Russian Entomol. J. 27(2): 157–160

Pseudopilemia — a new subgenus of the genus *Phytoecia* Dejean, 1835 (Coleoptera: Cerambycidae)

Pseudopilemia — новый подрод жуков-усачей рода *Phytoecia* Dejean, 1835 (Coleoptera: Cerambycidae)

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KEY WORDS: Coleoptera, Cerambycidae, *Phytoecia*, *Pilemia*, new subgenus, new synonym.
КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Cerambycidae, *Phytoecia*, *Pilemia*, новый подрод, новый синоним.

ABSTRACT. The new subgenus *Pseudopilemia* **subgen.n.** of the genus *Phytoecia* Dejean, 1835 with the type species *Saperda hirsutula* Frölich, 1793 is described. Diagnostic characters of external morphology and endophallic structure of the new subgenus are given. A new synonymy is proposed: *Ph.* (*P.*) *buglanica* D.Marklund et S.Marklund, 2014 = *Phytoecia* (*P.*) *hirsutula* (Frölich, 1793), **syn.n.**

РЕЗЮМЕ. Описан новый подрод *Pseudopilemia* **subgen.n** (типовой вид *Saperda hirsutula* Frölich, 1793) рода *Phytoecia* Dejean, 1835. Приведены диагностические признаки внешней морфологии и полового аппарата самца нового подрода. Предложена новая синонимия: *Ph.* (*P.*) *buglanica* D.Marklund et S.Marklund, 2014 = *Phytoecia* (*P.*) *hirsutula* (Frölich, 1793) , **syn.n.**

Introduction

Subgenus *Pilemia* Fairmaire, 1864 within the genus *Phytoecia* Dejean, 1835 currently includes 16 species with some subspecies distributed in the Western Palearctic [Löbl, Smetana, 2010; Danilevsky, 2016, Özdikmen, Turgut, 2010, Marklund, Marklund, 2014; Szczepański, Karpiński, 2017]. The validity of some species is doubtful. Detailed study of various species of *Pilemia* showed that the most widespread species *Phytoecia* (*Pilemia*) *hirsutula* (Frölich, 1793) and several close species distinctly differ from other species in the external morphology and the structure of endophallus, and a new separate subgenus is proposed for them. It should be noted that many of differential characters to separate these subgenera (proportions of the pronotum and eye lobes, the length and the pubescence of antennae, the structure of claws and elytral pubescence) were indicated in the Daniel's revision [1906].

Material and metods

The research is based on the examination of materials from the following private collections and institutes: National Museum of Prague (Czech Republic, Prague), Zoological Museum of Moscow University (Russia, Moscow), Natural History Museum of Vienna (Austria, Vienna), Bavarian State Collection of Zoology (Germany, Munich), Zoological Museum of Humboldt University (Germany, Berlin). The procedure of preparation cerambycids endophallus and terminology of endophallic structure were described by Kasatkin [2006].

All specimens were examined with Olympus SZ61 stereomicroscopes. The photographs were taken with Canon MP-E 65mm/2.8 on bellows attached to a Canon EOS 5D Mark III camera and Canon 650D mounted on AxioLab microscope. Partially focused images were stacked using the Helicon Focus Pro v5.3.14 software.

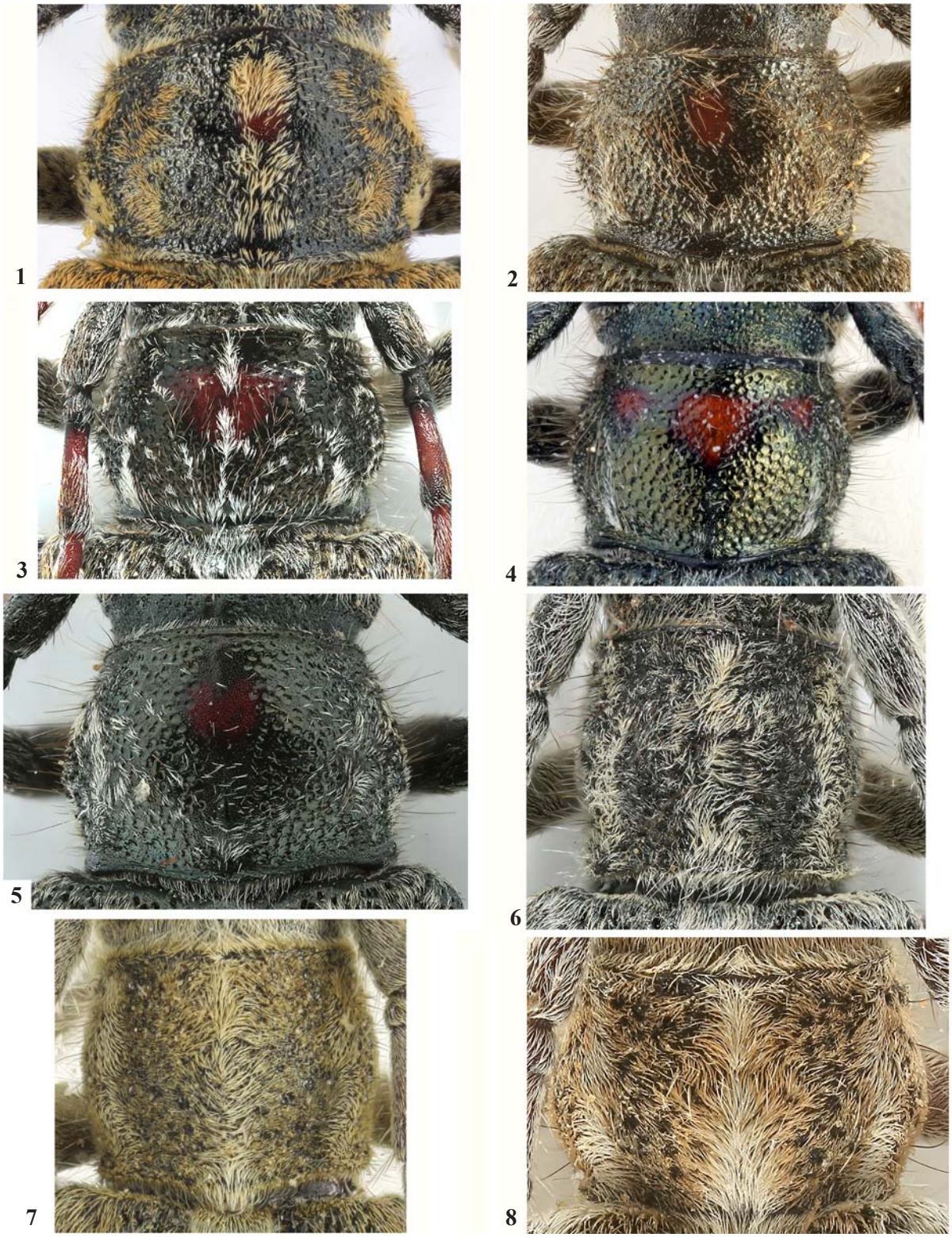
Pseudopilemia **subgen.n.**
Figs 6–8, 15–16, 20, 24.

Type species: *Saperda hirsutula* Frölich, 1793.

DIFFERENTIAL DIAGNOSIS. The new subgenus differs from *Pilemia* in the following characters:

Male pygidium not emarginated at apex, rounded or straightly cut, elongated or acuminated in female; tubercles or denticles on abdominal ventrites absent; ventral lobes of eyes subequal to genal length. Inner part of claws narrow and long, not triangular (Figs 15–16). Female pygidium sharpened apically. Endophallus with very well developed basidorsal crista and other sclerits of basal phallomer; central apical sclerite slightly longer than others (Figs 20, 24); male antennae reaching elytral apex or slightly shorter, cuticle of antennomeres unicolour (without color rings); male pronotum distinctly longitudinal or square (Figs 6–8), densely covered with hairs, without red spot on disc. Elytral pubescence without contrast pattern; with quite long erect or semierect thick setae.

How to cite this article: Kasatkin D.G. 2018. *Pseudopilemia* — a new subgenus of the genus *Phytoecia* Dejean, 1835 (Coleoptera: Cerambycidae) // Russian Entomol. J. Vol.27. No.2. P.157–160. doi: 10.15298/rusentj.27.2.06

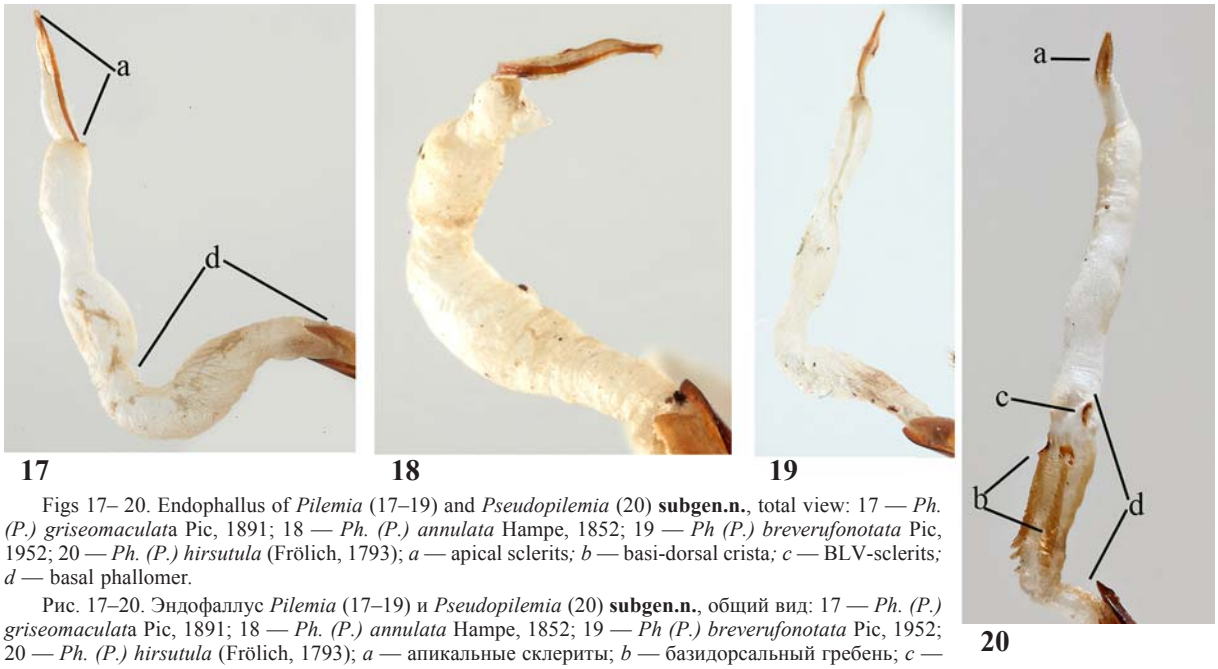


Figs 1–8. Pronotum of *Pilemia* (1–5) and *Pseudopilemia* (6–8) **subgen.n.**: 1 — *Phytoecia (P.) annulata* Hampe, 1852; 2 — *Ph (P.) breverufonotata* Pic, 1952; 3 — *Ph. (P.) griseomaculata* Pic, 1891; 4 — *Ph. (P.) angusterufonotata* Pic, 1952; 5 — *Ph. (P.) tigrina* Muls., 1851; 6 — *Ph. (P.) hirsutula* (Frölich, 1793); 7 — *Ph. (P.) hirsutula homoiesthes* Ganglbauer, 1888; 8 — *Ph. (P.) konyaensis* Danilevsky, 2010; 1–7 — males, 8 — female.

Рис. 1–8. Переднеспинки *Pilemia* (1–5) и *Pseudopilemia* (6–8) **subgen.n.**: 1 — *Phytoecia (P.) annulata* Hampe, 1852; 2 — *Ph (P.) griseomaculata* Pic, 1891; 3 — *Ph. (P.) breverufonotata* Pic, 1952; 4 — *Ph. (P.) angusterufonotata* Pic, 1952; 5 — *Ph. (P.) tigrina* Muls., 1851; 6 — *Ph. (P.) hirsutula* (Frölich, 1793); 7 — *Ph. (P.) hirsutula homoiesthes* Ganglbauer, 1888; 8. *Ph. (P.) konyaensis* Danilevsky, 2010; 1–7 — самцы, 8 — самка.

Figs 9–16. Claws of *Pilemia* (9–14) and *Pseudopilemia* (15–16) **subgen.n.**: 9 — *Ph. (P.) angusterufonotata* Pic, 1952; 10 — *Ph. (P.) griseomaculat*a Pic, 1891; 11 — *Ph. (P.) breverufonotata* Pic, 1952; 12 — *Ph. (P.) annulata* Hampe, 1852; 13 — *Ph. (P.) tigrina* Muls., 1851; 14 — *Ph. (P.) serriventris* Holzschuh, 1984; 15 — *Ph. (P.) hirsutula* (Frölich, 1793); 16 — *Ph. (P.) konyaensis* Danilevsky, 2010.

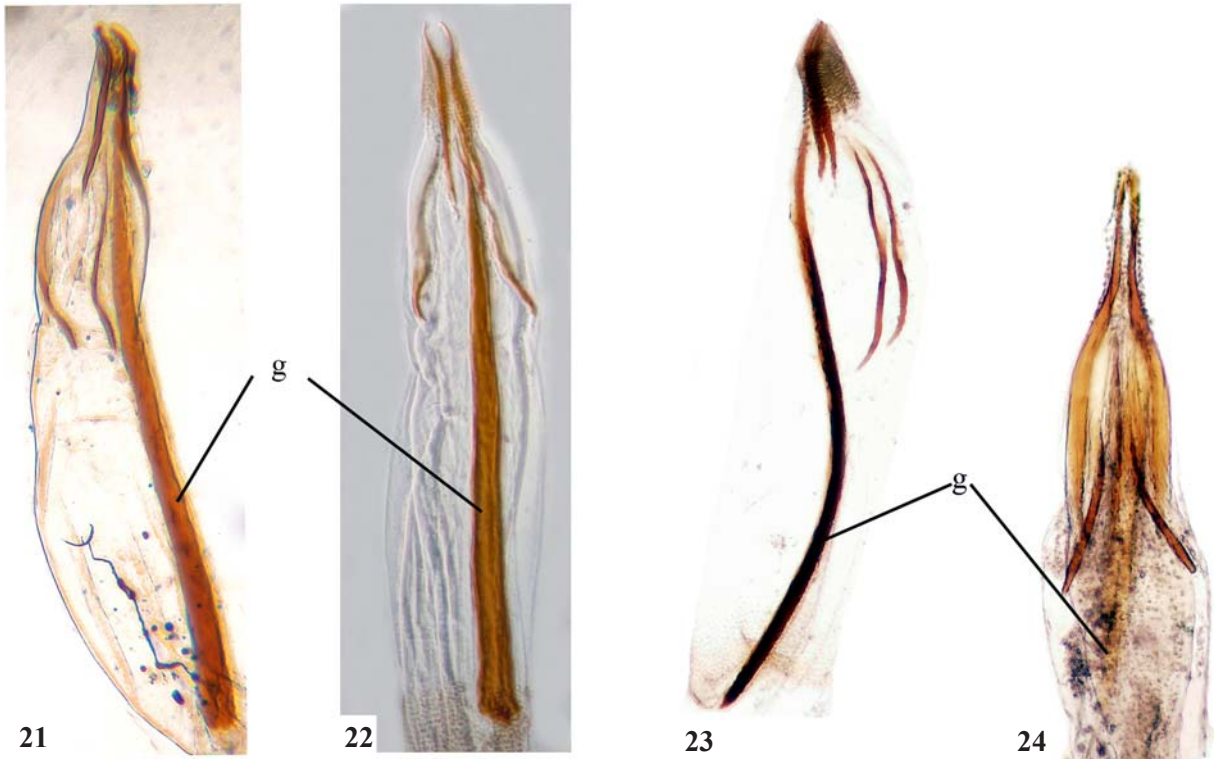
Рис. 9–16. Коготки *Pilemia* (9–14) и *Pseudopilemia* (15–16) **subgen.n.**: 9 — *Ph. (P.) angusterufonotata* Pic, 1952; 10 — *Ph. (P.) griseomaculat*a Pic, 1891; 11 — *Ph. (P.) breverufonotata* Pic, 1952; 12 — *Ph. (P.) annulata* Hampe, 1852; 13 — *Ph. (P.) tigrina* Muls., 1851; 14 — *Ph. (P.) serriventris* Holzschuh, 1984; 15 — *Ph. (P.) hirsutula* (Frölich, 1793); 16 — *Ph. (P.) konyaensis* Danilevsky, 2010.



Figs 17– 20. Endophallus of *Pilemia* (17–19) and *Pseudopilemia* (20) **subgen.n.**, total view: 17 — *Ph. (P.) griseomaculat*a Pic, 1891; 18 — *Ph. (P.) annulata* Hampe, 1852; 19 — *Ph (P.) breverufonotata* Pic, 1952; 20 — *Ph. (P.) hirsutula* (Frölich, 1793); *a* — apical sclerits*; b* — basi-dorsal crista*; c* — BLV-sclerits*; d* — basal phallomer.

Рис. 17–20. Эндофаллус *Pilemia* (17–19) и *Pseudopilemia* (20) **subgen.n.**, общий вид: 17 — *Ph. (P.) griseomaculat*a Pic, 1891; 18 — *Ph. (P.) annulata* Hampe, 1852; 19 — *Ph (P.) breverufonotata* Pic, 1952; 20 — *Ph. (P.) hirsutula* (Frölich, 1793); *a* — апикальные склериты; *b* — базидорсальный гребень; *c* — BLV-склериты; *d* — базальный фалломер.

Pygidium in both sexes of *Pilemia* emarginate apically; abdominal ventrites usually with 1–3 denticles developed in different degree (absent as *P. angusterufonotata* Pic, 1952 and *P. smatanai* Holz., 2003); inner part of claws wide and short (Figs 9–14), triangular (except of *P. annulata* Hampe, 1852 with the same structure of claws as *P. hirsutula*). Sclerotization of basal phallomer including basidorsal crista absent; central apical sclerite of endophallus twice or more longer than others (Figs 17–19, 21–23). Male antennae reaching apical elytral third or shorter, cuticle of antennomeres bicolour even in darkened specimens; antennomeres in the nominotypical subgenus shorter and more robust than in *Pseudopilemia* **subgen.n.**; antennal pubescence distinctly ringed; ventral lobes of eyes twice as long as genae; male pronotum distinctly transverse (Figs 1–5), barrel-shaped, with red spot on disc (in *P.annulata* sometimes almost reduced or hidden under pubescence); cuticle of body distinctly shiny, usually with metallic shade. Elytral pubescence distinctly patterned; thick setae short and recumbent, weakly visible; elytra usually emarginate apically.



Figs. 21–24. Apical endophallic sclerits of *Pilemia* (21–23) and *Pseudopilemia* (24) **subgen.n.**: 21 — *Ph.* (*P.*) *griseomaculat*a Pic, 1891; 22 — *Ph.* (*P.*) *tigrina* Muls., 1851; 23 — *Ph.* (*P.*) *breverufonotata* Pic, 1952; 24 — *Ph.* (*P.*) *hirsutula* (Frölich, 1793); *g* — central apical sclerite.

Рис. 21–24. Апикальные склериты эндофаллуса *Pilemia* (21–23) и *Pseudopilemia* (24) **subgen.n.:** 21 — *Ph.* (*P.*) *griseomaculat*a Pic, 1891; 22 — *Ph.* (*P.*) *tigrina* Muls., 1851; 23 — *Ph.* (*P.*) *breverufonotata* Pic, 1952; 24 — *Ph.* (*P.*) *hirsutula* (Frölich, 1793); *g* — центральный апикальный склерит.

COMPOSITION. The typical species of the new subgenus are *Ph.* (*P.*) *evae* D.Marklund et S.Marklund, 2014, *Ph.* (*P.*) *kruszelnickii* Szczepański et Karpiński, 2017, *Ph.* (*P.*) *konyaensis* Danilevsky, 2010. Studied by me serial material (3 males and 6 females) from the type locality does not support characters used in the description of *Ph.* (*P.*) *buglanica* D.Marklund et S.Marklund, 2014. Noted by the absence erect setae on the pronotum, the bald outer edge of anterior tibia result from the worn out single specimen that used to describe. Thus, *Ph.* (*P.*) *buglanica* D.Marklund et S.Marklund, 2014 = *Phytoecia* (*P.*) *hirsutula* (Frölich, 1793) **syn.n**. The specimens of the *Ph.* (*P.*) *vagecarinata* Pic, 1952 are unknown for me, the holotype depository is also unknown [Özdikmen, Turgut, 2010]. Beetles in the photoreport after an expedition to Syria [http://buprestidae.blogspot.com/2006/11/syria-2005.html] is *Ph. hirsutula* in my opinion. The subgeneric position of *Ph.* (*P.*) *vagecarinata* is difficult to understand according to the description, especially based on simple (!) claws. Some characters, such as large lower lobes of eyes and white spots on elytra, suggest that this species may be close to *Pilemia*. Withal, M. Pic also was not sure in the correct position of this species in the subgenus *Pilemia* [Pic, 1952: 3] and compared it also with *Pseudocoptosia* Pic, 1900.

ACKNOWLEDGEMENTS. The author cordially thank colleagues who provided the material for study: Dr. A.A. Gusakov (Moscow, Russia), Dr. A.I. Miroshnikov (Krasnodar, Russia), Dr. H. Schilhammer (Vienna, Austria), Dr. S.Blank (Muncheberg, Germany), Dr. J.Frisch (Berlin, Germany), Dr. M.Balke (Munich, Germany), Dr. J.Hajek (Prague, Czech Republic).

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