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Agrilus bialowiezaensis sp. n. from Poland
(Coleoptera: Buprestidae)

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ABSTRACT. *Agrilus bialowiezaensis* sp. n. from Białowieża Primeval Forest (NE Poland) is described and illustrated. A key of central European species of *A. betuleti*, species-group is given.

1963 brought a discovery in the Białowieża Primeval Forest of a previously unknown species from the genus *Agrilus* DAHL. Further specimens were found by the author in 1981 and in later years.

It is worth noting that the author of the name of the genus is DAHL (1823) and not - as it is commonly believed - CURTIS, who did not use this name until 1825 (BURAKOWSKI et al., 1985).

Białowieża Primeval Forest is a natural feature unique in Europe. Geographically it lies between longitudes 23°31' - 24°21' E, and between latitudes 52°29' - 52°57' N. It covers flat lowlands between 134 and 202 m above sea level. It constitutes the best preserved large and compact area of primeval lowland forest, characterized by great species richness of fungi, plants and animals. Deciduous and mixed forest dominates, with a predominance of *Picea abies*, *Pinus sylvestris*, *Betula pendula*, *Alnus glutinosa*, *Quercus robur*, *Carpinus betulus*, *Fraxinus excelsior*, *Tilia cordata*, *Acer platanoides* and *Populus tremula*. Due to its location in the border area between Western and Eastern Europe, the presence of boreal as well as Atlantic and, generally speaking, southern influences, is noticeable.

Central Europe is considered to be well known with respect to *Buprestidae*. Hence it is particularly surprising to discover in this area new taxa of the genus *Agrilus* (see also BILÝ, 1991).

The author has searched for this species also in other parts of Poland and Byelorussia - so far unsuccessfully. Palaearctic collections of many institutions and private persons were checked, but this species was not found.

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I thank B. OWSIANKA and E. ROBERTS (Great Britain) for correcting the English text.

Agrilus bialowiezaensis sp. n.

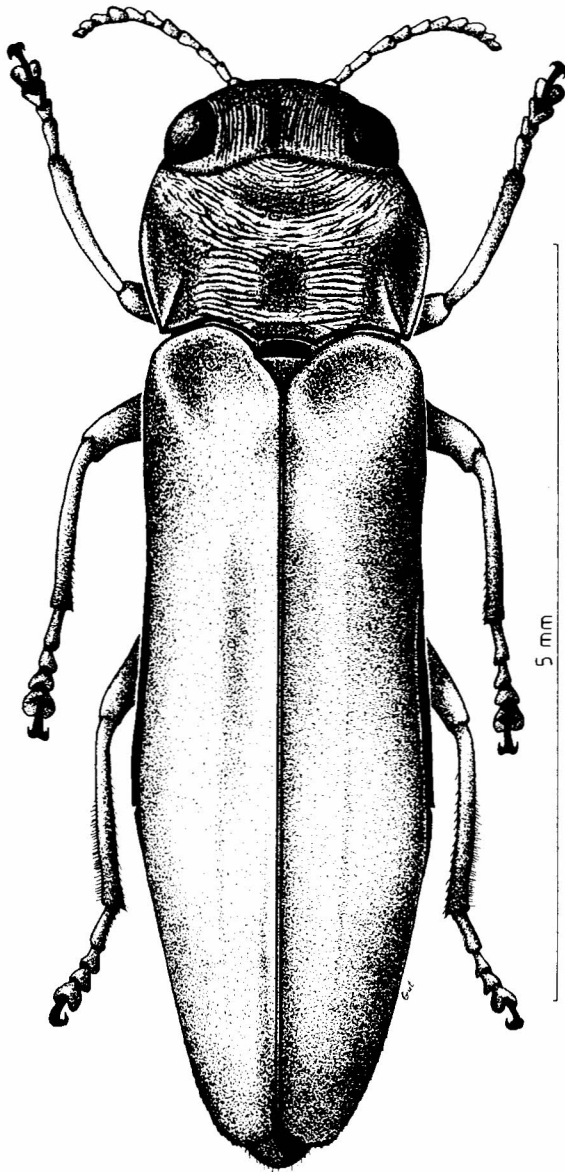
(Figs. 1, 2, 4 - 10, 12, 15, 17)

DESCRIPTION

Holotype male (fig. 1). Relatively large, robust, slightly bicolorous species; head, pronotum and base of elytra green-gold (especially high on pronotum sides); elytra and middle part of posterior half of pronotum dark blue with slightly greenish polish. Ventral side and legs black-green. Pubescence of dorsal side indistinct; frons and ventral side with short, white pubescence, except middle parts of prosternum (with prosternal process), mesosternum and metasternum, anal sternite and inner side base of femora where pubescence is longer.

Head large with front almost flat, vertex convex; frons slightly widening upwards with slight depression on lower part between eyes; clypeus deeply incurved on the anterior margin, separated from frons by fine transverse groove between antennal sockets; lower part of eyes below upper side antennal sockets; eyes slightly projecting beyond outline of head; vertex with almost invisible medial groove and longitudinal rows of distinctly fine grooves, about 2 times as wide as width of eye; antennae short, reaching to middle of pronotum, strongly serrate from fourth segment.

Pronotum 1.7 times as wide as long with a slightly lobate anterior margin and regularly curved lateral margins, the widest part at the middle; viewed laterally marginal carina gently sinuate; submarginal carina separated, nearly straight and subparallel anteriorly, beyond the middle slightly converging and declined; posterior margin emarginate at middle of each elytron, median lobe broadly, arcuately emarginate in front of scutellum; posterior angles of pronotum rectangular; prehumeral pronotal keels not very sharp, straight, extending from posterior angles 3/5 distance to anterior margin, direct to inner side of eyes; lateral pronotal depressions large and



1. *Agrilus bialowiezaensis* sp. n., male - holotype, dorsal view

deep; medial pronotal groove divided into a shallow anterior transverse depression and an elongate prescutallar depression; pronotal structure consisting of fine, transverse wrinkles which are broken up here and there by punctures, without lateral depressions which are almost smooth; wrinkles are bigger near posterior margin.

Scutellum large, pentagonal, with very fine microsculpture and with sharp transverse keel near the middle.

Elytra 2.8 times as long as wide at the base, about as wide as pronotum at the middle; sides subparallel to near middle, slightly enlarged at posterior two thirds and regularly arched from here to apex; sides of abdomen narrowly exposed when viewed from above; apical part of elytra with fine lateral serration and short, dark setae; each elytron rounded separately; basal elytral depressions deep and very wide, reaching scutellum; elytral structure fine, imbricately punctate.

Ventrally, anterior prosternal lobe not so protruding, with shallow medial emargination (fig. 2); prosternal process rather broad, almost subparallel but slightly widening behind hind procoxal cavities, then converging to blunt apex (fig. 12); prosternal, mesosternal, metasternal and basal abdominal sternite surface reticulate-granulate-punctate medially, finely punctate laterally; abdomen with fine punctures; last abdominal sternite rounded apically.

Legs feebly and sparsely punctured; metacoxa flat; tibiae straight with short and sparse black bristles on inner side; metatibia with row of black longer bristles along outer margin in apical two thirds; meso- and metatarsi similarly long, protarsus shorter; first segment of tarsi with short, erect bristles on ventral side; claws on all legs with inner tooth which is much shorter than outer tooth (fig. 15).

Aedeagus (fig. 17).

Sternite VIII and IX (figs. 4, 5), tergite VIII and IX (figs. 6, 7).

Length 7.2 mm, width 2.0 mm, length of pronotum 1.2 mm, length of right elytron 5.4 mm.

Sexual dimorphism. Female differs from male as follows: body more robust and larger; front and dorsal side unicolored - dark blue, sometimes pronotum almost black; ventral side including prosternal process without long, white hairs; sternite VIII (fig. 8); tergites VIII and IX (fig. 9); ovipositor (fig. 10).

Variation. The males vary from 5.9-7.5 mm (average 6.6 mm) long and 1.6-2.0 mm (average 1.8 mm) wide; length of pronotum: 1.0-1.2 mm (1.1); length of right elytron: 4.5-6.2 mm (5.0). The females vary from 5.6-7.8 mm (6.9) long and 1.5-2.1 mm (1.9) wide; length of pronotum: 1.0-1.4 mm (1.2); length of right elytron: 4.1-6.0 mm (5.2). In colour base of elytra sometimes (males) without green-gold.

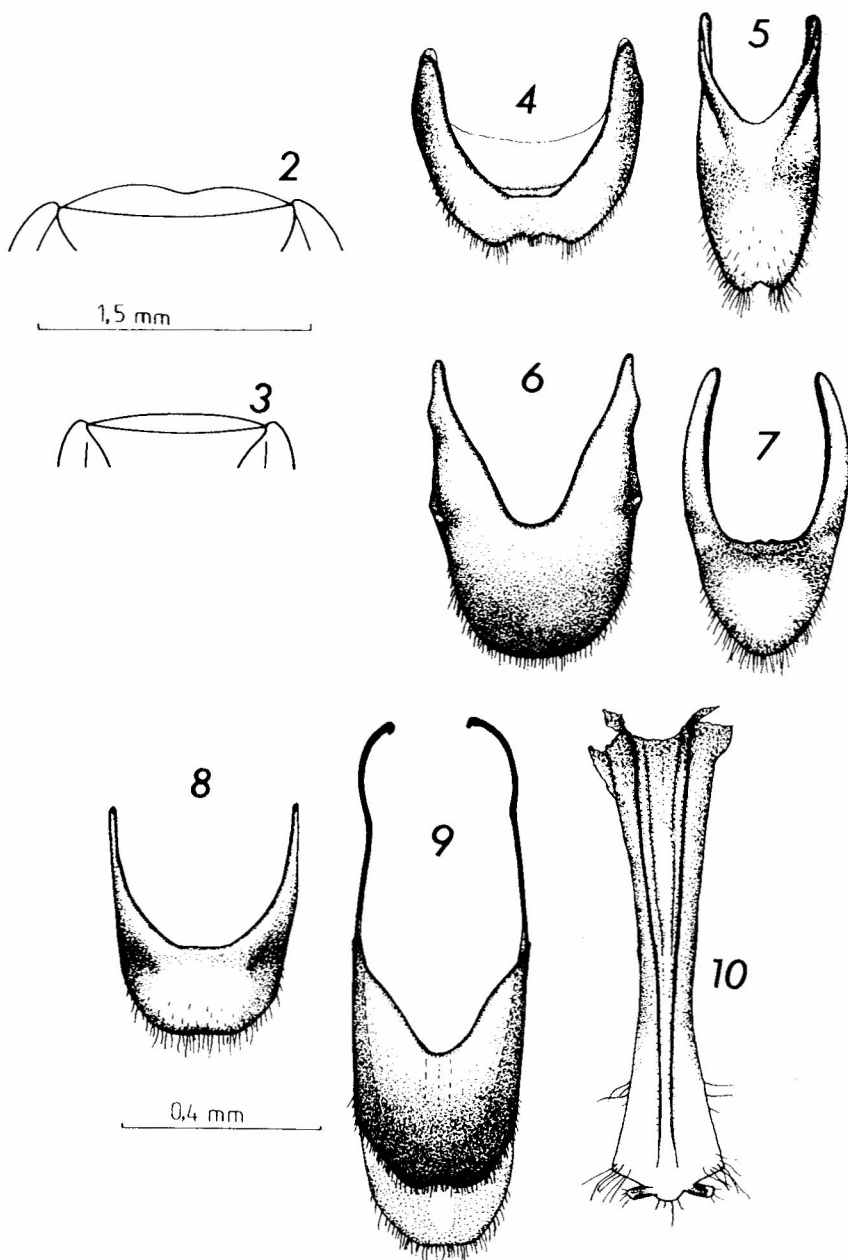
Immature stages. Unknown.

Host plant. For larvae - probably *Populus tremula* L.; for adults - unknown.

TYPE MATERIAL

Described from 28 males and 19 females, all from Białowieża Primeval Forest, NE Poland.

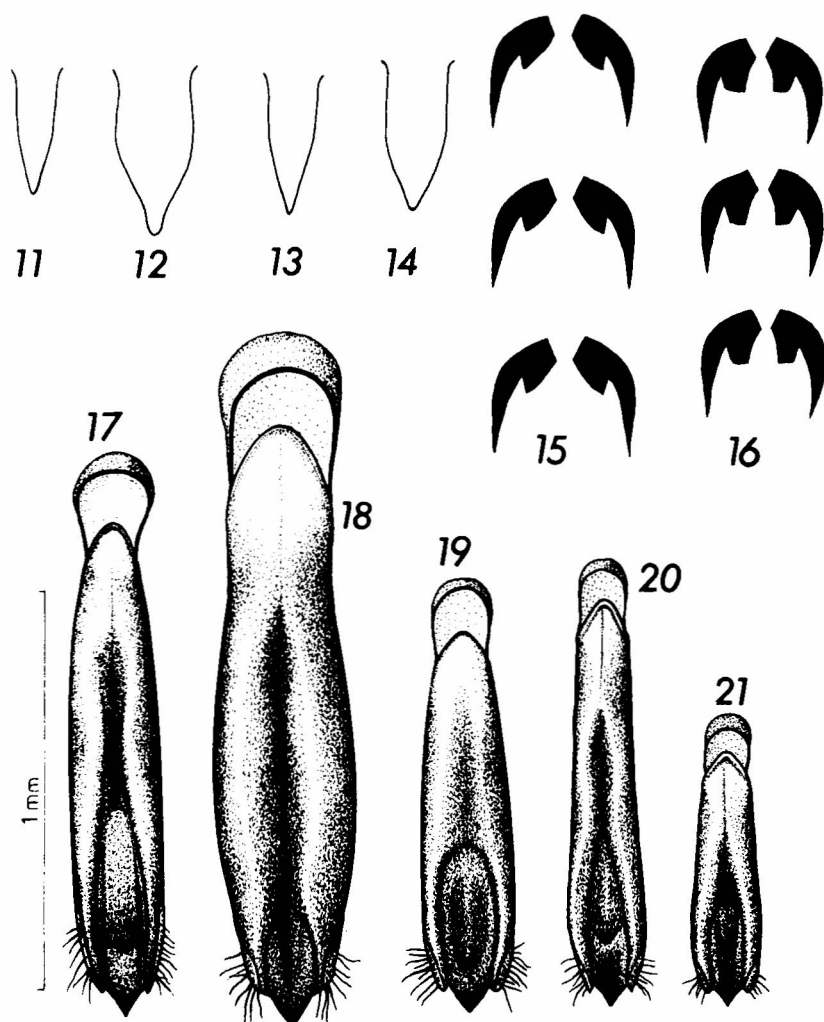
Holotype (male): NE Poland, Białowieża Primeval Forest (BPF), forest quarters 312B/313C, 13 VII 1988, J. M. GUTOWSKI leg. (J.G.).



2 - 3. Anterior margin of prosternal lobe: 2 - *Agrilus bialowiezaensis*, 3 - *A. betuleti*. 4 - 10. *Agrilus bialowiezaensis*: 4 - sternite VIII of male; 5 - sternite IX of male; 6 - tergite VIII of male; 7 - tergite IX of male; 8 - sternite VIII of female; 9 - tergites VIII and IX of female; 10 - ovipositor

Allotype (female): the same data.

Paratypes (27 males, 18 females): BPF, 252B/253C, 7 VII 1981, J.G., (1 male, 1 female); BPF, 517C/540B, 12 VII 1981, J.G., (1 female); BPF, 519C/544A, 30 VI 1983, J.G., (1 male); BPF, 26C, 10 VII 1984, J. ŁUGOWOJ leg., (1 male, 1 female); BPF, 26C, 27 VI 1985, J. ŁUGOWOJ leg., (2 males, 3 females); BPF, 497, 2 VI 1986,



11-14. Prosternal process, male: 11 - *Agrilus pseudocyanus*; 12 - *A. bialowiezaensis*; 13 - *A. pratensis*; 14 - *A. betuleti*. 15-16. Claws male: 15 - *A. bialowiezaensis*; 16 - *A. pratensis*. 17-21. Aedeagus, dorsal view: 17 - *A. bialowiezaensis*; 18 - *A. cyanescens*; 19 - *A. betuleti*; 20 - *A. pratensis*; 21 - *A. pseudocyanus*

T. MOKRZYCKI leg., (1 male); BPF, 367C, 26 VI 1987, J.G., (1 female); BPF, 312B/313C, 15 VI 1988, J.G., (2 males, 2 females); BPF, 312B/313C, 1 VII 1988, J.G., (1 female); BPF, 312B/313C, 13 VII 1988, J.G., (14 males, 4 females); BPF, Stara Białowieża, 20 VI 1989, J.G., (1 male, 2 females); BPF, Stara Białowieża, 27 VII 1989, K. KARWOWSKI leg., (1 male); BPF, 163, 26 VI 1991, A. KUŚKA leg., (2 males, 2 females); BPF, VI 1991, M. BUNALSKI leg., (1 male).

Holotype, allotype and two paratypes deposited in the collection of the Institute of Zoology PAS - Warszawa, the other paratypes deposited in the collections: Natural Forest Department Forest Research Inst. - Białowieża, J.G., J. ŁUGOWOJ, R. HOŁYŃSKI, T. MOKRZYCKI.

ETYMOLOGY

This species is named after Białowieża, the world famous village situated in the centre of Białowieża Primeval Forest.

COMPARISONS

In its general appearance it resembles *A. cyanescens* (RATZ.), from which, however, it differs, among others, in certain rounding of the last sternit of the abdomen, longitudinal wrinkles of the vertex, flat frons (when looking from profile), flat coxa of hind legs, slight emargination of the front edge of prosternal lobe, shape of the aedeagus (figs. 17, 18), and presence of clearly marked sexual dimorphism. Hence it is a superficial similarity, while in reality it is closer to members of *A. betuleti* species group. The differences between the new species and related central European species of this group are presented in the key below.

REMARKS

It occurs in fertile forests growing on rather humid ground (*Tilio-Carpinetum* TRACZYK). The majority of specimens were caught on piles of wood in the middle of the forest, on fresh logs of *Populus tremula*; some females were noticed laying eggs. Specimens occurred in sunny spots. Attempts to breed larvae and later stages from eggs collected on fragments of aspen logs, in laboratory conditions, were unsuccessful.

Altogether 80 individuals have been caught (some not available to the author during the description), out of which 40 males and 30 females (1.3:1) and 10 sex non det.

Key of central European species of *A. betuleti* species-group

1. Unicolorous, black, dark olive-bronze or dark olive-green; eyes not projecting beyond outline of head; anterior prosternal lobe without a shallow medial emargination (fig. 3); prosternal process as in fig. 14; aedeagus as in fig. 19; 4.0-6.5 mm; host plant: *Betula* *A. betuleti* (RATZEBURG)
(syn.: *foveicollis* MARS.)

- Elytra dark blue, blue, blue-violet or blue-green; pronotum golden-copper-purple or green-gold; if body unicolorous then blue or blue-green; eyes projecting beyond outline of head; anterior prosternal lobe with a shallow medial emargination (fig. 2); prosternal process as in figs. 11-13; aedeagus as in figs. 17, 20, 21 2
- 2. Frons distinctly widening upwards (1:1.5); vertex with fine spiral puncturation; unicolorous, light- or dark blue; prosternal process thin and sharp, narrowing from the very base (fig. 11); aedeagus as in fig. 21; 4.0-6.0 mm; host plant: *Salix* *A. pseudocyaneus* KIESENWETTER
- Frons slightly widening upwards or parallel (1:1.0-1.2); vertex with fine longitudinal wrinkles; body bicolorous or unicolorous - dark blue; prosternal process as in figs. 12, 13; aedeagus as in figs. 17, 20 3
- 3. Vertex very convex, 1.7-1.9 times as wide as width of eye; head and pronotum golden-copper-purple, elytra blue-green or blue-violet; claws male as in fig. 16; prosternal process male narrow, almost without pubescence (fig. 13); aedeagus as in fig. 20; 4.0-6.5 mm; host plants: *Populus tremula*, rarely other *Populus* and *Salix* *A. pratensis* (RATZEBURG)
(syn.: *linearis* LAP. et G., *praeclarus* KROG., *roberti* CHEVR., *strigicollis* REY)
- Vertex slightly convex, 1.9-2.1 times as wide as width of eye; female unicolorous - dark blue, male slightly bicolorous: head and pronotum green-gold, elytra dark blue-green; claws male as in fig. 15; prosternal process male wide (fig. 12) with white, dense pubescence; aedeagus as in fig. 17; 5.6-7.8 mm; host plant: *Populus tremula* *A. bialowiezaensis* sp. n.

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