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## A NEW SPECIES OF *ODONTOMACHUS* LATREILLE, 1804 (HYMENOPTERA: FORMICIDAE) FROM CHINA

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**Summary.** *Odontomachus linearis* Chen et Zhou, **sp. n.** is described from Hunan province of China based on worker caste. New species is similar to *O. fulgidus* Wang, 1993 from China, but differs from latter in the present of the longitudinal ridges on the dorsal side of propodeum and in the shape of apical teeth of mandible. A key to the worker caste of Chinese species of *Odontomachus* is provided.

**Key words:** ants, Formicidae, Ponerinae, Ponerini, taxonomy, new species, China.

Ж. Л. Чень, Ф. М. Ши, Ш. Ю. Чжоу. Новый вид рода *Odontomachus* Latreille, 1804 (Hymenoptera: Formicidae) из Китая // Дальневосточный энтомолог. 2018. N 356. С. 1-8.

**Резюме.** Из китайской провинции Хунань по рабочей касте описан новый вид *Odontomachus linearis* Chen et Zhou, **sp. n.** Новый вид сходен с *O. fulgidus*

Wang, 1993 из Китая, но отличается от последнего наличием продольных гребней на пропедуме и формой вершинных зубчиков на мандибулах. Приводится определительная таблица китайских видов *Odontomachus* по рабочим особям.

## INTRODUCTION

The genus *Odontomachus* Latreille, 1804 is large-sized ants, comprising 72 valid extant and three valid fossil species in the world (Bolton, 2016). Brown (1976) has been globally treated, recognizing 51 valid species and 12 species groups. Since then, rarely research reports about classifications and regional faunas of *Odontomachus*, except China (Wang, 1993), United States (Deyrup *et al.*, 1985; Deyrup & Cover, 2004), Japan (Yoshimura *et al.*, 2007), Malagasy (Fisher & Smith, 2008), Philippine Islands (Sorger & Zettel, 2011), Malaysia (Terayama & Ito, 2014), Nearctic region (MacGown *et al.*, 2014), Czech Republic (Wappler *et al.*, 2014) and Sumatra (Satria *et al.*, 2015). The taxonomy of *Odontomachus* is still far from completion in Southeast Asian (Satria *et al.*, 2015). In fact so, China stretches across vast area covering the tropical, subtropical, temperate and frigid zones, but only nine species of *Odontomachus* are recognized: *O. circulus* (Wang, 1993), *O. fulgidus* (Wang, 1993; Zhou, 2001), *O. granatus* (Wang, 1993; Zhang & Hou, 2009), *O. haematodus* (maybe misidentification; Zhou, 2001; Hua, 2006; Tan *et al.*, 2009; Wang *et al.*, 2008), *O. monticola* (Zhou, 2001; Zhou & Rao, 2010; Xu, 2002), *O. rixosus* (Xu, 2002), *O. silvestrii* (Fellowes, 1996; Hua, 2006), *O. tensus* (Wang, 1993) and *O. xizangensis* (Wang, 1993). In this paper, a new species is described, which will be added to Chinese ant fauna. The holotype of a new species is deposited in the Insect Collection of Guangxi Normal University.

## MATERIALS AND METHODS

The examination of the specimens was carried out with Nikon SMZ745 stereoscope. HD Photo were captured using KEYENCE VHX-6000. All measurements are in millimeters. Standard measurements and indices are mostly defined by Bolton (1975), with addition of ED and MSL, and abbreviated in text as follow: **CI** – Cephalic Index =  $HW \times 100 / HL$ ; **DPI** – Dorsal Petiole Index =  $DPW \times 100 / PL$ ; **DPW** – Dorsal Petiole Width: maximum width of petiole in dorsal view; **ED** – Eye Diameter: maximum diameter of eye; **HL** – Head Length: straight-line length of head in perfect full-face view, measured from the mid-point of the anterior clypeal margin to the midpoint of the posterior margin. In species where one or both of these margins are concave, the measurement is taken from the mid-point of a transverse line that spans the apices of the projecting portions; **HW** – Head Width: maximum width of head in full-face view, excluding the eyes; **LPI** – Lateral Petiole Index =  $PH \times 100 / PL$ ; **MSL** – Mesosoma Length (= alitrunk length): diagonal length of the mesosoma in lateral view, measured from the point at which the pronotum meets the cervical shield to the posterior basal angle of the metapleuron;

**PH** – Petiole Height: height of petiole measured in lateral view from the apex of the ventral (subpetiolar) process vertically to a line intersecting the dors almost point of the node; **PL** – Petiole Length: length of petiole measured in lateral view from the anterior process to the posteriormost point of the tergite, where it surrounds the gastral articulation; **PW** – Pronotal Width: maximum width of pronotum measured in dorsal view; **SI** – Scape Index =  $SL \times 100 / HW$ ; **SL** – Scape Length: straight-line length of the antennal scape, excluding the basal constriction or neck; **TL** – Total Length: total outstretched length of the individual, from the mandibular apex to the gastral apex.

## TAXANOMY

### Family Formicidae

### Subfamily Ponerinae

### Tribe Ponerini

#### *Odontomachus linearis* Chen et Zhou, sp. n.

Figs 1–4

TYPE MATERIAL. Holotype – worker, **China**: Hunan, Ningyuan, Jiuningshan, 2004.IX.27, coll. Jianhua Huang, No. G041027. [The type specimen is deposited in the Insect Collection, Guangxi Normal University, Guilin, China (GXNU).

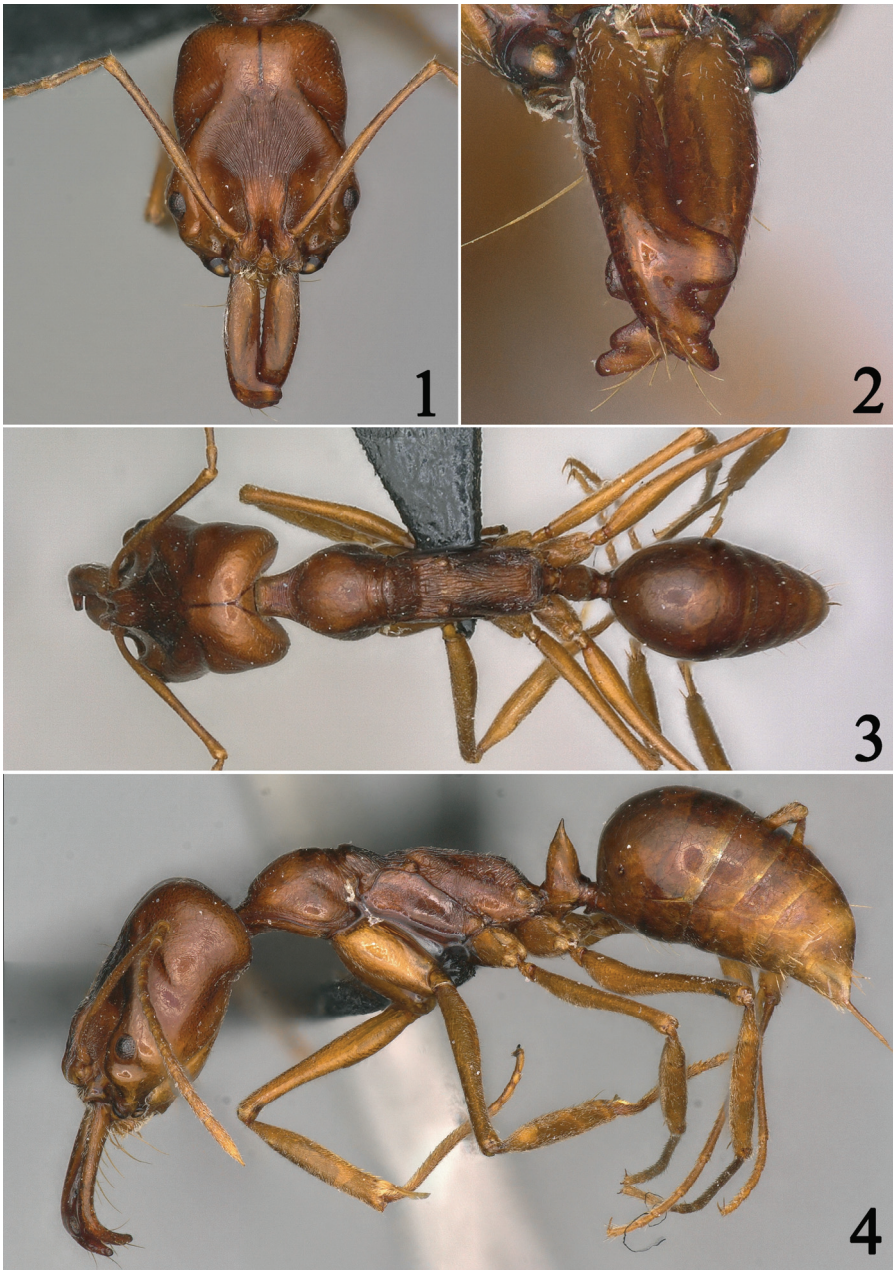
DESCRIPTION. Holotype **worker**. TL 8.10, HL 2.19, HW 1.59, CI 73, SL 1.79, SI 112, ML 1.13, ED 0.20, PW 0.91, MSL 2.46, PL 0.25, PH 0.89, DPW 0.36, LPI 356, DPI 142.

In full-face view head uniquely shaped (Fig. 1), longer than broad (CI 73); posterior margin slightly concave, occipital carina V-shaped; median furrow as dark line on vertex; poster corner round, lateral margin distinctly concave, as wide groove extend to the middle of the poster part of the head. Mandible elongate and linear, masticatory margin consisting three large and truncate teeth, inner margin with four small and un-conspicuous denticles. Clypeus divided into three lobes, anterior margin of each lobe convex; frontal carinae short, not exceed the frontal lobe. Scape long, almost reaching posterior corner of head. Eye in middle size, situated at the anterior third of lateral margins of head.

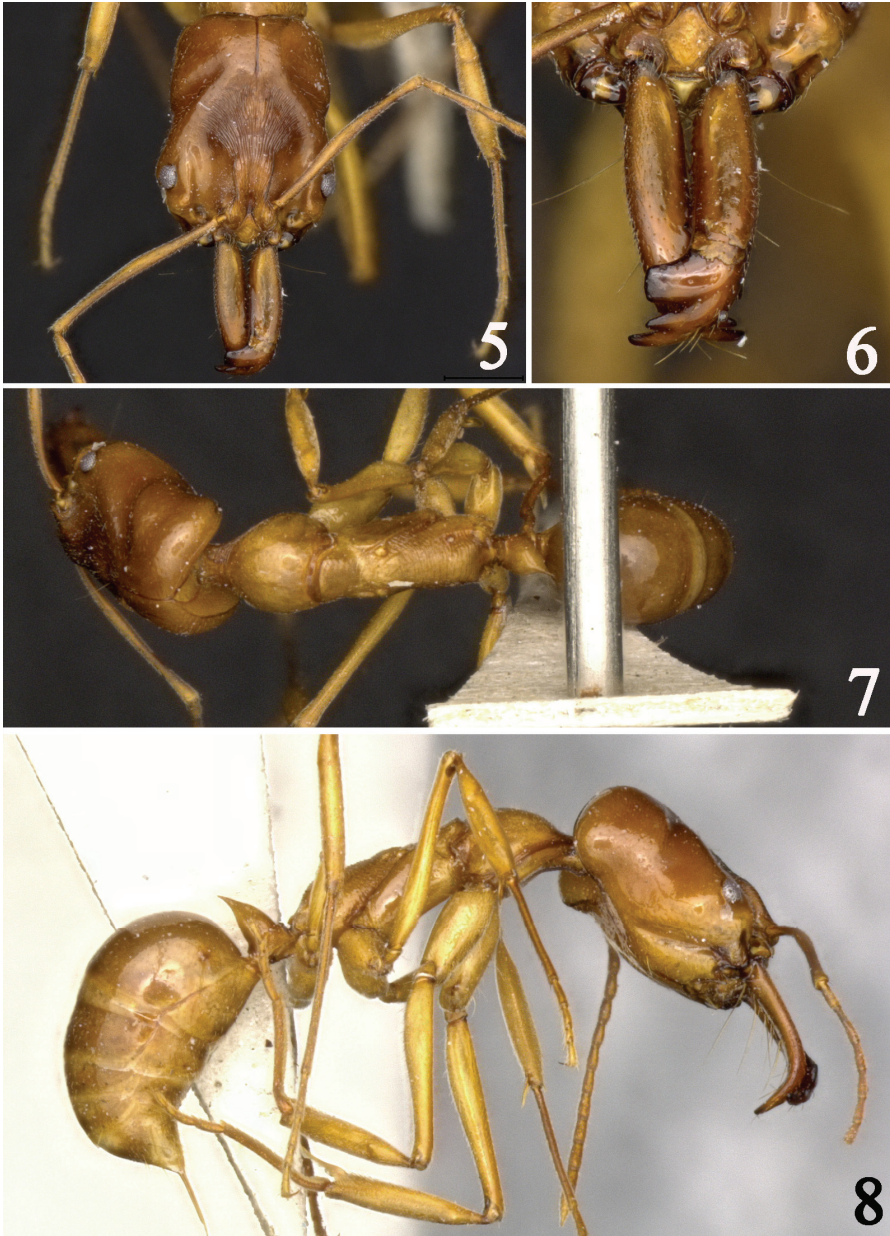
In lateral view pronotum weakly convex; promesonotal suture markedly impressed; dorsum of mesonotum straight, slow down backwardly; Propodeum elongated, dorsum almost straight and gradually sloping posteriad, propodeal declivity weakly convex, posterodorsal corner blunt. Petiole widest at base, node distinctly and immediately narrowed dorsally, tapering apically to a short spine directed slightly rearward. subpetiolar process rounded triangular, ventral apex blunt. Sting extruding.

In dorsal view mesosoma slender; pronotum broadest, edges rounded; promesonotal suture obvious and metanotal groove absent.

Mandibles smooth and shining; in full face view frontal lobe with striae, diverging toward outside, the rest of head smooth and shining; in dorsal view the anterior neck



Figs. 1– 4. *Odontomachus linearis* Chen et Zhou, sp. n., holotype worker. 1 – head in full-face view; 2 – mandible in anterodorsal view; 3 – body in dorsal view; 4 – body in lateral view.



Figs. 5–8. *Odontomachus fulgidus* Wang, 1993, holotype worker. 5 – head in full-face view; 6 – mandible in anterodorsal view; 7 – body in dorsal view; 8 – body in lateral view.

of pronotum with weakly striaed, the rest part smooth and shining; mesonotum and propodeum with longitudinal and coarse ridges; posteroventral part of mesopleuron weakly striated; metapleuron weak striae. Petiole and gaster smooth and shiny. Apical tooth and ventral face of Mandibles with long setae; poster part of gaster with a few short setae; whole body with sparse pubescence. Head, mesosoma, petiole, and gaster reddish brown, legs yellowish brown.

ETYMOLOGY The species is named after its dorsum of propodeum with longitudinal ridges.

NOTES. This new species is similar to *Odontomachus fulgidus* Wang, 1993 (Figs 5–8), but can be easily distinguished from the later by its longitudinal ridges of the dorsal propodeum, strongly contrasts to the transverse ridges of *O. fulgidus*. In addition to the difference above, the three apical tooth of mandible distinctly shorter and blunter than the later one.

### KEY TO THE SPECIES OF *ODONTOMACHUS* FROM CHINA BASED ON THE WORKER CASTE

NOTES. *Odontomachus haematodus* is not included in the key, because the reports of this species may be results of a wrong identification. Moreover, *Odontomachus tensus* Wang, 1993 is most likely to be *Odontomachus rixosus* Smith, 1857 based on the original description. We could not find out the differences between them, so this species also excluded in the key.

1. Dorsum of pronotum smooth and shiny ..... 2
- Dorsum of pronotum striate or ridge ..... 3
2. Dorsum of propodeum with longitudinal ridges ..... *Odontomachus linearis* **sp. n.**
- Dorsum of propodeum with transverse ridges ..... *O. fulgidus* Wang, 1993
3. Sub-preapical teeth acute; scape long ( $SI \geq 1.57$ ) ..... 4
- Sub-preapical teeth truncatus; scape short ( $SI \leq 1.30$ ) ..... 5
4. In full face view vertex finely striate longitudinally.... *O. silvestrii* Wheeler, 1927
- In full face view vertex finely striate transversely ..... *O. granatus* Wang, 1993
5. Dorsum of pronotum with transverse striae ..... *O. monticola* Emery, 1892
- Dorsum of pronotum with concentric or fusiform striae ..... 6
6. The striae of pronotum distinctly weaker than the propodeum's .....  
..... *O. rixosus* Smith, 1857
- The striae of pronotum as strong as the propodeum's ..... 8
8. Large species (HW 2.25-2.65); mesopleuron with finely rugose .....  
..... *O. circulus* Wang, 1993
- Small species (HW 1.90-2.11); mesopleuron smooth and shiny .....  
..... *O. xizangensis* Wang, 1993

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