

## New and poorly-known species of the subgenus *Parascatonomus* Paulian, 1932 (Scarabaeidae: *Onthophagus*) from Vietnam

### Новый и малоизвестный виды подрода *Parascatonomus* Paulian, 1932 (Scarabaeidae: *Onthophagus*) из Вьетнама

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KEY WORDS: *Onthophagus*, *Parascatonomus*, Vietnam, new species, poorly-known species, new locality.

КЛЮЧЕВЫЕ СЛОВА: *Onthophagus*, *Parascatonomus*, Вьетнам, новый вид, неизвестная самка, новые локалитеты.

ABSTRACT: *Onthophagus* (*Parascatonomus*) *abramovi* sp.n. (♂) from the Vietnamese Province Kon Tum is described and illustrated. A new distributional record and a description of the previously unknown female of *O. (P.) rhombocephalus* Kabakov, 1992 is provided.

РЕЗЮМЕ: Из Вьетнамской провинции Кон Тум описывается *Onthophagus* (*Parascatonomus*) *abramovi* sp.n. (♂). Впервые даётся описание самки и указывается новый локалитет для *O. (P.) rhombocephalus* Kabakov, 1992.

#### Introduction

In Vietnam, the subgenus *Parascatonomus* Paulian, 1932 is represented by 22 species [Kabakov, 1992; Kabakov, Napolov, 1999; Tarasov, Kabakov, 2010; Tarasov, Solodovnikov, 2011, Masumoto, Ochi, 2014]. The subgenus can be reliably diagnosed by the presence of a well-developed protuberance on the metasternum. The scutellum is hidden under the elytral base. Many *Parascatonomus* species are not coprophagous, preferring animal corpses and/or human faeces. The aims of the present paper are: (1) to diagnose, describe and illustrate a new *Parascatonomus* species from Vietnam, and (2) to describe the female of *Onthophagus* (*P.*) *rhombocephalus* Kabakov, 1992 for the first time.

#### Material and methods

The studied material on dung beetles was collected by Alexei Abramov (Zoological Institute, St. Petersburg) from the Province of Kon Tum, Central Vietnam. Terminology of paramer parts taken from Masumoto &

Ochi [2014] and Krikken & Huijbregts [2008]. The material was studied and photographed by means of a Zeiss Stemi 2000-C and Altami PS0745-T binocular microscope. Information from individual data labels is separated by “/”.

The holotype of the new species and the female of *O. (P.) rhombocephalus* are deposited in the entomological collection of the Siberian Zoological Museum of the Institute of Systematics and Ecology of Animals, Novosibirsk, Russia.

#### Systematic part

*Onthophagus* (*Parascatonomus*) *abramovi*  
Zinchenko sp.n.  
Figs 1–6.

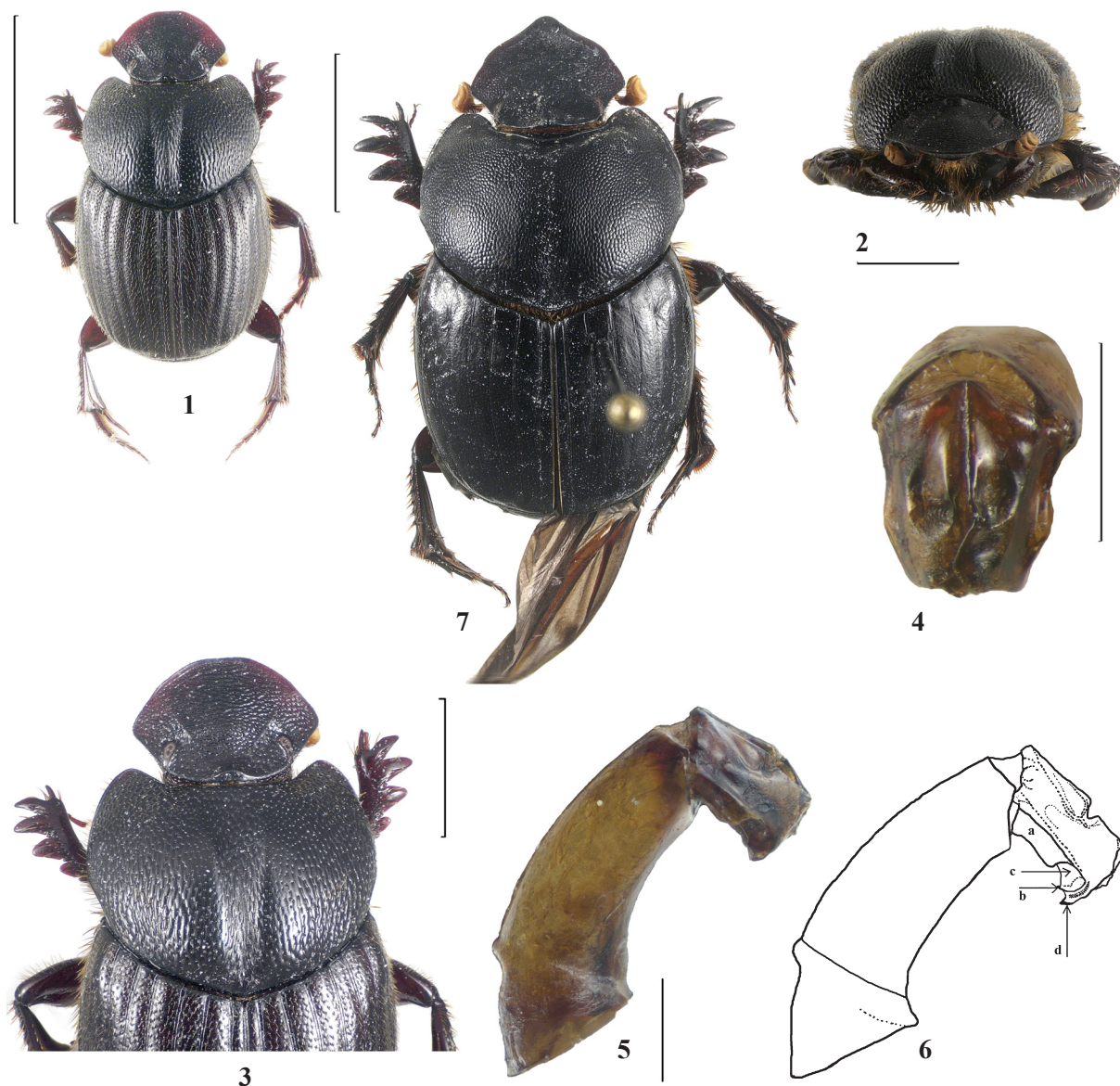
TYPE MATERIAL. Holotype, ♂, bearing the following labels:  
1. White, printed: Vietnam, Kon Tum Prov., / Kon Plong District, 14 km N / of Kon Plong Town, h~1030 m / 14°43'20", 108°18' 58"E / 9–23.04.2015 / A.V. Abramov leg.;

2. Red, printed: HOLOTYPUS / *Onthophagus* (*Parascatonomus*) *abramovi* Zinchenko 2018.

DESCRIPTION. **Male.** Body black. Antennal clubs and mouth parts yellowish brown. Total body length 8.2 mm, width 4.4 mm. Head rounded, clypeal margin rounded and truncated in the middle; frontoclypeal ridge not expressed, clypeo-genal sutures finely sulcate, eyes completely divided by canthus. Clypeus densely transversely rugulate-punctated. Vertex arcuately carinate (Figs 2–3).

Pronotum about 1.48 times as wide as long; densely punctured with elongated granules. The disc of pronotum with a wide depression in the middle; the surface along the sides of the depression smoothed, with sparse punctation (1–3).

Elytra with small and round punctures in grooves; intervals slightly convex with 2–4 rows of small granules with bristles. The 7th stria distinctly curved near its base.



Figs 1-7. *Onthophagus (Parascatonomus)* spp: 1-6 — *O. abramovi* sp.n., holotype, ♂; 7 — *O. rhombocephalus* Kabakov, 1992, ♀; 1-2, 7 — habitus; 3 — head and pronotum; 4-6 — aedeagus; 1, 3, 7 — dorsal view; 2, 4 — frontal view; 5-6 — lateral view. Scale bars 5.0 mm (1, 7); 2.0 mm (2-3); 0.5 mm (4-6). Parts of parameres: a — baso-lateral plate; b — apico-lateral tooth; c — medio-lateral notch; d — apical tooth.

Рис. 1-7. *Onthophagus (Parascatonomus)* spp: 1-6 — *O. abramovi* sp.n., голотип, ♂; 7 — *O. rhombocephalus* Kabakov, 1992, ♀; 1-2, 7 — общий вид; 3 — голова и переднеспинка; 4-6 — эдеагус; 1, 3, 7 — сверху; 2, 4 — спереди; 5-6 — сбоку. Масштаб 5,0 мм (1, 7); 2,0 мм (2-3); 0,5 мм (4-6). Части парамер: а — базально-боковая пластина; б — вершинно-боковой зубец; с — средне-боковая выемка; d — вершинный зубец.

Metasternal shield and sternites of the abdomen in the middle covered with short hairs, along their sides with long yellow hairs. Metasternum anteriorly raised, canoe-shaped. Pygidium feebly convex, ridged at its base, micro-shagreened, scattered with oval punctures, each with a thin hair.

Legs rather thick; protibiae with four external teeth; the ratio of the lengths of metatibial spurs and metatarsomers: 1.07; 1.0, 0.47, 0.25, 0.18, 0.3.

Aedeagus (Figs 4-6) of medium size. Phallobase elongate, about 1.75 mm long (in lateral view) and 0.7 mm wide at its apex (in dorsal view). Parameres relatively large, subquadrate in dorsal view, about 0.8 mm long (in lateral view on the right), each baso-lateral plate somewhat elongate, medio-

lateral notch preapicalle excavated. Apico-lateral tooth very small, apical tooth large (Fig. 6b, d).

**Female unknown.**

**DIAGNOSIS.** From the described Indo-Chinese *Parascatonomus* species having the rounded clypeus, the densely punctured pronotum and no metallic luster in the body coloration, the new species can be distinguished by the following characters: compared to *O. (P.) anguicorius* Boucomont, 1914 and *O. (P.) mairuu* Masumoto, 1989, by the absence of a tubercle on the front incline of pronotum; compared to *O. (P.) aerumnosus* Balthasar, 1963, *O. (P.) kuantunensis* Balthasar, 1942, *O. (P.) chiangraiensis* Masumoto, Ochi et Hanboonsong, 2007, by the absence of punctuation in front

corners of the pronotum; compared to *O. (P.) chapaensis* Kabakov, 1992 two thirds of the pronotum sides densely punctured. The pronotum of the new species is covered with large and elongated granules, a deep longitudinal depression on the disk. Besides, the frontoclypeal ridge of all the aforementioned related species looks like a transverse spindle, whereas it is as a small tubercle in the new species. The male genitalia of the new species differ from those of all the aforementioned species in having the excavated medio-lateral notch and large apical tooth.

**ETYMOLOGY.** The species is named in honor of the well-known Russian zoologist, Dr Alexei V. Abramov (St. Petersburg, Russia), who collected the holotype.

**NOTE.** The beetle was collected by pitfall traps from under the canopy of disturbed forest.

*Onthophagus (Parascatonomus) rhombocephalus*  
Kabakov, 1992

Fig. 7.

**MATERIAL.** ♀, Vietnam, Kon Tum Prov., / Kon Plong District, 14 km N / of Kon Plong Town, h~1030 m / 14°43'20", 108°18' 58"E / 9–23.04.2015 / A.V. Abramov leg.

**DESCRIPTION.** **Male.** Figures of the head and genitalia see Kabakov [1992].

**Female.** Body black. Antennal clubs yellowish, mouth parts tinged with red. Total body length 16 mm, width 6 mm. Body top hairless, but propleures, epimeres of mesonotum, front margin of metanotum and sternite sides with bunches of reddish hairs.

Head almost diamond-shaped, clypeus triangle, with an apical process bent upwards. Eyes completely divided by canthus. Head surface in coarse transverse wrinkles. Frontoclypeal ridge thin, reaching clypeo-genal sutures. Vertex smooth, as a triangle projection with a sharpened tooth at its top. Pronotum heart-shaped, its anterior angles widely rounded, its base fringed in the middle, and its surface granulated.

Elytra with thin, double grooves; intervals flat, shagreen, with small irregular dots. Pygidium ridget at base, heavily shagreened and with dense oval punctures.

Metasternal shield with a conical process, covered with rasp-like punctures and long reddish hairs. Apical spur of fore tibia sharp and bent ventrad. Middle and rear-femora with numerous small punctures bearing short yellow hairs.

**REMARKS.** Until now, this species has been known only from the holotype male collected from the Province of Gia Lai, Vietnam. The new locality lies north of the neighbouring Province of Kon Tum. By general appearance, the newly discovered female does not differ from the male (see Kabakov, 1992).

**NOTE.** The beetle was collected by pitfall traps from under the canopy of disturbed forest.

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## References

- Kabakov O.N. 1992. [Taxonomic status of *Parascatonomus* (Onthophagini, Scarabaeidae), with the description of new species from Southeast Asia] // Systematika i ekologiya nasekomykh Vietnama. Moscow: Nauka. P.196–209 [in Russian].
- Kabakov O.N., Napolov A. 1999. Fauna and ecology of Lammelicornia of subfamily Scarabaeinae (Coleoptera, Scarabaeidae) of Vietnam and some parts of adjacent countries: South China, Laos and Thailand // Latvijas entomologs. No.37. P.58–96.
- Krikken H., Huijbregts J. 2008. Distinguishing the Sundaland species in the *Onthophagus (Parascatonomus) aurifex* group (Coleoptera, Scarabaeidae: Scarabaeinae) // Tijdschrift voor Entomologie. Vol.151. P.173–185.
- Masumoto K., Ochi T. 2014. Relatives of *Parascatonomus* (Coleoptera, Scarabaeidae, Onthophagini) from North and Northeast Thailand // Kogane. No.16, P.61–78.
- Tarasov S.I., Kabakov O.N. 2010. Two new species of *Onthophagus* from Indochina, with a discussion of some problems with the classification of *Serrophorus* and similar subgenera // Zootaxa. Vol.2344. P.17–28.
- Tarasov S.I., Solodovnikov A.Y. 2011. Phylogenetic analyses reveal reliable morphological markers to classify mega-diversity in Onthophagini dung beetles // Cladistics. Vol.27. P.1–39.