

***Odontotrypes (Odontotrypes) hubeicus* sp. nov.**
(Coleoptera: Geotrupidae)
from Hubei, China

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Received 5 August 2014; accepted 5 December 2014

Published 22 December 2014

Abstract. *Odontotrypes (Odontotrypes) hubeicus* sp. nov., is described from Hubei (China) based on external morphology including male genitalia.

Key words. Taxonomy, new species, Coleoptera, Scarabaeoidea, Geotrupidae, Geotrupinae, Geotrupini, *Odontotrypes*, Palaearctic region.

INTRODUCTION

The genus *Odontotrypes* Fairmaire, 1887 is currently represented by almost 70 species restricted to the transient zone between the Palaearctic and Oriental zoographical regions. It is so far known to be distributed throughout the Himalayas, eastward to northern Myanmar (Kachin) and eastern areas of Tibet, and in mountainous areas of central and southwestern provinces of China (Yunnan, Sichuan, Qinghai, Gansu and Shaanxi (Howden 2006, Král et al. 2001, Löbl et al. 2006, Nikolajev 2009a, b, 2013, Ochi et al. 2010, Shokhin 2008). A large part of them (including new species described below) are classified in the nominotypical subgenus, a smaller number of species in the subgenus *Thorectomimus* Nikolajev, 2009 (cf. Král et al. 2001, Nikolajev 2009b). The present paper is based on material from a primary mountain forest of the Dashennongjia Mts. Material obtained mostly from the pitfall traps included a few specimens of *Odontotrypes* species which proved to be an undescribed species. Until now, no information has been reported on the occurrence of any *Odontotrypes* in the province of Hubei. In addition the record presented here represents so far the easternmost known occurrences of the genus.

MATERIAL AND METHODS

Specimens were examined with an Olympus SZ61 stereomicroscope and measurements were taken with an ocular grid. The photographs were taken using a Canon MP-E 65 mm/2.8 1–5× macro-lens on bellows attached to a Canon EOS 550D camera. Partially focused images of each specimen were combined using Zerene photo stacker software. Specimens of the newly described species are provided with one printed red label: “*Odontotrypes (Odontotrypes) hubeicus* sp. nov. / HOLOTYPUS ♂ [or] ALLOTYPUS ♀ [or] PARATYPUS, ♂ [or] ♀ / David Král, Vladislav Malý / & Jan Schneider det. 2014”. Exact label data are cited for the material examined. Individual lines within each label are separated by slashes “/”. Information in quotation marks indicates the original spelling, all labels are printed. Our remarks and additional comments are placed in brackets.

The nomenclature used to describe morphological structures is that proposed by Král et al. (2001).

The following acronyms identify the collections housing the material examined (curators names are in parenthesis):

DKCP David Král collection (deposited in NMPC);
JSCP Jan Schneider collection, Praha, Czech Republic;
JTCK Jaroslav Turna collection, Kostelec na Hané, Czech Republic;
NMPC Národní muzeum, Praha, Czech Republic (Jiří Hájek);
VMCP Vladislav Malý collection, Praha, Czech Republic.

TAXONOMY

Odontotrypes (Odontotrypes) hubeicus sp. nov. (Figs 1–8)

TYPE LOCALITY. China, W Hubei, Dashennongjia Mts [31°30'N 110°18'E], 2500–3000 m.

TYPE MATERIAL (20 specimens). **China: Hubei.** Holotype, ♂, allotype, ♀, “China, W Hubei, 21.–24.VI. / DASHENNONGJIA mts. / 31.5N 110.3E, 2500–3000m / 2001”. Paratypes: 1 ♀, “China, W Hubei, 23.VI.–14.VII. / DASHENNONGJIA mts. / 31.5N 110.3E, 2500–2900m / 2003”; 1 ♂, 3 ♀♀, “China, W Hubei, 17.V.–13.VI. / DASHENNONGJIA mts. / 31.5N 110.3E, 2500–2900m / 2004”; 1 ♀, “China, W Hubei, 2.V.–15.VII. / DASHENNONGJIA mts. / 31°28'N 110°18'E, 2650m / 2006”; 2 ♂♂, “China, W Hubei, 9.VI.–4.VII. / DASHENNONGJIA mts. / 31°28'N 110°18'E, 2650m / 2007”; 1 ♀, “China, W Hubei, 25.V. / DASHENNONGJIA mts. / 31°28'N 110°18'E, 2650m / 2008”; 3 ♂♂, 3 ♀♀, “China, W Hubei, 25.V.–15.VI. / DASHENNONGJIA mts. / 31°28'N 110°18'E, 2650m / 2008”; 2 ♂♂, 1 ♀, “China, W Hubei, 2700m / DASHENNONGJIA / 31°28'N 110°18'E / VI. 2011”. Holotype and allotype deposited in JTCK, paratypes in DKCP, JSCP, NMPC, JTCK and VMCP.

DESCRIPTION OF HOLOTYPE (♂). Total body length 17.1 mm. Oblong, convex; whole surface black; claws and setation black-brown; moderately shiny, not microsculptured; habitus as in Fig. 1.

Head (Figs 2–3). Labrum truncate anteriorly. Anterior clypeal margin ogival, with nearly rectangular sides and subacute apex, almost not upturned; clypeal disc slightly elevated, tubercle vague, in lateral aspect rounded. Area of frontoclypeal junction slightly depressed, T-shaped suture distinct. Eye tubercle considerably prominent, in lateral view rectangular; eye canthus with lateral margin angulate anterolaterally. Clypeal surface coarsely rugopunctate, vertex coarsely, densely punctate; eye canthus finely rugose.

Pronotum (Figs 1–2) transversal, broadest just posteriad of middle, entirely bordered, except basal border shortly interrupted laterally, lateral margin distinctly crenulate, anterior marginal carina slightly elevated, moderately widened especially in middle section, anterior angles broadly rounded, sides weakly emarginate and divergent posteriad in approximately anterior half, then straight to obtusely angular posterior angles, basal margin moderately evenly arcuate; anterior concavities absent, lateral fovea shallowly impressed, impunctate, alutaceous, posteromedial fovea lacking, longitudinal midline present only in basal third as a irregular row of punctures. Punctuation double, consisting of considerably coarse, markedly irregularly and densely spaced punctures arranged in small irregular groups or short rows, intermixed with fine, shallowly impressed and densely distributed punctures, coarse punctuation becoming denser to confluent laterally, or rugose along lateral margin,

Scutellum broadly triangular, slightly subparallel basally, except for basal margin slightly bordered, impunctate (Fig. 1).

Elytra (Fig. 1) with vague humeral umbone, base narrower than pronotum. Surface substrate, impunctate, markedly irregularly, transversally rugose; area between suture and humerus with 7 striae; striae 1–3 indistinctly impressed along entire elytral length, striae 4–5 only in about two basal thirds, remaining striae obsolete, vanishing in rugosities. Intervals slightly convex, all of approximately same width, distinctly interrupted by transverse rugosities.

Brachypterous, wing not functional, foliaceous, approximately as long as elytron (9.7 mm) (Fig. 5). Femora without microsculpture, moderately shiny, impunctate. Ventromedial edge of



Figs 1–4. *Odontotrypes (O.) hubeicus* sp. nov., 1–3 – holotype (♂), 4 – allotype (♀). 1 – habitus, 2 – head and pronotum, 3 – head, 4 – habitus. 1–2, 4 – dorsal view; 3 – frontal view. Not to scale.

protibia with 5–6 small denticles situated in basal two thirds of length of protibia, penultimate denticle more developed than the other denticles.

Abdominal ventrites scabrous, coarsely and densely punctate, with short, recumbent setation.

Male genitalia. Parameres as in Figs 7–8.

MEASUREMENTS. Total body length: 15.0–19.0 mm (holotype 16.3 mm, allotype – 17.4 mm).

VARIABILITY. Type series show slight individual variations in size, shape and situation of pronotal punctures and shape of elytral sculpture.

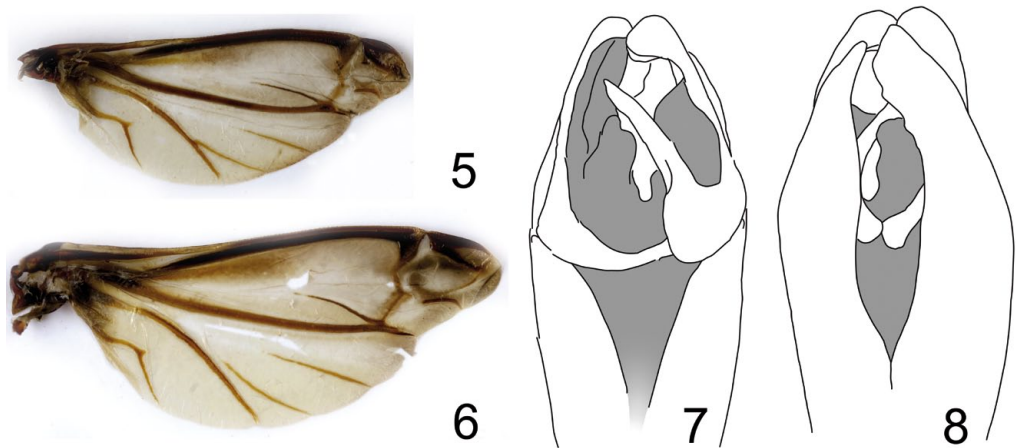
SEXUAL DIMORPHISM. Female (Fig. 4) differs from male as follows: clypeal tubercle more developed, subacute, in lateral aspect obtusely angular, protibial denticles vague, wings larger (length 10.0 mm) (Fig. 6).

DIFFERENTIAL DIAGNOSIS. *Odontotrypes hubeicus* sp. nov. is classified to the nominotypical subgenus mainly by possessing labrum truncate anteriorly, anterior clypeal margin ogival (Figs 1–2, 4), parameres relatively short and broad and dorsal lobe of right paramere with short internal appendix situated apically (Figs 7–8) (see Král et al. 2001, Nikolajev 2009b). In the key to the *Odontotrypes* (*O.*) species (Král et al. 2001: 8, there still mentioned as a *O. impressiusculus* (Fairmaire, 1887) species aggregate), *O. (O.) hubeicus* sp. nov. will key to the couplet with *O. (O.) ginling* Král, Malý et Schneider, 2001. For differentiation from this species see the complex of diagnostic characters in Table 1.

GEOGRAPHIC DISTRIBUTION. So far only known from the Dashennongjia Mts in Hubei, China.

COLLECTING CIRCUMSTANCES. Most of material was collected using baited pitfall traps exposed in woody area, only specimens from 25 May 2008 were taken from excrements of some deer species.

ETYMOLOGY. Derived from the region of origin, the Chinese province Hubei.



Figs 5–8. *Odontotrypes (O.) hubeicus* sp. nov. 5 – holotype (♂) right wing (length 9.7 mm), 6 – allotype (♀) right wing (length 10.0 mm), 7 – aedeagus, dorsal view, 8 – aedeagus, ventral view. Not to scale.

Table 1. Differential characters of *Odontotrypes* (*O.*) *hubeicus* sp. nov., and *O.* (*O.*) *qinling* Král, Malý et Schneider, 2001

species / character	<i>Odontotrypes</i> (<i>O.</i>) <i>hubeicus</i> sp. nov.	<i>Odontotrypes</i> (<i>O.</i>) <i>qinling</i>
shape of clypeus	sides more divergent, frontal and eye tubercles more prominent (Figs 1–4)	sides less divergent, frontal and eye tubercles less prominent (Král et al. 2001: fig. 277)
sculpture of clypeus	coarser (Fig. 2)	finer
shape of eye canthus	angulate anterolaterally (Fig. 2)	regularly rounded (Král et al. 2001: fig. 277)
shape of pronotum	sides weakly emarginate in anterior half (Figs 1, 2, 4)	sides straight in anterior half (Král et al. 2001: fig. 277)
sculpture of pronotum	coarser (Figs 1, 2, 4)	finer
wings	foliaceous, approximately as long as elytron (Figs 5–6)	foliaceous, reaching approximately to 4/5 of elytron length (Král et al. 2001: fig. 277)
parameres	differently shaped (Figs 7–8)	differently shaped (see Král et al. 2001: figs 41–42)
body size	15–19 mm	18–21 mm
distribution	Hubei: Dashennongjia Mts	Shaanxi: Qinling Mts

Acknowledgements

David Král would like to acknowledge the institutional support from resources of the Ministry of Education, Youth and Sports of the Czech Republic.

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