

Otiorhynchus (Choilisanus) theophrastus sp. nov. from Lesbos Island, Greece (Coleoptera, Curculionidae, Entiminae)

Authors: Białocki, Piotr, and Germann, Christoph

Source: Revue suisse de Zoologie, 123(1) : 201-207

Published By: Muséum d'histoire naturelle, Genève

URL: <https://doi.org/10.5281/zenodo.46306>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non-commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

***Otiorhynchus (Choilisanus) theophrastus* sp. nov. from Lesbos Island, Greece
(Coleoptera, Curculionidae, Entiminae)**

Piotr Białooki¹ & Christoph Germann^{2,3}

¹ State Plant Health and Seed Inspection, Gdańsk, Na Stoku 48, PL-80-874 Gdańsk, Poland.
E-mail: og-gdynia@piorin.gov.pl, pbialooki@poczta.onet.pl

² Naturhistorisches Museum der Burgergemeinde Bern, Bernastrasse 15, CH-3005 Bern, Switzerland.
E-mail: germann.christoph@gmail.com

³ Naturmuseum Solothurn, Klosterplatz 2, CH-4500 Solothurn, Switzerland

Abstract: A new species of *Otiorhynchus* Germar, 1822 of the subgenus *Choilisanus* Reitter, 1912 is described from the Aegean Island Lesbos (Greece). The new species is morphologically close to *O. (Choilisanus) magnicollis* Stierlin, 1888 from Ikaria and Samos Island, and to *O. formaneki* Reitter, 1913 from Asia Minor.

Keywords: Curculionoidea - Entiminae - *Otiorhynchus* - new species - taxonomy.

INTRODUCTION

The subgenus *Choilisanus* Reitter, 1912 comprises at present 45 species, with a centre of distribution in the eastern Mediterranean Region (Magnano & Alonso-Zarazaga, 2013; Białooki, 2015; Davidian & Gültekin, 2015). *Choilisanus*, with its type species *O. balcanicus* Stierlin, 1861, is – as many other subgenera of the exceptionally species-rich genus – a polyphyletic group within *Otiorhynchus* Germar, 1822. Just recently, Davidian & Gültekin (2015) resurrected the morphologically rather deviant *Stierlinellus* Reitter, 1913 from synonymy with *Choilisanus*, thus contributing to a rearrangement of this subgenus. Only four species of the subgenus are widely distributed, well outside the eastern Mediterranean: *O. balcanicus*, *O. brunneus* Gyllenhal, 1834 (by some authors also regarded as belonging to the subgenus *Arammichnus*, Gozis, 1882), *O. raucus* (Fabricius, 1777) (type species of *Asphaerorrhynchus* Reitter, 1912, actually synonym of *Choilisanus*), and *O. velutinus* Germar, 1824.

Recent investigations of the weevil fauna (Curculionoidea) of the two Aegean Islands, Samos (Germann *et al.*, 2015a) and Lesbos, allowed exciting new discoveries, especially in the broad nosed weevil subfamily Entiminae (Yunakov & Germann, 2008; 2012; Borovec & Germann, 2013; Germann *et al.*, 2015b). During a recent excursion to Lesbos Island by the second author together with Carlo Braunert (Luxembourg) from 25th April to 1st May, 21 localities were sampled. Around the two highest peaks on the Island, Oros Lepetymnos (968 m a.s.l.) in the

North, and Oros Olympus (967 m a.s.l.) near the centre of the island, an unknown member of *Choilisanus* was collected while sifting litter, described in the following.

MATERIAL AND METHODS

The type material examined is deposited in the following collections:

- cCB private collection Carlo Braunert, Mensdorf, Luxembourg
- cCG private collection Christoph Germann, Thun, Switzerland
- cPB private collection Piotr Białooki, Sopot, Poland
- MHNG Muséum d'histoire naturelle de Genève, Switzerland
- NMBE Natural History Museum, Bern, Switzerland
- SDEI Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany.

Methods:

A usual beetle sifter (grid diameter 7 mm) was used for collecting and the extraction method applied follows Germann (2014).

The pictures of the habitus and the genital structures were made with a 5-megapixel digital camera (Leica DFC425) under a stereomicroscope (Leica MZ16). The pictures are composites processed using the software Imagic Image Access (version 12) and then retouched using Adobe Photoshop version 10.0.1 (Adobe Systems Incorporated).

The measurements of lengths and widths (L/W) are mean values and were always taken at the longest and/or widest point. The size was taken without rostrum, from the fore margin of the eyes to the elytral apex.

Label texts are cited verbatim in quotation marks. Data from different labels are separated by a double slash (/). Additional remarks to label data are set in square brackets ([]).

Specimens (females) of *O. formaneki* Reitter, 1913 used here for comparison with the new species are labelled as follows: “26.06.2003 NW Turkey, Hatip env. [environment], SW Sinop, leg. P. Białooki” (cPB).

TAXONOMY

Otiorhynchus (Choilisanus) theophrastus sp. nov.

Figs 1-7, 10-11

Holotype: NMBE (without accession number); ♂, dissected: “249_15.9 GREECE, Lesbos Isl., Oros Olympos, N39°04'14” // E26°21'15””, 900 m, 28.4.2015, leg. C. Germann. Additional red label: “Holotype *Otiorhynchus (Choilisanus) theophrastus* sp. nov. des. Białooki & Germann 2015”.

Paratypes: (all without accession numbers) MHNG, cCG, cPB; 2 ♂, 1 ♀; same data as holotype. – cCG; 1 ♂; “249_15.8 GREECE, Lesbos Isl., Oros Olympos, N39°04'20” // E26°21'11””, 968 m, 28.4.2015, leg. C. Germann”. – cPB, NMBE; 1 ♂, 1 ♀; “249_15.10 GREECE, Lesbos Isl., Oros Olympos, N39°04'12” // E26°20'57””, 802 m, 28.4.2015, sifting *Platanus* near spring, leg. C. Germann”. – cCG, NMBE; 2 ♂, 2 ♀; “249_15.13 GREECE, Lesbos Isl., Oros Lepetimnos, 7 km E Petra, above Pelloni, // near peak, N39°19'55” E26°15'28””, 800 m, 29.4.2015, leg. C. Germann”. – cCB; 1 ♀; “28.4.[20]15 GR-Lesbos Isl. Oros Olympos Mt. 2 km W Agiásos rocky habitat summit // N39°04'20” E26°21'11” 970 m a.s.l. 2015-19 249-15-8 C Braunert leg”. – cCB; 5 ♂, 2 ♀; “28.4.[20]15 GR-Lesbos Isl. Oros Olympos Mt. 2 km W Agiásos macchie // N39°04'14” E26°21'15” 870 m a.s.l. 2015-20 249-15-9 C Braunert leg // sifting”. All with additional red labels: “Paratype *Otiorhynchus (Choilisanus) theophrastus* sp. nov. des. Białooki & Germann 2015”.

Description

Male: body length 5.2-5.9 mm (holotype 5.3 mm); entirely dark-brown; covered with precisely recumbent (including elytral apical declivity) dark and light brown scales forming unclear maculation (Fig. 1).

Head very wide, forming with basal part of rostrum

joint cone rather strongly narrowed towards base of pterygia; entire dorsal half covered with small sparse punctures; eyes moderately large, 1.5× narrower than frons, impressed into head, moderately convex, but not projecting from head dorsal outline; frons fovea well developed, situated at frontal midlength, separating vertex/frons from anterior portion of frons dorsally fused with rostrum; hind dorsobasal portion of rostrum distinctly convex, thus well delimited from vertex/frons. Rostrum very short, 1.25× wider than long; pterygia large, strongly projecting outwards; scrobes closed anteriorly; dorsum strongly widened anteriorly; epistome subtriangular, hollowed, delimited by well-developed keels, anterior margin deeply excised; area between epistomal apex and frons fovea with well-developed median keel, better developed anteriorly.

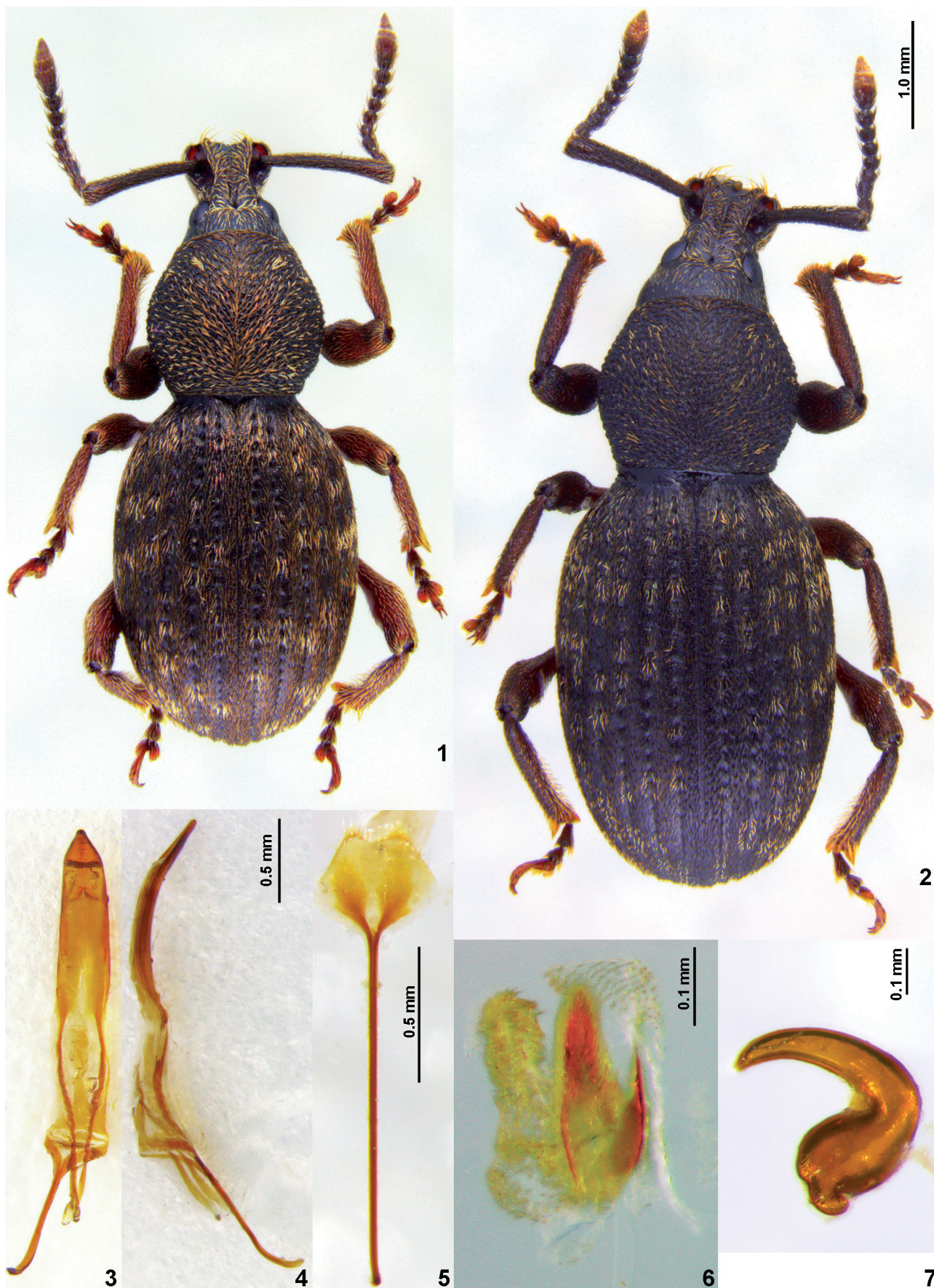
Antennae moderately robust; scape straight, weakly gradually widened apically, covered with dense, arcuate and weakly raised hair-like scales; first two funicular segments subequally long, slightly more than 2× longer than wide, weakly widened apically; third segment isodiametric; segments 4-7 moderately transverse; segments 3-7 with 1-2 combs of semi-erect light brown arcuate setae; club 2.5× longer than wide, as long as three funicular segments combined, rather weakly widened basally, apically narrowly pointed.

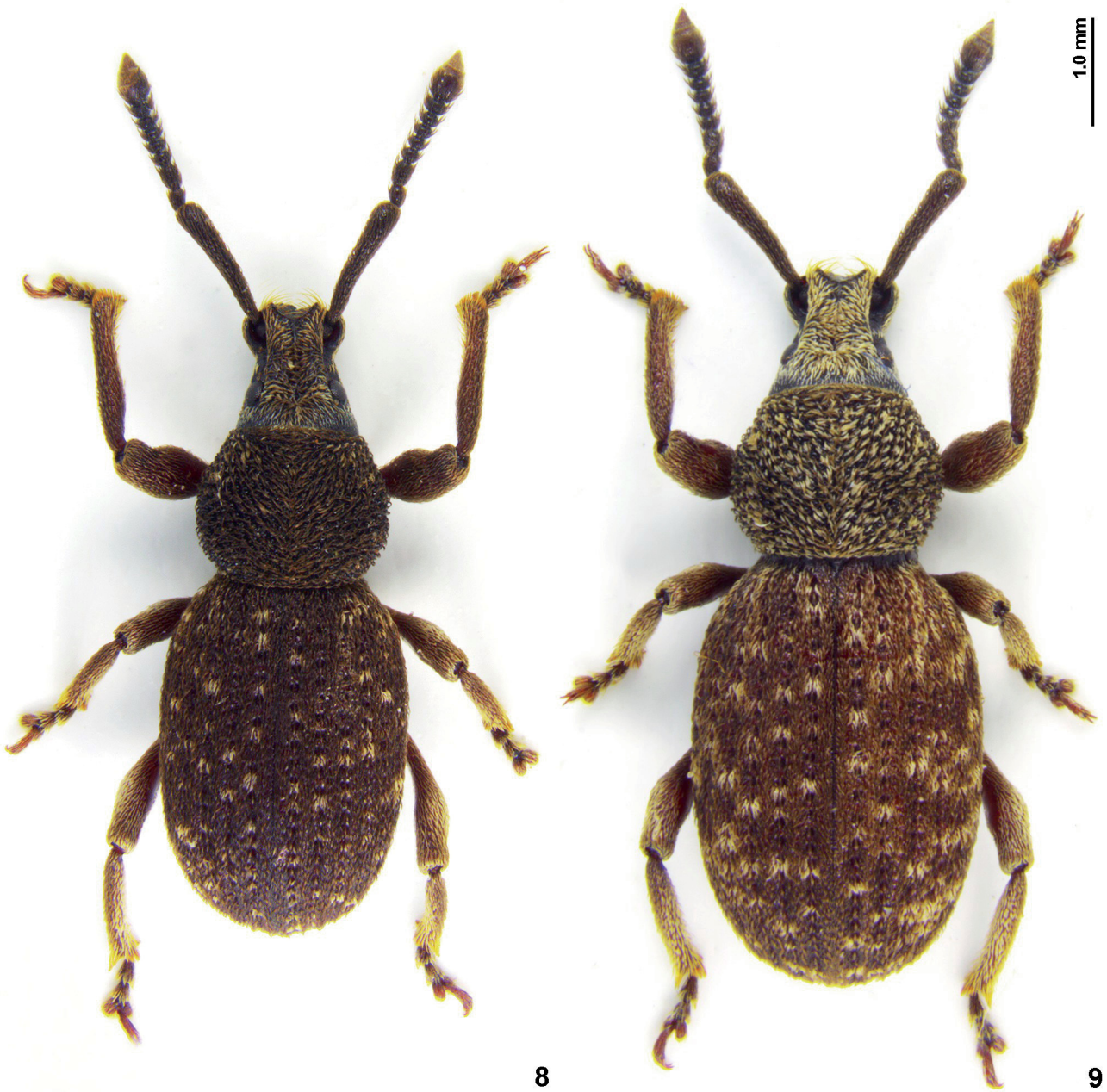
Prothorax slightly transverse, 1.1× wider than long, strongly rounded at sides, widest just behind middle, covered with small dense rather weakly convex tubercles; impunctate midline not developed; anterior margin distinctly shorter than base.

Elytra 1.4× longer than wide, 1.25× wider than prothorax, basally very weakly rounded, apical portion narrowly rounded; in lateral view very weakly convex, base slightly convex, apical declivity bent under; striae composed of big, moderately deep punctures; distance between striae punctures longer than their diameter; each puncture with single recumbent hair-like scale; punctures strongly gradually reduced posteriorly, making interstriae narrower than striae basally, and strikingly wider than striae apically; interstriae flat or hardly convex, covered with moderately dense microtubercles and/or rasp-punctures, shining; striae reduced posteriorly to very thin shallow sulci devoid of clear punctures; vestiture dense, largely obscuring integument.

Legs moderately short and rather thin; all femora unarmed, subequally thick; dorsal margin of fore tibia straight, only apical portion weakly curved inwards; ventral margin moderately bisinuate, with long yellow-brown long semi-erect setae; mucro well developed; apical comb consisting of long yellow-brown dense setae; tarsi rather small, second segment somewhat

Figs 1-7. *Otiorhynchus (Choilisanus) theophrastus* sp. nov. (1) Habitus of holotype (male). (2) Habitus of female. (3-7) Genital organs. (3). Aedeagus ventral view. (4) Aedeagus lateral view. (5) Spiculum ventrale. (6) Sclerites of the internal sac. (7) Spermatheca. ►





Figs 8-9. Habitus of *Otorhynchus (Choilisanus) magnicollis* Stierlin, 1888 from Samos Island. (8) Male. (9) Female.

transverse, third segment much wider than second; onychium long, its projecting portion almost as long as preceding segment; middle and hind tarsi slightly longer than fore tarsi, in particular projecting part of onychium slightly longer than length of third segment.

Ventral side of body covered with similar recumbent vestiture as elytra; first ventrite broadly, shallowly impressed; anal ventrite 1.7× wider than long, strongly convex basally, towards apex gradually flattened.

Aedeagus rather weakly gradually tapered apically, apical portion abruptly narrowed forming thin rounded apex, in lateral view weakly uniformly arched; apodemes

about as long as median lobe (Figs 3-4). Projecting portion of internal sac with two unequal sclerites: a big one, feathered and elongated-pointed, and a small one, thorn-shaped (Fig. 6).

Females: (Fig. 2) body length 5.5-7.5 mm; elytra longer, 1.55× longer than wide, wider in comparison with prothorax (1.35×), less convex longitudinally; tibiae slightly more robust; first ventrite not impressed; spiculum ventrale long and slender, plate rhomboidal with apical margin moderately deeply excised (Fig. 5); spermatheca C-shaped, with very short ramus and strongly bowed and short nodulus (Fig. 7).



10



11

Figs 10-11. Habitat aspects of *Otiorhynchus (Choilisanus) theophrastus* sp. nov. on Lesbos Island. (10) Oros Olympos, type locality. (11) Oros Lepetymnos.

Distribution: *O. theophrastus* is known so far exclusively from Lesbos Island, and probably endemic there.

Bionomy: The new species was found in April-May by the second author and Carlo Braunert from sifted leaf litter under *Quercus coccifera*, *Platanus*, cushion plants and mosses above 800 m a.s.l. in the area of the two highest peaks on the island (Figs 10-11).

Etymology: Named after the student and successor of Aristoteles, Theophrastus (371-287 BC), philosopher and naturalist native to Eresos on Lesbos Island.

Type locality: Greece, Lesbos Island, Oros Olympos, 39.07056°N 26.35417°E, 900 m.

Diagnosis: *Otiorynchus (Choilisanus) theophrastus* sp. nov. is close to *O. (Choilisanus) magnicollis* Stierlin, 1888. *Otiorynchus magnicollis* was originally described from specimens from Icaria (= Nikaria) (Stierlin, 1888), and was compared with *O. grandicollis* Boheman, 1842, which shows a certain similarity regarding the prothorax, although more rounded in the latter species. Much more widespread than *O. magnicollis*, *O. grandicollis* is reported from Bulgaria, Turkey up to Iran (Magnano & Alonso-Zarazaga, 2013). However, conspecificity of specimens from Turkey (Nif Dağı, Kemalpaşa; Keskin & Çevik, 2008) should be critically reinvestigated. Thanks to the comparison of specimens of *O. magnicollis* from Samos (used here for comparison with *O. theophrastus* sp. nov.) with the type in the collection of Gustav Stierlin, conserved in the SDEI, the conspecificity could be confirmed by the first author, hence the identifications in Germann *et al.* (2015a) are now confirmed.

O. theophrastus sp. nov. differs from *O. magnicollis* in: rostrum dorsum narrower, distinctly widened anteriorly; pterygia larger, stronger projecting outwards, 1.6× broader than rostrum minimum width; head dorsum entirely covered with small sparse punctures; strikingly thinner antennae, third funicular segment almost isodiametric, remaining segments weakly transverse; antennal club much more elongate, gently widened basally; pronotum covered with very small dense, weakly convex tubercles; elytra more narrowly rounded at humeri; pronotal and elytral vestiture precisely recumbent; legs slim (Figs 1-2).

The rostrum dorsum of *O. magnicollis* is wider, subparallel sided; pterygia small, less projecting, 1.4× broader than rostrum minimum width; head dorsum covered with coarse longitudinal wrinkles; antennae very robust, funicular segments 3-7 strongly transverse; club short, very broadly rounded basally; pronotal tubercles strikingly bigger, strongly convex; elytra broadly rounded at humeri; pronotal and elytral vestiture clearly raised; legs robust (Figs 8-9).

Another similar species, *O. formaneki* Reitter, 1913 differs mainly from *theophrastus* sp. nov. in the shorter

elytra (1.3× longer than wide in female) more strongly rounded basally and slightly wider in comparison with prothorax (1.4×); the elytral vestiture recumbent with rows of semi-erect setae; the pterygia smaller, less projecting and 1.4× wider than rostrum minimum width; rostrum dorsum weakly widened anteriorly; antennae and legs.

ACKNOWLEDGEMENTS

We cordially thank Lutz Behne (SDEI) for the possibility to visit the Gustav Stierlin collection. For support and companionship during the excursion to Lesbos Island, the second author cordially thanks the following members of Entomologischer Verein Bern (EVB): Carlo Braunert (Mensdorf, Luxembourg), Werner Brunnschweiler (Bolligen), Ruedi Bryner (Biel), Thomas Kissling (Zurich), Johanna Schoop (Zürich), Peter Sonderegger (Brügg near Biel), Salome Steiner (Schaffhausen). Acknowledgements are due to the referees Roman Borovec (Smidary, Czech Republic) and Giulio Cuccodoro (MHNG) for their helpful comments.

REFERENCES

- Białooki P. 2015. Descriptions of new taxa in *Otiorynchus* Germar, 1822 (Coleoptera: Curculionidae: Entiminae: Otiorynchini). *Polish Journal of Entomology* 84: 85-99.
- Boheman C. 1842. In: Schönherr C. J., Genera et species curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitae, descriptionibus a Dom. Leonardo Gyllenhal, C. H. Boheman, O. J. Fähraeus entomologis aliis illustratae. Tomus septimus. Pars prima. Parisiis: Roret; Lipsiae. *Fleischer*, 479 pp.
- Borovec R., Germann C. 2013. Two new species of *Polydrusus* (*Polydrusus* s. str.) from Samos (Greece) and from Turkey and Iran (Coleoptera: Curculionidae: Entiminae: Polydrusini). *Zootaxa* 3693 (1): 75-84.
- Davidian G.E., Keskin B. 2010. To the knowledge of the weevil genus *Otiorynchus* Germar, 1824 [sic!], subgenus *Choilisanus* Reitter, 1912 (Coleoptera: Curculionidae). *Russian Entomological Journal* 19(1): 61-65.
- Davidian G.E., Gültekin L. 2015. Contribution to the knowledge of the weevil subgenus *Choilisanus* Reitter, 1912, genus *Otiorynchus* Germar, 1822 (Coleoptera: Curculionidae: Entiminae). *Journal of Insect Biodiversity* 3(4): 1-13.
- Fabricius J. C. 1777. Genera insectorum eorumque characteres naturales secundum numerum, figuram, situm et omnium partium oris adjecta mantissa specierum nuper detectarum. Chilonii: Fried. *Bartschii*, 310 pp.
- Germann C. 2014. Contribution to the praxis in entomology: an easy-to-use and efficient sifting separation method for beetles (Coleoptera). *Entomo Helvetica* 7: 141-144.
- Germann C., Müller G., Müller U., Schön K. 2015a. An annotated checklist of the weevil fauna of Samos Island with new records for Greece (Coleoptera, Curculionoidea). *Contributions to Natural History* 27: 1-26.
- Germann C., Borovec R. & Braunert C. 2015b. Four new Entiminae from the Mediterranean region (Coleoptera: Curcu-

- lionidae: Entiminae: Phyllobiini, Trachyploeini), with additional data on the distribution of some poorly known species. *Zootaxa* 4040 (3): 345-358.
- Germar E. 1822. Fauna Insectorum Europae. Fasciculus 13. Halae: *Kümmelii*, 25 pp.
- Germar E. 1824. Insectorum species novae aut minus cognitae, descriptionibus illustratae. Vol. 1: xxiv + 624 pp. + 2 pl.
- Gozis M. 1882. Notes et remarques pour le futur catalogue des Coléoptères gallo-rhénans. *Revue d'Entomologie* 1(9): 193-207.
- Gyllenhal L. 1834. In: Schönherr C. J., Genera et species curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitae, descriptionibus a Dom. Leonardo Gyllenhal, C. H. Boheman, et entomologis aliis illustratae. Tomus secundus. Pars secunda. Parisiis: Roret; Lipsiae. *Fleischer*: 329-673.
- Keskin B., Çevik I. E. 2008. A new species of *Otiorhynchus* Germar, 1822 (Coleoptera: Curculionidae: Entiminae) from Anatolia, Turkey. *Entomological News* 118 (5): 493-496.
- Magnano L. & Alonso-Zarazaga M.A. 2013. Otiorhynchini [p. 302-347]. In: Löbl I. & Smetana A. (Eds), Catalogue of Palearctic Coleoptera. Vol. 8. *Leiden, Brill*. 700 pp.
- Reitter E. 1912. Bestimmungs-Tabellen der europaischer Coleopteren. Heft 66. Curculionidae, Subgenera der Gattung *Otiorhynchus*. *Wiener Entomologische Zeitung* 31(2): 45-67.
- Reitter E. 1913. Bestimmungs-Tabellen der Europäischen Coleopteren. LXIX Heft 69. Curculionidae. Die ungezähnten Arten der Gattung *Otiorhynchus*. *Wiener Entomologische Zeitung*, 32(2-3): 25-118.
- Stierlin G. 1888. *Otiorrhynchus* [sic!]-Arten gesammelt von Herrn von Oertzen. *Deutsche Entomologische Zeitschrift* Heft I: 372-379.
- Yunakov N., Germann C. 2008. Supplement to the revision of *Amicromias* Reitter (Coleoptera, Curculionidae, Entiminae) – with the description of a new species. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* 81: 181-190.
- Yunakov N., Germann C. 2012. *Brachysomus* (*Hippomias*) *samos* sp. nov. from Greece – first island endemism in the genus (Coleoptera, Curculionidae, Entiminae). *Zootaxa* 3408: 59-68.