aclista szelenyii* (Móczár, 1938)

(Figs. 8, 15, 24, 28)

*Xenotoma* (*Zelotypa*) *szelenyii* Móczár, 1938: 46.

*Aclista szelenyii*: NIXON (1957): 68; JOHNSON (1992): 43.

**Type locality.** Hungary, Kőszeg-Hegység.

**Material examined.** CZECH REPUBLIC: BOHEMIA bor., Kadaň env., Úhošt Nature Reserve, 3.vi.1982, 1 ♀, J. Macek lgt. & det. (NMPC).

**Diagnosis. Female.** Malar keel developed, straight; postmalar area developed; mandibles sickle-shaped, widely overlapping; no keel between pronotal shoulder and pronotal spiracle; gaster fusiform; medial furrow at base of macrotergite slightly differentiated, rather confluent with basal striation.

**Male.** Unknown.



**Differential diagnosis.** *Aclista szelenyii* differs from the most similar *A. bitensis* by the long sickle-shaped mandibles and the absence of the keel between the pronotal shoulder and the pronotal spiracle.

**Variability.** No variation was observed in the limited material available.

**Bionomics.** Unknown.

**Distribution.** Hungary (MÓCZÁR 1938). New record: Czech Republic.

**Remarks.** Type not seen; the identification of the species is based on a combination of the original description and NIXON'S (1957) key diagnosis.

***Aclista pseudobitensis* sp. nov.**

(Figs. 5, 13, 21, 29, 33)

*Aclista bitensis*: NIXON (1957): 68, 81 (nec Kieffer, 1909: 531), misinterpretation.

**Type locality.** Czech Republic, central Bohemia, Příbram district, Lichovy.

**Type material.** HOLOTYPE: ♀, 'CZ: Bohemia centr.: Příbram dist., Lichovy (6351), 6.x.1985, J. Macek lgt. et det.' (NMPC). ALLOTYPE: ♂, 'CZ: C Bohemia, Praha-Radotín (6052), 3.vii.1985, J. Macek lgt. et det.' (NMPC). PARATYPES: **CZECH REPUBLIC:** BOHEMIA mer., Stráž nad Nežárkou (6955), 26.vi.1986, ♀; Purkarec – Chýňava (6852), 30.v.1983, ♀. BOHEMIA centr.: Čelákovice env., Lipovka Nature Reserve (5854), 8.-16.vi.1993, ♀; Nižbor env., Vůz-nice brook (5950), 16.vii.1984, ♀; Jiloviště (6052), 9.ix.1986, ♀; Příbram district, Placy forest (6350), 24.viii.1985, ♀; Vonoklasy (6051), 29.vi.1985, ♀; Karlík (6051), 8.vii.1986, ♀; Karlštejn (6051), 2.viii.1988, ♀; Beroun env., Vysoká stráň hill (6050), 24.viii.1984, ♀; Praha – Kunratice (5952): 22.viii.-1.ix.1991, ♀, 8.vii.-3.viii.1992, 2 ♀♀ 1 ♂; Praha – Závist (6052), 20.vi.1985, ♂; Skryje (6048), 6.vi.1981, ♂; Valdek castle (6249), 29.ix.1985, ♂; Jirny (5853), 6.vii.1983, ♂, Šustera lgt. BOHEMIA or.: Spačice (6159), 13.vii.1984, ♀; Orlické hory Mts., Trčkov Nature Reserve (5664), 25.v.-9.vi.1994, ♀, Hájek et Ježek lgt. BOHEMIA occ., Habartice (6646), 31.vii.1982, ♂. MORAVIA mer.: Podyjí National Park: Ledové sluje caves (7161), 12.viii.1992, ♀, Klapperův potok brook (7161), 11.viii.1992, 1 ♀ 1 ♂, Braitava hill (7161), 14.viii.1992, 2 ♀♀; Šobes Nature Reserve (7161), 10.vii.1997, ♀, Baštův mlýn mill (7161), 12.viii.1991, ♂, Mikulov env., Milovický les forest (7166), 24.vi.1983, ♀; Břeclav env., Boří les forest (7266), 31.viii.1986, ♀, all J. Macek lgt. (unless stated otherwise) & det. (NMPC). **SLOVAKIA** occ., Čachtice (7272), 11.viii.1991, ♂, J. Macek lgt. & det. (NMPC). **POLAND** or., Bialowieza National Park, 17.ix.1987, ♀, J. Macek lgt. & det. (NMPC). **GERMANY:** BADEN-WÜRTTEMBERG, Stuttgart env., Willstetten, 18.viii.1980, ♀, 26.viii.1980, 1 ♀ 2 ♂♂, 28.viii.1980, ♀, all M. Jensen lgt., J. Macek det. (NMPC). **HUNGARY:** Pilis Mts., Pilis hill, 28.viii.1988, ♀, J. Macek lgt. & det. (NMPC). **AUSTRIA:** CARINTHIA, zw. Viktring und Seebach, 500 m a.s.l., 12.vi.1977, ♀; Goritsching-Kgl., Viktring, 10.vi.1977, ♂. STYRIA, Neumarkt nō. Furtner Teich, 865-890 m a.s.l., 3.viii.1966, ♀. VIENNA, Prater, 19.v.1957, ♀; Seebenstein, 6.vi.1959, ♀; LOWER AUSTRIA, Eichgraben, Nagelbachgraben, 320 m a.s.l., 8.ix.1974, ♂, all Fischer lgt., J. Macek det. (NHMW, NMPC). **FINLAND:** Kevo, vi.1989, Goulet lgt., J. Macek det. (NMPC).

**Diagnosis.** Mandibles prominent, sickle-shaped, widely overlapping; strong arcuate malar keel surrounding the smooth posterior part of gena (= postmalar area); antennae 14-segmented; flagellomeres subcylindrical, becoming shorter towards apex; pronotal shoulders slightly prominent, margined; posterior pronotal keel incomplete; epomia strongly developed; meta-scutellum tuberculate; inner plicae of propodeum converging, projecting posteriorly; radial cell closed, longer than marginal vein; petiole cylindrical and smooth, with longitudinal ribs; basal sculpture of macrotergite with long medial furrow and long fan-shaped lateral striation; males with modified setae on inner side of protibia, flagellomere 1 at base with shallow emargination.

**Description. Female.** Length: 3.25 mm. Dark brown; head and mesosoma darker than gaster; antennae and appendages yellow

**Head** transverse in dorsal view with prominent antennal sockets; antennal sockets slightly emarginate between toruli; malar area smooth; postmalar area smooth and surrounded by

strong malar keel; malar keel not connected with occipital carina; vertex convex; temples converging posteriorly; ocelli large; transverse eye diameter a little shorter than malar space; eyes pubescent; head in lateral view higher than long; head in frontal view subtriangular, face lustrous; antennal sockets smooth; subantennal furrows absent; epistomal sulcus developed; tentorial pits surrounded by deep hollows; mouth aperture shorter than malar space; clypeus slightly convex in lateral view, smooth; mandibles prominent, sickle-shaped, widely overlapping. **Antenna** 14-segmented; pubescence of flagellum short with intermittent long hairs; proximal flagellomeres subcylindrical, distal ones submoniliform.

**Mesosoma** convex, as wide as head; pronotal collar indistinct, pronotal shoulders slightly prominent, margined; posterior pronotal keel incomplete; epomia developed; lateral pronotum strongly impressed, smooth and lustrous, not visible from above; rim connecting pronotal spiracle with tegula distinct; mesoscutum convex; notauli percurrent, diverging posteriorly; scutellum slightly convex, smooth, with large rectangular fovea; axillar depressions smooth with a very fine tuft of pubescence; mesopleuron smooth with large impression in middle; metascutellum tuberculate; lateral sides of metanotum smooth; propodeum subquadrate, its dorsal surface subtrapezoidal, sparsely pubescent with distinct, slightly concave posterior ledge; medial keel of propodeum simple; inner plicae converging, projecting posteriorly. **Wings** translucent; marginal vein distinctly shorter than parastigma; radial cell closed, longer than marginal vein; stigmal vein slightly oblique to marginal vein, shorter than marginal vein.

**Metasoma.** Petiole cylindrical, smooth with longitudinal ribs, 1.5 times as long as wide; gaster fusiform, sparsely pubescent; base of macrotergite slightly wider than petiole; basal sculpture of macrotergite with long medial furrow and short irregular lateral striation; praepygidial segments very narrow and closely abutted; pygidium very short, as long as praepygidium.

**Male.** Differs from the female by the cylindrical flagellomeres, the emarginated flagellomere 1 and the presence of intermittent stiff bristles on the inner side of the fore tibia.

**Variability.** No significant variation was observed in the available material examined.

**Differential diagnosis.** The 14-segmented antennae in females and modified setae on the fore tibia of males assign the species unambiguously to the *A. scutellaris* species complex, with closer affinities to *A. pseudosoror* sp. nov. (see below). It differs from the latter species by the following characters: i) occipital crenulation present (both sexes); ii) transverse pronotal keel incomplete (female); iii) metasoma slender with pygidium unflexed in repose (female); iv) flagellomere 1 with slight emargination (male).

**Bionomics.** Poorly known; one female was bred from the pupa of a mycetophilid fly (NIXON 1957); flight period May to October.

**Etymology.** The species name refers to Nixon's misinterpretation of *A. bitensis*.

**Distribution.** England, Sweden (NIXON 1957, as *A. bitensis* auct.); Austria, Czech Republic, Finland, Germany, Hungary, Poland, Slovakia.

### *Aclista pseudosoror* sp. nov.

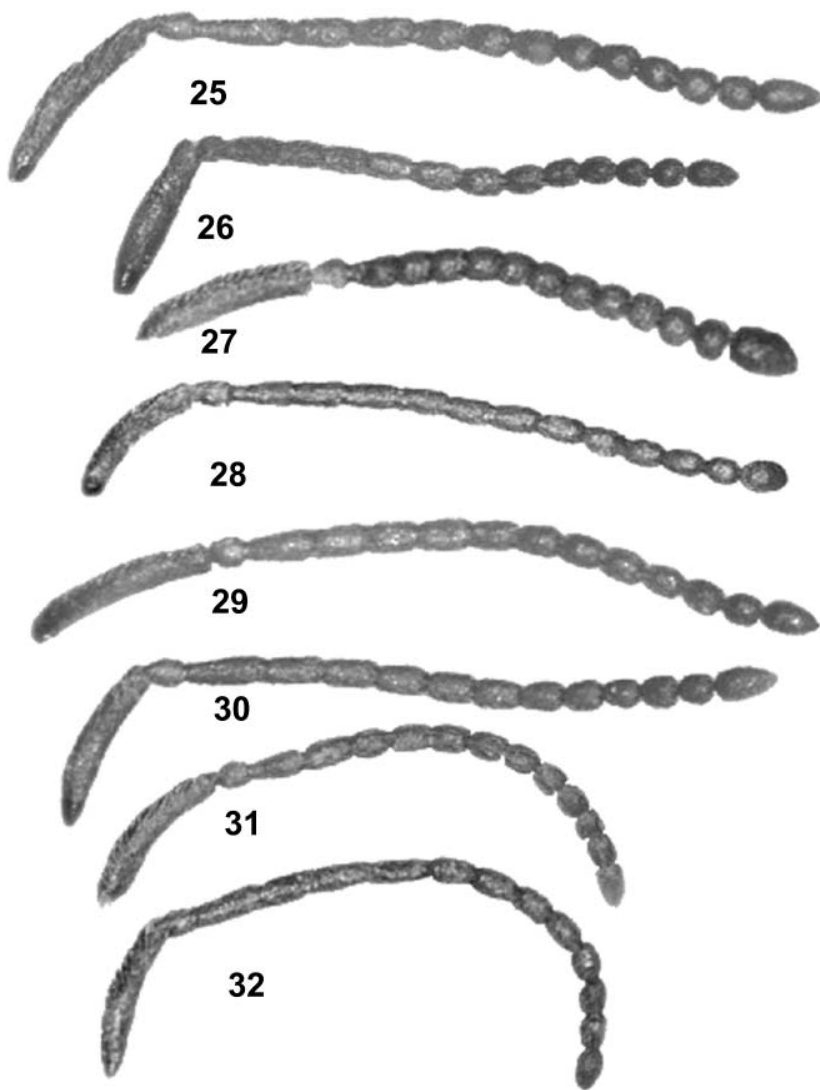
(Figs. 6, 14, 22, 30, 34)

*Aclista soror*: NIXON (1957): 68 (nec Kieffer, 1909: 532), misinterpretation.

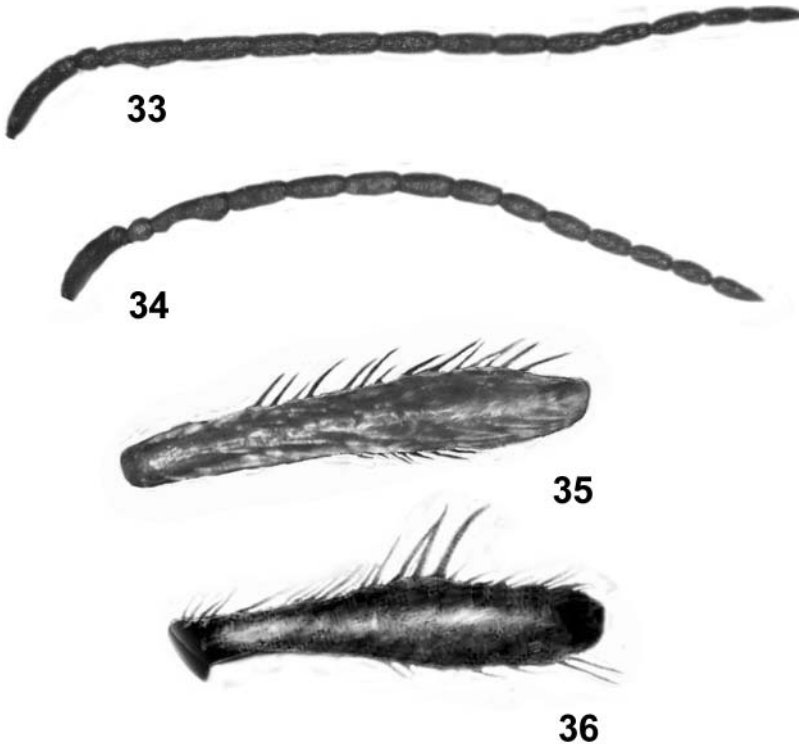
**Type locality.** Czech Republic, eastern Bohemia, Orlické hory Mts., Orlické Záhoří env., meander of Orlice river.

**Type material.** HOLOTYPE: ♀, 'CZ, Orlické hory Mts., 12.ix.1995, meandr Orlice (5764), J. Macek lgt. et det.'

(NMPC). ALLOTYPE: ♂, 'CZ, Bohemia bor., Sokolov dist., Starý Jiří (strip mine) (5742), 6.vii.2001, J. Macek lgt et det.' (NMPC). PARATYPES: **CZECH REPUBLIC:** BOHEMIA centr., Nižboř (5949), 26.vi.1982, ♀; Vůznice, river (5950), 16.viii.1984, ♀; Kokořínský důl Nature Reserve (5553), 20.viii.1982, ♀; Sázava (6155), 22.viii.1985, ♀; Ondřejov (6054), 18.viii.1988, ♀; Roztěž (6057), 17.viii.1985, ♀. BOHEMIA mer., Purkarec (6852), 12.vi.1982, ♀; Třeboň env, Hamr (7055), 31.v.1983, ♀; Písecké hory hills, Vysoký Kamýk hill (6751), 26.viii.1982, ♀. BOHEMIA or., Králický Sněžník Nature Reserve, Mlýnský potok brook (5866), 22.viii.2001, ♀; Orlické hory Mts.: Trčkov



Figs. 25-32 – female antennae. 25 – *Aclista angusta* (Kieffer, 1909); 26 – *A. bitensis* (Kieffer, 1909); 27 – *A. crassistilus* (Kieffer, 1909); 28 – *A. szelenyii* (Móczár, 1938); 29 – *A. pseudobitensis* sp. nov.; 30 – *A. pseudosoror* sp. nov.; 31 – *A. neglecta* (Kieffer, 1907); 32 – *A. scutellaris* (Thomson, 1859). Scale bar = 1.0 mm.



Figs. 33-34 – male antennae. 33 – *Aclista pseudobitensis* sp. nov.; 34 – *A. pseudosoror* sp. nov. Scale bar = 3.0 mm. – male fore tibia. 35 – *A. angusta* (Kieffer, 1909); 36 – *A. scutellaris* (Thomson, 1859). Scale bar = 0.5 mm.

Nature Reserve (5664), 11.x.1995, ♀, 1.x.1997, ♀, 26.viii.-15.ix.1994, 2 ♀♀; Zdobnice (5764), 25.viii.1994, ♀; Orlické Záhoří (5764), 12.ix.1996, ♀; Kačerov (5764), 20.-28.vi.1984, ♀; Železné hory Mts.: Polom Nature Reserve (6160), 26.-30.vii.1999, ♀, Farkač lgt. BOHEMIA occ., Sokolov district: Starý Jiří opencast (5742), 6.vii.2001, Ježek et Chvojka lgt. MORAVIA mer., Podyjí National Park, Klapperův potok brook (7161), 11.viii.1992, 3 ♀♀; Baštův mlýn mill (7161), 12.viii.1991, ♂; Braitava hill (7160), 14.viii.1992, 2 ♀♀; Lanžhot env., Ranšpurk Nature Reserve (7367), 8.viii.1991, ♀; Bílé Karpaty Mts., Velká Javořina Mt. (7171), 8.viii.1991, ♂. SLOVAKIA centr., Polana Nature Reserve, Hrončecký grůň hill (7382), 2.viii.1986, 2 ♂♂; Klenovský Vepor hill (7384), 29.vii.1986, ♂; Slovenské Rudohorie Mts., Dobročský prales Nature Reserve (7284), 30.vii.1986, ♂. SLOVAKIA occ., Čachtice (7272), 11.viii.1991; all J. Macek lgt. (unless stated otherwise) et det. (NMPC). GERMANY: BAVARIA, Spiegelau, 7.-11.ix.1995, ♀, Barták lgt., J. Macek det. (NMPC). AUSTRIA: UPPER AUSTRIA, Mühlendorf – Hochreith, Scharenstein, 550-600 m a.s.l., 20.vii.1977, ♀; STYRIA: Gragger Schlucht, Neumarkt, 900-1000 m a.s.l., 10.vii.1971, ♂, elevation NO Further Teich pond, Mariahof, 870-890 m a.s.l., 2.vii.1971, ♂, all Fischer lgt., all J. Macek det. (NHMW, NMPC). POLAND centr., Modrzewina Nature Reserve, 26.vii.1981, 1 ♀, 24.viii.1981, ♀, 17.-24.vi.1981, ♂; Klembow, Debina Nature Reserve, 15.-24.x.1980, ♂, all Ekipa lgt., all J. Macek det. (NMPC). SPAIN: Pyrenées or., Val d'Aran, 23.viii.1993, ♀, J. Macek lgt. & det. (NMPC).

**Diagnosis.** Mandibles prominent, sickle-shaped, widely overlapping; postmalar area smooth and surrounded by strong malar keel; malar keel not connected with occipital carina; antennae 14-segmented; flagellomeres submoniliform; pronotal shoulders prominent; epomia develo-

ped; metascutellum rounded; inner plicae of propodeum converging, projecting posteriorly; radial cell closed, longer than marginal vein; petiole cylindrical and smooth, with longitudinal ribs; basal sculpture of macrotergite with long medial furrow and short irregular lateral striation; males with modified setae on the inner side of protibia.

**Description. Female.** Length: 2.75 mm. Dark brown; head black; antennae and appendages fulvous.

**Head** strongly transverse in dorsal view with prominent antennal sockets; antennal sockets between toruli with shallow cleft; malar area smooth, postmalar area developed and smooth, in part surrounded by strong arcuate malar keel; occipital carina incomplete, finely crenulate; vertex convex; temples converging posteriorly; ocelli large; transverse diameter of eye a little shorter than malar space; eyes pubescent; head in lateral view higher than long; head in frontal view subtriangular, face lustrous; antennal sockets smooth; subantennal furrows absent; epistomal sulcus developed; tentorial pits surrounded by deep hollows; mouth aperture shorter than malar space; clypeus slightly convex in lateral view, smooth; mandibles strongly sickle-shaped, widely overlapping. **Antennae** 14-segmented; flagellum with semidecumbent short pubescence; proximal flagellomeres subcylindrical, distal ones subquadrate.

**Mesosoma** convex, as wide as head; pronotal collar indistinct, pronotal shoulders angular; epomia strongly developed; lateral pronotum strongly impressed, smooth and intensively lustrous, not perceptible from above; rim connecting pronotal spiracle with tegula distinct; mesoscutum convex; notauli percurrent, diverging posteriorly; scutellum convex, smooth, with large rectangular fovea; axillar depressions smooth, with a very fine tuft of pubescence; mesopleuron smooth with large impression in middle; metascutellum tuberculate with short medial keel; lateral sides of metanotum smooth; propodeum subrectangular, sparsely pubescent with distinct, slightly convex, upraised posterior ledge; medial keel of propodeum simple; both inner and outer plicae converging and projecting posteriorly. **Wings** translucent; marginal vein distinctly shorter than parastigma; radial cell closed, longer than marginal vein; stigmal vein slightly oblique to marginal vein, shorter than marginal vein.

**Metasoma.** Petiole cylindrical, smooth, with longitudinal ribs, 1.5 times as long as wide; gaster fusiform, sparsely pubescent; base of macrotergite slightly wider than width of petiole; basal sculpture of macrotergite with strong fan-shaped striation and fine medial furrow; praepygidial segments narrow and closely abutted; pygidium very short and upcurved.

**Male.** Differs from the female by the cylindrical flagellomeres, modified flagellomere 1, and heterogeneous pubescence of the fore tibia.

**Differential diagnosis.** *Aclista pseudosoror* sp. nov. is closely related to *A. pseudobitensis* sp. nov., differing by the following characters: i) apical flagellomeres subquadarate (females); ii) occipital keel not crenulate (both sexes); iii) gaster stout (female); iv) praepygidial segments closely abutted (female); v) radial cell 1.5 times as long as marginalis (both sexes); vi) emargination of flagellomere 1 large, covering more than half of the segment.

**Variability.** No significant variation was observed in the available material examined.

**Bionomics.** Poorly known; flight period May to October.

**Etymology.** The species name refers to Nixon's misinterpretation of *A. soror*.

**Distribution.** England and Sweden (NIXON 1957, as *A. soror* auct.); Austria, Czech Republic, Germany, Poland, Slovakia, and Spain.

***Aclista neglecta* (Kieffer, 1907)**

(Figs. 4, 12, 20, 31)

*Pantoclis neglecta* Kieffer, 1907: 31.*Aclista neglecta*: NIXON (1957): 68, 81; JOHNSON (1992): 38.*Anectata neglecta*: HELLEN (1964): 26; KOZLOV (1978): 570.*Aclista (Anectata) neglecta*: WALL (1967): 162.**Type locality.** Scotland.**Type material examined.** HOLOTYPE: ♂, 'Scotland // Holotypus 1907 / *Pantoclis neglecta* Kieffer' (BMNH).

**Additional material examined.** CZECH REPUBLIC: BOHEMIA centr., Praha – Kosoř (6051), 3.vii.1985, 1 spec.; Praha – Radotín (6052), 3.vii.1985, 1 spec.; Lichovy (6351), 6.x.1985, 1 spec.; Všenory (6051), 6.viii.1986, 1 spec.; Praha – Kunratice (5952) 3.viii.1992, 1 spec. BOHEMIA or., Orlické hory Mts., Bukačka Nature Reserve (5664), 23.viii.1994, 1 spec. MORAVIA mer., Bílé Karpaty Mts., Velká Javořina Mt. (7171), 5.viii.1991, 1 spec.; Milovice (7166), 20.viii.1984, 1 spec.; Podyjí National Park: Čížov (7161), 11.viii.1992, 1 spec.; Ledové sluje caves (7161), 12.viii.1992, 1 spec.; Braitava hill (7160), 14.viii.1992, 1 spec.; Klapperův potok brook (7161), 11.viii.1992, 2 spec. SLOVAKIA centr., Nízke Tatry National Park, Ždiarska dolina valley (7183), 30.vii.1984, 1 spec.; all J. Macek lgt. & det. (NMPC). AUSTRIA: TIROLIA or., Iselsberg, 1300 m a.s.l., 13.vii.1978, 1 spec. WIEN, Wien III, 8.vi.1958, 1 spec., all Fischer lgt., J. Macek det. (NMPC). GERMANY: BADEN-WÜRTTEMBERG, Stuttgart district, Weilstetten, 28.x.1980, Jensen lgt., J. Macek det. (NMPC). HUNGARY bor., Pilis Mts., Pilis hill, 28.viii.1988, 1 spec., J. Macek lgt. & det. (NMPC).

**Diagnosis.** Malar keel prominent and angular, hypostomal ridge raised, surrounding distinct postmalar area; longitudinal keel present between antennal toruli; antennae in female short, with subquadrate flagellomeres; flagellomeres in males cylindrical with flagellomere 1 moderately emarginate; radial cell short; mandibles strongly sickle-shaped and widely overlapping; pronotal shoulders not edged; front tibiae in males with a row of long stiff bristles.

**Variability.** No significant variation was observed in the limited material available.

**Differential diagnosis.** This species is unusual in having a well-developed postmalar area margined by a strong malar keel, a prominent hypostomal ridge, and a longitudinal keel between toruli (unique for *Aclista*). The species is easily distinguished from other species of the *A. scutellaris* species complex by the longitudinal keel between toruli and the very short radial cell.

**Distribution.** Czech Republic (MACEK 1989), England (NIXON 1957, WALL 1967), Finland (WALL 1967), Scotland (WALL 1967), Sweden (NIXON 1957, WALL 1967), Switzerland (WALL 1967). New records: Austria, Germany, Hungary and Slovakia.

**Remark.** The identification of the species is based on NIXON's (1957) key diagnosis.

***Aclista angusta* (Kieffer, 1909)**

(Figs. 1, 9, 17, 25)

*Anectata (Anectata) angusta* Kieffer, 1909: 534.*Anectata angusta*: KIEFFER (1916): 508, 512.*Aclista angusta*: NIXON (1957): 68, 80.*Aclista (Anecoreta) angusta*: WALL (1967): 163.*Anectata (Anectata) fuscicornis* Kieffer, 1909: 529, **syn. nov.***Anectata (Anectata) levifrons* Kieffer, 1909: 530, **syn. nov.***Anectata (Anectata) soror* Kieffer, 1909: 532, **syn. nov.***Oxylabis marshalli* Kieffer, 1907: 6, 8, **syn. nov.***Oxylabis (Acanthopsilus) marshalli*: KIEFFER (1908): 395.*Acanthopsilus marshalli*: KIEFFER (1916): 374.

**Type locality.** France, Forêt de St. Germain.

**Type material examined.** *Aclista angusta*. HOLOTYPE: ♀, 'Foret de St. Germain // Holotypus 1909 / Anectata (Anectata) angusta Kieffer' (MNHN). *Aclista soror*. HOLOTYPE: ♀, 'Mesnil-le Roy // Holotypus 1909 / Anectata (Anectata) soror Kieffer' (MNHN).

**Additional material examined.** **CZECH REPUBLIC:** BOHEMIA bor., Doupovské hory Mts., Úhošťany hill (5645), 3.vi.1981, 3 spec. BOHEMIA centr., Praha – Kunratice (5952), 29.v.1981, 1 spec.; Praha – Nebužice (5852), 31.v.1982, 4 spec.; Praha – Krč (5952), 12.vi.1985, 9 spec.; Medník Nature Reserve (6152), 16.vi.1985, 3 spec. BOHEMIA mer., Dobronice (6652), 8.vii.1985, 3 spec.; Hluboká nad Vltavou env., Stará obora forest (6952), 6.vii.1982, 1 spec. BOHEMIA or., Dobruška env., Mělčany (5762), 27.v.2002, 1 spec.; Králický Sněžník Nature Reserve, Mlýnský potok brook (5866), 29.vi.2001, 1 spec. MORAVIA mer., Třešť env., Špičák hill (6759), 20.vi.1983, 1 spec. **SLOVAKIA** centr., Belianské Tatry National Park, Bielowodská dolina valley (6787), 12.viii.1982, 1 spec.; Nízké Tatry National Park: Latiborská hola hill, 9.viii.1994, 1 spec.; Kyslá valley, 11.viii.1982, 3 spec., all J. Macek lgt. & det. (NMPC). **HUNGARY** centr., Tompa, 7.-9.iv.1977, 55 spec., Szabó lgt. (NMPC, HNMH). **POLAND** centr., Warszawa, J. Sobieskiego Nature Reserve, 1.vi.1981, 1 spec., Ekipa lgt., J. Macek det. (NMPC). **GERMANY:** BAVARIA, Spiegelau, 7.-11.ix.1995, 1 spec., Barták lgt., J. Macek det. (NMPC).

**Diagnosis.** Habitus slender, petiole narrow; mandibles short, shortly overcrossing, malar area smooth, postmalar area impressed; head triangular in frontal view, genae converging; mouth aperture narrow; metascutellum prominent, conical; radial cell short and narrow; marginal vein almost as long as postmarginal vein; lower plicae of propodeum strongly projecting posteriorly; praepygidium with tightly abutted, narrow segments; medial furrow of macrotergite long with adjacent strong striae; fore tibiae in males with homogeneous longer pilosity.

**Male.** Differs from the female by long setiform antennae and a slight emargination of flagellomere 1.

**Variability.** The species displays some variation in the following characters: colour (including appendages) piceous to dark brown; antennae slender to stout; distal flagellomeres quadrate to slightly transverse; petiole slender to stout; petiole sculpture smoothly ribbed to rugose; gaster fusiform to ellipsoid; metascutellum conical to rounded; radial cell long to short; marginal vein as long as parastigma to shorter than parastigma; stigmal vein vertical to oblique.

**Differential diagnosis.** The odd mix of 14-segmented antennae in females, shortly overlapping mandibles (both sexes), absence of malar keel (both sexes), and homogeneous pilosity on front tibiae (males) suggests the species has a rather isolated position within the genus.

**Bionomics.** Flight period May to August; males are much rarer than females. Hosts unknown.

**Distribution.** Czech Republic (MACEK 1989), England (NIXON 1957), France (KIEFFER 1909), Switzerland (WALL 1967). New records: Germany, Hungary, Poland, Slovakia.

**Remark.** Given the lack of types, the synonymy of *Oxylabis marshalli*, *A. fuscicornis*, and *A. levifrons* is based only on the original descriptions.

## Key to species of *Aclista scutellaris* species complex in Central Europe

### Females

- |       |   |   |
|-------|---|---|
| 1     | Antennae 14-segmented. ....                                     | <i>A. scutellaris</i> (Thomson, 1859) complex |
| –     | Antennae 15-segmented. ....                                     | other <i>Aclista</i> (not keyed)              |
| 2 (1) | Mandibles short (Figs. 9, 10, 16). ....                         | 3   |
| –     | Mandibles widely overlapping, sickle-shaped (Figs. 11-15). .... | 6   |

- 3 (2) Body slender; radial cell short, at most a little longer than marginal vein; metascutellum tuberculate to conical. .... *A. angusta* (Kieffer, 1909)  
 – Body stout; radial cell distinctly longer than marginal vein; metascutellum at most convex. .... 4
- 4 (3) Malar space smooth (Fig. 16). .... *A. scutellaris* (Thomson, 1859)  
 – Malar space with short straight keel (Figs. 10, 11). .... 5
- 5 (4) Antennae short with smaller subquadrate subapical and large apical segment (Fig. 27). .... *A. crassistilus* (Kieffer, 1909)  
 – Antennae longer with submoniliform subapical segments; apical segment not exceedingly wider than the preceding one (Fig. 26). .... *A. bitensis* (Kieffer, 1909)
- 6 (1) Sharp longitudinal keel between toruli present. .... *A. neglecta* (Kieffer, 1907)  
 – Area between toruli unmodified (keel absent). .... 7
- 7 (6) Malar keel feeble, straight, not prominent (Fig. 15). .... *A. szelenyii* (Móczár, 1938)  
 – Malar keel strong, angular, prominent (Figs. 12, 13, 14). .... 8
- 8 (7) Antennae stout, with submoniliform praeapical flagellomeres (Fig. 29). ....  
 ..... *A. pseudobitensis* sp. nov.  
 – Antennae slender, with quadrate praeapical flagellomeres (Fig. 30). ....  
 ..... *A. pseudosoror* sp. nov.

## Males

Males of *A. crassistilus* and *A. szelenyii* are unknown.

- 1 Mandibles short (Figs. 9, 16). .... 2  
 – Mandibles widely overlapping, sickle-shaped (Figs. 12, 13, 14). .... 5
- 2 (1) Front tibia with homogeneous pubescence (Fig. 35). .... 3  
 – Front tibia with heterogeneous pubescence consisting of short semidecumbent setae with intermittent stiff, erect bristles (Fig. 36). .... 4
- 3 (2) Emargination of flagellomere 1 very shallow; face smooth; marginal vein slightly shorter than parastigma, radial cell a little longer than marginal vein. .... *A. angusta*  
 – Emargination of flagellomere 1 deep, covering more than half the length of the segment; face with fine rugosity; marginal vein two thirds as long as parastigma; radial cell twice as long as marginal vein. .... **other *Aclista*** (not keyed)
- 4 (2) Malar space at base of mandibles smooth. .... *A. scutellaris*  
 – Malar space at base of mandibles with short keel (Fig. 10). .... *A. bitensis*
- 5 (1) Sharp longitudinal keel between toruli present. .... *A. neglecta*  
 – Area between toruli unmodified (keel absent). .... 6
- 6 (5) Front tibia with heterogeneous pubescence consisting of short semidecumbent setae with intermittent stiff, erect hooked bristles. .... 7  
 – Front tibia with homogeneous pubescence. .... **other *Aclista*** (not keyed)
- 7 (6) Emargination of flagellomere 1 covering more than two thirds of the segment (Fig. 34). .... *A. pseudosoror* sp. nov.  
 – Emargination of flagellomere 1 covering at most two thirds of the segment (Fig. 33).  
 ..... *A. pseudobitensis* sp. nov.



## Appendix

The list below and Table 1 summarize characters important for the definition of species in the *A. scutellaris* complex as derived from comparison with other *Aclista* species. The table is intended as a basis for future cladistic analysis of a broader material. With the exception of character 5, the distribution of the characters does not provide an unequivocal diagnosis for the presently treated *A. scutellaris* species complex.

1. Malar keel (males and females): absent (0); short and feebly developed, straight (1); long and strongly developed, slightly arcuate (2); long and strongly developed, angular (3).
2. Mandibles (male and females): shortly overlapping (0); widely overlapping, sickle shaped (1).
3. Metascutellum (males and females): flat (0); convex with raised medial keel (1); conical (2); spinose (3).
4. Fore tibia (males): without modified bristles, pubescence homogeneous (0); with modified stiff bristles, pubescence heterogeneous (1).
5. Antennae (females): 15-segmented (0); 14-segmented (1).
6. Antennal shelf between toruli: with shallow cleft (0); entire (1).
7. Antennal shelf between toruli: smooth (0); carinated (1).
8. Radial cell: long, longer than marginal vein (0); short, only as long as marginal vein (1).

Table 2. Data matrix for species of the *A. scutellaris* (Thomson, 1859) species complex. Characters and codes based on the list above

Taxon	Characters							
	1	2	3	4	5	6	7	8
<i>A. angusta</i>	0	0	2	0	1	0	0	1
<i>A. scutellaris</i>	0	0	1	1	1	0	0	0
<i>A. bitensis</i>	1	0	1	1	1	0	0	0
<i>A. szelenyi</i>	1	1	1	?	1	0	0	0
<i>A. pseudobitensis</i>	3	1	1	1	1	0	0	0
<i>A. pseudosoror</i>	2	1	1	1	1	0	0	0
<i>A. neglecta</i>	3	1	1	1	1	1	1	1
<i>A. crassistilus</i>	0	0	1	?	1	1	0	0
other <i>Aclista</i>	0	0/1	0/1/2/3	0	0	0/1	0	0/1

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