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### *Beetles World*

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**Cover**  
♂ of *Odontolabis stevensi marlenae* spec. nov. from Sulawesi

## Description of *Prosopocoilus schumanni* spec. nov. from Vietnam (Coleoptera, Lucanidae)

Klaus-Dirk Schenk

### Abstract

*Prosopocoilus schumanni* spec. nov. from Vietnam is described and compared with the similar *Prosopocoilus suturalis*. The possibility of a curious colour morph is discussed.

### Keywords

Coleoptera, Lucanidae, *Prosopocoilus schumanni*, *Prosopocoilus suturalis*, Vietnam, taxonomy

*Prosopocoilus schumanni* spec. nov.



Fig. 1: (1) *Prosopocoilus schumanni* spec. nov. ♂ **Holotype**, 39,4 mm, northern Vietnam, Yen Bai, Mu Cang Chai, (2) for comparison an equal sized specimen of *Prosopocoilus suturalis* (Olivier, 1789) ♂ northern Vietnam, Sapa region (in coll. K.-D. Schenk, Wehretal Germany)

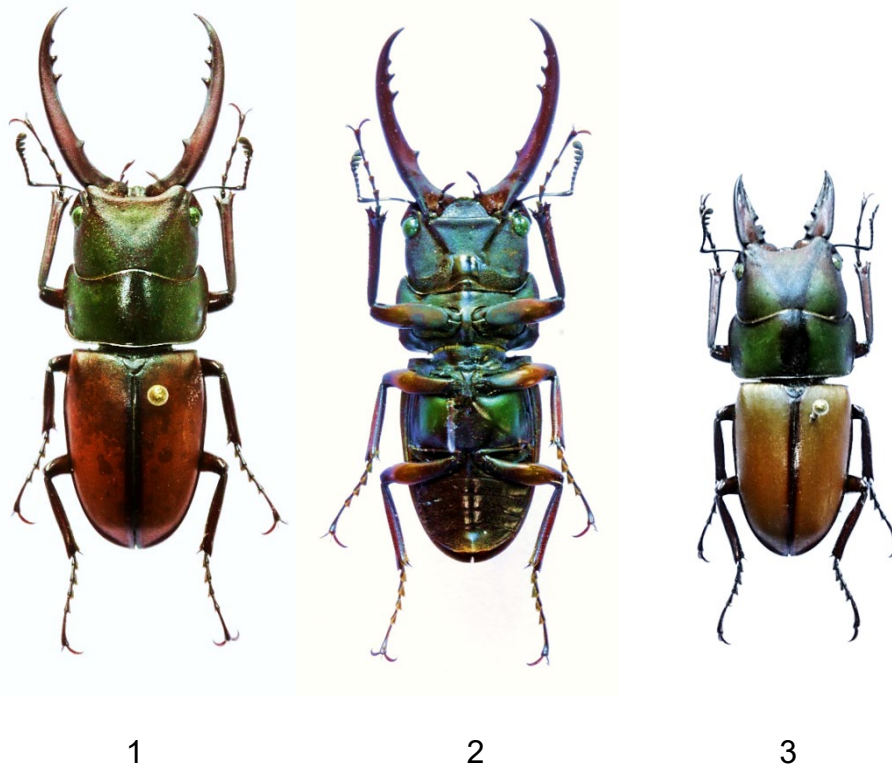


Fig. 2: *Prosopocoilus schumanni* spec. nov. ♂ teleodont paratype (37,8 mm), (1) dorsal (2) ventral (3) amphiodont paratype (27,1 mm), northern Vietnam, Yen Bai, Mu Cang Chai (in coll. G. Schumann, Quedlinburg, Germany)

**Holotype.** ♂, northern Vietnam, Yen Bai, Mu Cang Chai env., 1700m, VIII. 2018, local collector leg., in coll. K.-D. Schenk, Wehretal, Germany.

**Paratypes.** 7 ♂, same collecting data as holotype, in coll. G. Schumann, Quedlinburg, Germany.

**Etymology.** The name is dedicated to Günter Schumann who provided the type specimens for description.

### Description

**Holotype** (fig. 1) ♂, total length 39,4 mm, mandibles length 13,2 mm, head width 9,7 mm, prothorax width 11,5 mm, elytra length 15,3 mm, elytra width 11,5 mm.

**Paratypes** (figs. 2 and 3) 7 ♂, total length 27,0 - 37,9 mm.

Ground colour of head, mandibles, pronotum dark blackish brown, moderately shining. Head with a triangular, diffuse orange-green spot in front and a greenish spot on each site behind the eyes. Showing by this coloration a v-formed marking similar *Prosopocoilus suturalis* (Olivier, 1789). Prothorax olive-green with blackish-brown anterior, posterior and lateral margins and a broad, longitudinal band in the middle. Elytra dark orange-brown with a greenish glue. Suture, basal and lateral margins of elytra blackish brown. Downside dark greenish-brown with metallic lustre; downside of femora with dark orange-brown bands. Metasternum with olive-green spots on each site. Head elongate transverse, coriaceous and without any protuberances.

Vertex depressed in the middle and with a slightly concave front margin neatly covering the clypeus. Clypeus very small and short, central part prominent. Anterior angles of the head round. Canthi straight, dividing the eyes about half. Head behind the eyes swollen. Antennae formed by 3 broad and 1 spiny lamella.

Mandibles long and slightly curved inside. Tips simple with 3 small teeth behind the tip and another bigger and more basal tooth at about 1/3 of mandibles. Prothorax transverse, colour and structure like the head. Anterior lateral angles moderately rounded, then nearly straight contracted to the more acute rounded hind angles. Hind angles not spiny.



Fig. 3: *Prosopocoilus schumanni* spec. nov. 5 ♂ small paratypes, northern Vietnam, Yen Bai, Mu Cang Chai (in coll. G. Schumann, Quedlinburg, Germany)

Elytra moderately elongate, somewhat finer structured than head and prothorax. Anterior parts more strongly coriaceous. Suture of elytra shining. Anterior tibiae straight, with a longitudinal depression, without lateral teeth and anterior elongate forked. Mentum trapezoid and fine coriaceous.

The ♀ of *P. schumanni* spec. nov. is unknown.

### Discussion

The body of *Prosopocoilus schumanni* spec. nov. is morphologically very similar to *P. suturalis*. It is differing from *P. suturalis* by 1) a more straight anterior margin of the head 2) more straight lateral margins of the prothorax and 3) the peculiar colour of the body. But 1) and 2) could fall into the normal body variation of *P. suturalis*.

*P. suturalis* is widely distributed in Asia from India in the north to Cambodia and Malaysia in the south. It is also present in many provinces of Vietnam including the Yen Bai province. The author did check over 85 ♂ and 12 ♀ of *P. suturalis* from many different countries and locations. None of them was looking like *P. schumanni* spec. nov. Because it needs by definition geographical isolation to be a subspecies it is not appropriate to regard *P. schumanni* spec. nov. as a subspecies.

The author did show photos of *P. schumanni* to his colleague Mr. Q. T. Nguyen from Vietnam. He never has seen specimens like this and mentioned the olive-green colour of the specimens could be a colour morph maybe caused by food or earth ores. But the author has never observed a colour change by food or earth ores at any taxa of Lucanidae. In conclusion more specimens of *P. schumanni* spec. nov. have to be investigated and maybe a comparison of the genitals or a genetic investigation will be necessary to exclude safely that *P. schumanni* is not only a curious colour morph of *P. suturalis*.

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## Revisional notes and new descriptions of stag beetles from China (Coleoptera: Lucanidae)

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### Abstract

*Dorcus jinghongii* **sp. nov.** is described from Guizhou and Guangxi. Two new localities are recorded for *Dorcus fujiii* Nagai & Maeda, 2010. *Dorcus tenuecostatus* Fairmaire, 1888 is considered an undefinable taxon, with the following consequent taxonomic changes made: *Dorcus tenuihirsutus* Kim & Kim, 2010 **stat. rev.** and *Falcicornis pieli* (Didier & Séguy, 1953) **stat. rev.** are revised as bona species. *Falcicornis ruii* Huang & Chen, 2017 **syn. nov.** is treated as a junior synonym of *Falcicornis virginiae* (Bomans, 1991). *Prosopocoilus astacoides reni* Huang & Chen, 2011 **stat. nov.** is considered a subspecies of *Prosopocoilus astacoides* (Hope, 1840) on evidence of cross breeding. *Prismognathus katsurai* Ikeda, 1997 is recorded as new to Chinese fauna. *Aegus imitator* Nagel, 1941 is revised, with neotype designated. *A. eschscholtzii* (Hope, 1845) is excluded from Chinese fauna. *Aegus zhousii* **sp. nov.** is described from Zhejiang, Fujian, Guangxi, Chongqing and Hunan. *Aegus yangqiaozhii* **sp. nov.** is described from Ruili and Gongshan, W Yunnan.

### Keywords

*Dorcus*, *Falcicornis*, *Prosopocoilus*, *Prismognathus*, *Aegus*, new species, new status, new record, China.

### Introduction

Since the publication of Stag beetles of China - vol. 3, more and more Lucanid enthusiasts engaged in research of Chinese stag beetles beside our efforts. A good number of new species were described (Adachi, 2021; Bian & Zhan, 2021; Kubota et al., 2018; Lin, 2021 & 2022; Lin & Chou, 2021; Ochi et al., 2019; Qi, 2021; Qi et al., 2023; Wang & Zhu, 2017; Wang & Zhan, 2018; Wang & Zhou, 2019; Wang, 2020; Wang et al., 2020; Wang & Wang, 2021; Wang et al., 2023).

A few species were recorded as new to Chinese fauna (Zhan et al., 2022). Some taxonomic changes were made (Yu, 2020; Yuan et al., 2021; Zhou et al., 2019 & 2022). All these new progresses will be discussed thoroughly in the oncoming vol. 4 of our books that is however postponed due to the lack of material. During our preparation of the new book, some interesting discoveries were made including three new species described herein.

We also found some serious mistakes in Volume 3 of our books which will be corrected in this paper.

## Material and methods

In this paper, the length of body (LB) is measured from apex of mandible to end of elytra. The specimens used in this work are deposited in the following public and private collections:

- **SHNU** Department of Biology, Shanghai Normal University, China
- **CCCC** private collection of Chang-Chin Chen, Tianjin, China
- **CHY** private collection of Yang He, Hangzhou, China
- **CLYB** private collection of Ying-Bin Li, Wuming, Nanning, Guangxi, China
- **CPYL** private collection of Peng-Yu Liu, Fuzhou, China
- **CWJH** private collection of Jing-Hong Wang, Taiwan

## Taxonomic accounts

***Dorcus jinghongji*** Huang & Chen, **sp. nov.**

(figs. 1-2, 5-7, 11-13, 17-19, 22-23)

*Dorcus haitschunus*: Huang & Chen, 2013: partim (349- fig. 77-7, ♂ genitalia, pl. 65, fig. 77-7, ♂).

**Type material. CHINA: Guizhou province: Holotype** ♂ (CWJH, will be deposited in SHNU; figs. 1 & 17), Qiandongnan Pref., Leigongshan, 1642 m, larva collected and reared by L.-Y. Chang, emerged in VIII.2022; **Paratypes**: 3 ♂♂ & 6 ♀♀ (CWJH), same data as holotype; 2 ♂♂ (CCCC), Tongren City, Jiangkou County, Fanjingshan, 1750 m, 15.VII.2011, X.-D. Yang leg.. **Guangxi province: Paratypes**: 1 ♀ (CCCC), Guilin City, Lingui County, Huangsha, Anjiangping Nature Reserve, Guangfuding, 1773 m, 2.VII.2020, Y.-Q. Lu leg.; 5 ♂♂, 2 ♀♀ (CWJH), Guilin City, Ziyuan County, Shilipingtan, 1523 m, larvae collected and reared by L.-Y. Chang, emerged in VIII.2022; 1 ♂ (CCCC), Guilin City, Quanzhou, Tianhu, 1693 m, 24.VII.2022, Y.-Q. Lu leg..

**Etymology.** This new species is named in honour of our friend, Mr. Jing-Hong Wang, Taiwan.

**Diagnosis.** This new species is close to *Dorcus haitschunus* (Didier & Séguéy, 1952) (figs. 3-4, 8-10, 14-16, 20-21, 24-25), but can be distinguished from the latter by the following combination of characters:

- 1) first lateral angle of male pronotum obtuse in largest individual, more or less ill-defined in large or medium-sized forms, not sharply produced as in large or medium-sized forms of *D. haitschunus*;
- 2) male mandibles in the same-sized forms straighter, with major tooth more or less shorter;
- 3) male protibia wider near apex in the same-sized forms;
- 4) female protibia wider near apex, with outer apex more or less longer;
- 5) apical branches of flagellum in male genitalia (figs. 17-19) constantly longer;
- 6) spermatheca and spermathecal duct in female genitalia (figs. 22-23) markedly longer, with distal end of spermatheca larger.



This new species can be distinguished from *D. arrowi* (Boileau, 1911) by the following combination of characters:

- 1) male mandibles in the same-sized forms straighter;
- 2) male protibia wider near apex, with outer apex more or less longer;
- 3) apical branches of flagellum in male genitalia constantly longer;
- 4) spermatheca and spermathecal duct in female genitalia markedly longer, with distal end of spermatheca larger.

**Remarks.** The independence of this new species is based upon its sympatry with *Dorcus haitschunus*. The two species live together at three localities: Fanjingshan, Leigongshan and Ziyuan. They are constantly different in the above-mentioned characters. A phylogenetic analysis using two mitochondrial genes, COI and 16S rDNA, reveals that the two species (a male topotype of *D. haitschunus* from N Fujian is included into analysis) are well separated on the tree (S.-P. Wu, personal communications, 2023). For the populations from the sympatric localities, these two species are also distinguishable from each other by the color of elytra (black in *D. jinghongii* sp. nov. but reddish in *D. haitschunus*), sometimes also by the color of metasternum and femora (black in *D. jinghongii* sp. nov. but reddish in *D. haitschunus*). However, the color of metasternum and femora is geographically variable in both species, and the color of elytra is geographically variable in *D. haitschunus*. On the other hand, this new species is not sister to *D. arrowi* on the mitochondrial tree (S.-P. Wu, personal communications, 2023).

This new species can be simply separable from *D. rubrofemoratus* (van Vollenhoven, 1865) by the much larger spherical distal end of spermatheca in female genitalia. This new species is easily distinguishable from *D. arrowi katchinensis* Nagai, 2000 and *D. fukinukii* (Schenk, 2000) in male by the slenderer mandible with longer major tooth and the obtuse first lateral angle of pronotum. The male and female genitalia of *D. arrowi katchinensis* were examined and figured by Huang & Chen (2017), being hardly separable from those of *D. arrowi arrowi*. However, an unpublished research (S.-P. Wu, personal communications) on the mtDNA of this group reveals that the *D. arrowi*-like population from Daweishan, SE Yunnan could be grouped into *D. haitschunus* instead of *D. arrowi* by the mitochondrial data.

It is noteworthy that the first two male specimens of this new species were collected together with five females of *D. haitschunus* from Fanjingshan, Guizhou, being incorrectly identified as a single species by us (Huang & Chen, 2013). At that time, we found the remarkable difference in male genitalia between this material and *D. haitschunus* but failed to find any difference in female genitalia due to the insufficiency of material; we did not realize that there were two sympatric species collected together from Fanjingshan.

**LB.** ♂♂: 33.7-50.9mm (holotype: 40.7 mm). ♀♀: 28.9-33.9mm.

**Distribution.** Guizhou, Guangxi.

***Dorcus fujiii*** Nagai & Maeda, 2010

(figs. 26-28, 33-34)

*Dorcus fujiii* Nagai & Maeda, 2010: 38 (type locality: Ha giang, N Vietnam), figs. 5-10; Fujita, 2010: 243, pl. 156, figs. 708-1-3.*Dorcus fujiii* ssp.: Fujita, 2010: 243, pl. 156, fig. 708-4, record from Guizhou, China.**Material.** **Shaanxi province:** 2 ♂♂ (CCCC), Bazhong City, Nanjiang County, Guangwu shan, 1237 m, 25.VII.2022, Q.-Y. Ji leg.. **Yunnan province:** 1 ♂ (CCCC), Qujing City, Shizong County, Junzishan, 2142 m, 24.V.2023, Y.-Q. Lu leg..**Remarks.** The male genitalia (figs. 33-34) were examined. This species is rather special in the following characters:

- 1) flagellum rather long and narrow as in species of *Falcicornis*;
- 2) flagellum divided by width into three parts: a very linear apical part, a narrow median part and a wide basal part;
- 3) flagellum with two short additional branches at the end of the basal part.

***Dorcus tenuecostatus*** Fairmaire, 1888 Undefinable taxon*Dorcus tenuecostatus* Fairmaire, 1888: 116 (TL: Pekin); Hu, 2012: 31.**Remarks.** Hu (2012) stated that the unique female holotype was lost. Huang & Chen (2013) stated that Dr. Boucher failed to trace this specimen in MNHN. Thus the interpretation of this taxon has to be solely based on the original description. Huang & Chen (2013) regarded this taxon as *Falcicornis pieli* (Didier & Séguy, 1953). Yu (2020) considered this taxon as the senior synonym of *Dorcus tenuihirsutus* Kim & Kim, 2010. A reexamination of the original description drew to the following conclusions. *Falcicornis pieli* (Didier & Séguy) does not match with the following statements in original description of *Dorcus tenuecostatus* Fairmaire: body subopacus; elytra substrate; punctures with pubescence. On the other hand, *Dorcus tenuihirsutus* Fairmaire is sharply different from *D. parallelipipedus* (Linnaeus, 1758) by the strong pubescence and the clear carinae on the elytra, not like a small version of *D. parallelipipedus* (Linnaeus). Someone may argue that the holotype of *Dorcus tenuecostatus* Fairmaire could be a worn-out specimen of *Dorcus tenuihirsutus* Kim & Kim with most of the pubescence lost. However, the worn-out specimen of *Dorcus tenuihirsutus* Kim & Kim does not match with the following statement in original description of *Dorcus tenuecostatus* Fairmaire: dorsal surface of pronotum with rather dense, minute and regular punctures.On the contrary, the punctures on the pronotum of *Dorcus tenuihirsutus* Kim & Kim are very large (much larger than in the compared *D. parallelipipedus*) and irregular in shape and position everywhere. Moreover, *Dorcus tenuecostatus* Fairmaire was described to have looser punctuation on elytra than *D. parallelipipedus*; however, *Dorcus tenuihirsutus* Kim & Kim has punctures on elytra conjoined into a series of longitudinal striations.It can be sure that the original description of *Dorcus tenuecostatus* Fairmaire does not match with any known species of Dorcini from Beijing. It is highly possible that the holotype was mislabeled or the original description was not correctly made. Since the unique holotype is lost, *Dorcus tenuecostatus* Fairmaire must be regarded as an undefinable taxon and it should be ignored in the taxonomy of Lucanidae.

***Dorcus tenuihirsutus*** Kim & Kim, 2010 stat. rev.

*Dorcus tenuihirsutus* Kim, 2010: 66 (TL: Korea); Kim & Kim, 2012: 347, corrigendum to authority; Yu, 2020: 81, synonymy for *Dorcus tenuecostatus* Fairmaire, 1888.

*Dorcus tenuecostatus*: Yu, 2020: 81, figs. for living adults. Misidentification

**Remarks.** As discussed above, Yu (2020) incorrectly regarded *Dorcus tenuihirsutus* Kim & Kim as a junior synonym of *Dorcus tenuecostatus* Fairmaire. *Dorcus tenuecostatus* Fairmaire is now proved to be an undefinable taxon, not marching with any known species of Dorcini from China.

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***Falcicornis pieli*** (Didier & Séguy, 1953) stat. rev.

*Hemisodorcus pieli* Didier & Séguy, 1953: 45 (TL: Ku-ling).

*Macroborcas pieli*: Benesh, 1960: 78; Yu, 2020: 83, figs. for living male.

*Dorcus pieli*: Krajcik, 2001: 48.

*Dorcus sancha* Fujita, 2010: 237; Huang & Chen, 2013: 283, synonymy for *Hemisodorcus pieli* Didier & Séguy, 1953.

*Falcicornis tenuecostatus tenuecostatus*: Huang & Chen, 2013: 281. Misidentification

*Falcicornis tenuecostatus pieli*: Huang & Chen, 2013: 283.

**Remarks.** As discussed above, Huang & Chen (2013) incorrectly regarded *Hemisodorcus pieli* Didier & Séguy as a subspecies of *Dorcus tenuecostatus* Fairmaire. *Dorcus tenuecostatus* Fairmaire is now proved to be an undefinable taxon, not marching with any known species of Dorcini from China. By such treatment, *Falcicornis tenuecostatus mochizukii* (Miwa, 1937) should be transferred to *F. pieli mochizukii* (Miwa, 1937).

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***Falcicornis virginiae*** (Bomans, 1991) comb. nov.

(figs. 29-32)

*Hemisodorcus virginiae* Bomans, 1991c: 365 (type locality: Chiangmai, Thailand), fig. 2 for habitus, fig. 3 for genitalia.

*Dorcus virginiae*: Fujita, 2010: 236, pl. 152, figs. 695- 1-5.

*Falcicornis ruii* Huang & Chen, 2017: 44 (type locality: Ruili, SW Yunnan), figs. for habitus and genitalia. **syn. nov.**

**Remarks.** Three male specimens from Chiang Mai, Thailand (figs. 30, 32) were dissected for a comparison, resulting that *Falcicornis ruii* (figs. 29, 31) is merely a synonym of *F. virginiae*.

***Prosopocoilus astacoides reni*** Huang & Chen, 2011 stat. nov.

*Prosopocoilus reni* Huang & Chen, 2011: 49 (type locality: Hainan), figs. for habitus & genitalia; Zhou et al., 2019: 441, synonymy for *Prosopocoilus blanchardi* (Parry, 1873).

**Remarks.** Zhou et al. (2019) inferred a phylogenetic tree of *P. blanchardi* (Parry, 1873), *P. kachinensis* Bomans & Miyashita, 1997 and *P. reni* using mitochondrial genes (COI and 16S rDNA), resulting that *P. blanchardi* is a parapatric species with *P. reni* involved. They synonymized *P. reni* with *P. blanchardi*, apparently using phylogenetic species concept. However, due to the asymmetric rates of evolution, the phylogenetic tree generated from mtDNA sequencing data can be inconsistent with the tree generated from nuclear DNA sequencing data and the species delimitation in biological species concept (Khan et al., 2023). Zhou et al. (2019) stated “the differences between the two species (*P. blanchardi* and *P. reni*) are negligible and hardly any diagnostic character was found to distinguish them except for that *P. reni* has the unstable black color of the entire body” and “the characters of *P. reni* should be within the scope of phenotypic variations of *P. blanchardi*”. To prove these statements, they did not provide any evidences on new materials; instead, they quoted Holloway’s (2007) statement that characters of body color, head including mandibles, and female genitalia often display remarkably phenotypic variation in stag beetles. This is for sure so that all the discussions should be based upon the examination of good number of specimens; otherwise, any characters can be useless in taxonomy. Zhou et al. (2019) employed the evidence that *P. reni* has individual variation in color of elytra, being entirely black or partly reddish. However, the following differences in character states found between these two taxa are discrete, not continuous. The two taxa are at 100% level separable by any of these three phenotypic traits.

- 1) Although some individuals of *P. reni* have their elytra partly reddish, they consistently have entirely black head and pronotum without exception; whereas all known specimens of *P. blanchardi* have reddish brown head and pronotum.
- 2) In male genitalia, the width of the basal piece of *P. reni* is considerably larger than in *P. blanchardi*, not falling into the individual variation of *P. blanchardi*. (5 ♂♂ of *P. reni* and 12 ♂♂ of *P. blanchardi* have been dissected.)
- 3) In female genitalia, the width of the 9th hemisternite of *P. reni* is strikingly much larger than that of *P. blanchardi*, not falling into the individual variation of *P. blanchardi*. (6 ♀♀ of *P. reni* and 9 ♀♀ of *P. blanchardi* have been dissected.)

Zhou et al. (2019) insisted to treat *P. astacoides blanchardi* and *P. astacoides kachinensis* as full species because of “the lack of detailed discussion in the previous status change”. However, according to a morphological study on male and female genitalia (Huang & Chen, 2013), *P. astacoides blanchardi*, *P. astacoides kachinensis* and *P. astacoides dubernardi* (Planet, 1899) have no difference in male and female genitalia from *P. astacoides fraternus* (Hope, 1845), the closest subspecies of *P. astacoides astacoides* (Hope, 1840). Of course, a final conclusion should be based upon a thorough study on mitochondrial genome, nuclear genome and cross breeding. However, for the most Lucanidae species such thorough study will be unavailable for a long time. For the time being, to accept a classification based on male and female genitalia is much better than to keep the original statements of the taxa solely based on external features.

Although *P. reni* is constantly different from all subspecies of *P. astacoides* (sensu Huang & Chen, 2013) in both male and female genitalia, such genital differences are slight. Therefore a biological study on the cross breeding between *P. reni* and its relatives is necessary.

Mr. J. Hao (personal communications, 2019) successfully hybridized *P. astacoides blanchardi* and *P. reni* and found that the Hybrid F1 females could be hybridized with *P. astacoides blanchardi* males. This suggests that *P. astacoides reni* stat. nov. could be treated as a subspecies of *P. astacoides*.

We adopted Braby et al.'s (2012) and Remsen's (2010) sentiments on subspecies concept. The definition of subspecies is "restricted to extant animal groups that comprise evolving populations representing partially isolated lineages of a species that are allopatric, phenotypically distinct, and have at least one fixed diagnosable character state, and that these character differences are correlated with evolutionary independence according to population genetic structure". "A subspecies is a distinct population, or group of populations, that occupies a different breeding range from other populations of the same species; individuals are distinguishable from those other populations by one or more phenotypic traits at the 95% level of diagnosability".

Since *P. astacoides reni* stat. nov. is isolated in an island with a phenotypic trait in color of body (easily recognizable) and two phenotypic traits in genitalia (correlated with evolutionary independence) at 100% level distinguishable from those of *P. astacoides blanchardi*, it deserves a good subspecies.

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***Prismognathus katurai*** Ikeda, 1997

(figs. 36-37)

*Prismognathus katurai* Ikeda, 1997: 30 (type locality: Pia Oac, Cao Bang, N Vietnam), figs. 4-5; Huang & Chen, 2017: 138-139, figs. for ♂ & ♀ genitalia.

**Material.** Guangxi prov.: 1 ♂ (CCCC; fig. 36), Baise City, Tianlin County, Cenwanglaoshan Nature Reserve, Dalongping, 1267 m, VIII.2013, Chao Li leg., ex coll. Chao Li.

**Remarks.** This species is new to Chinese fauna. The male genitalia examined (fig. 37) are in common with those taken from the specimen from Vietnam.

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***Aegus imitator*** Nagel, 1941

(figs. 39-44, 49-50)

*Aegus imitator* Nagel, 1941: 58 (type locality: Sze Tsong [= Shi Zong], 2000 m, E Yunnan), fig. 4 for ♂ holotype; Benesh, 1960: 100, synonymy for *Aegus bidens* Möllenkamp, 1902; Cao et al., 2016: 268, listed as synonym of *A. bidens*.

*Aegus eschscholtzii*: Huang & Chen, 2017: 258-262, figs. for habitus and genitalia. Misidentification.

**Type material.** Neotype ♂ (SHNU; figs. 43, 50) labeled: a) "CHINA, Yunnan, Qujing, / Shizong, Junzishan / Junzishan [in Chinese] 2142 m, / 2023,V-20, leg. Y.-Q. LU / L23L0179 night sap [in Chinese] CCCC"; b) red label "*Aegus imitator* / NAGEL, 1941 ♂ / NEOTYPE / Det. H. HUANG & C.-C. CHEN". **NEOTYPE HERE DESIGNATED.**

**Additional material. CHINA: Yunnan province:** 10 ♂♂, 3 ♀♀ (CCCC), Qujing City, Shizong County (type locality), Junzishan, 2142 m, 17-21.V.2023, Y.-Q. Lu leg.; 2 ♂♂, 2 ♀♀ (CCCC), Honghe Pref., Pingbian County, Daweishan Nature Reserve, 1982 m, 22.V.2010 & 22.IV.2016, X.-D. Yang leg.; 2 ♂♂, 2 ♀♀ (CCCC), Yuxi City, Xiping County, Ailaoshan Mts., Jinshan Pass, ca. 2000 m, 15.IX.2010, X.-D. Yang leg.; 3 ♂♂ (CCCC), Nujiang Pref., Gongshan County, on route from Gongshan to Dulongjiang,, east slope of Gaoligongshan Mts., Qiqi Protection Station, 1980 m, 25.V.2009, X.-D. Yang leg.; 1 ♂, 2 ♀♀ (CLYB), Nujiang Pref., Gongshan County, Galabo village, ca. 2000 m, V.-VI.2010, Y.-B. Li leg.; 2 ♂♂ (CCCC), Nujiang Pref., Lushui County, Pianma, ca. 1500- 2000 m, 11.IX.2010, local collectors leg., purchased by X.-D. Yang; 1 ♂ (CCCC), Nujiang Pref., Fugong County, 18 km Camp, on route to Myanmar, 5.VIII.2005, Y. Liu leg.; 2 ♀♀ (CHY), Nujiang Pref., Lushui County, Pianma, VI.2010, Y. He leg.. **Sichuan province:** 3 ♂♂, 2 ♀♀ (CCCC), Liangshan Pref., Muli County, Liziping, 2481 m, 31.VII.-2.VIII.2008, W.-X. Lin & X.-D. Yang leg.. 18 ♂♂ & 5 ♀♀ dissected.

**Neotype designation.** Nagel (1941) described *Aegus imitator* on a male specimen (fig. 38) from Sze Tsong (= Shi Zong), E Yunnan and a female specimen from Ngan Son, Tonking, N Vietnam. Nagel (1941) published a sketch for the male but he hesitated to regard his female specimen from Vietnam as the correct female of *Aegus imitator*, adding a “?” before the description of the female. Thus that female specimen should be excluded from the type material, leaving the unique male specimen (fig. 38) a holotype with Sze Tsong as type locality. These original specimens were destroyed during the 1943 bombing of ZIZM (Weidner, 1976), the depository of Nagel’s personal collection earlier that year (Gaedike & Groll, 2001). A survey of other German museums failed to find these original specimens. Because the holotype (fig. 38) was destroyed and the last reviser of the group (Huang & Chen, 2017) were unclear on the identity of *Aegus imitator*, we designate a neotype to stabilize the nomenclature. Of the specimens examined, 13 are from the original type locality, Shizong, E Yunnan. Because a small-sized specimen (LB: 24.3 mm) matches with the original description and figure in most characters and is from the original type locality, it is chosen as the neotype (fig. 43).

The neotype (fig. 43) differs from the holotype (fig. 38) only by having no frontal projections on the head because of the smaller size (LB: 24.3 mm against 26-27 mm in the holotype). We have no specimen with LB around 26-27 mm examined. The males from the type locality with LB of 28 mm (fig. 40) have conspicuous frontal projections on head as the holotype, but differ from the holotype by having dorsal tooth of mandible placed more apically; such difference in the mandible is due to insufficient sampling, as a male from Pianma with LB around 28 mm (Huang & Chen, 2017: 259, fig. 4-1) have the dorsal tooth of mandible nearly as basal as the holotype.

**Identification.** We (Huang & Chen, 2017) made a serious mistake in identifying specimens of *A. imitator* as *A. eschscholtzii* (Hope, 1845), overlooking that the fully developed form (the holotype) of *A. eschscholtzii* is only 24 mm long, with no pair of frontal projections on the head. In conclusion, *A. eschscholtzii* should be excluded from Chinese fauna.

On the other hand, we (Huang & Chen, 2017) wrongly identified specimens of *A. zhousii* sp. nov. from Guangxi, Chongqing, Fujian and Zhejiang as *A. imitator* on account of the common characters found in the original figure of the holotype of *A. imitator*. We did not examine any specimens from the type locality of *A. imitator* at the time. Actually, there are two species sharing the characters found in the holotype of *A. imitator*: 1) a **western species**, distributed in Yunnan (including Shizong) and southern Schuan, incorrectly identified by Huang & Chen (2017) as *A. eschscholtzii*; and 2) an **eastern species**, distributed in Guangxi, Chongqing, Fujian, Hunan and Zhejiang, incorrectly identified by Huang & Chen (2017) as *A. imitator*.

Our friend, Mr. Y.-Q. Lu explored Shizong (type locality of *A. imitator*) for three months in 2023 and collected 13 specimens of *Aegus*; a dissection proved that all these specimens belong to a single species corresponding to the above-mentioned **western species**. A more careful comparison reveals that the **western species** is more applicable to the original figure of *A. imitator* than the **eastern species** by having a broad medial depression filled with large punctures on the pronotum (figs. 38, 43 & 46).

**Diagnosis.** The males of *A. imitator* (figs. 39-41) and *A. zhousii* sp. nov. (figs. 45-47) are nearly indistinguishable in size and most of the external characters in all of the corresponding forms. However, these two species can be separated by the following external characters in male:

- 1) seta-tuft at inner apex of metatibia and seta-areas near distal margins of 1st - 5th ventrites more extensive in *A. imitator* (figs. 49-50) than in *A. zhousii* sp. nov. (figs. 51-52);
- 2) lateral projections on frontal ridge of head in large-sized forms longer in *A. imitator* (fig. 39) than in *A. zhousii* sp. nov. (fig. 45);
- 3) pronotum in small-sized forms more punctate everywhere, with a broader central depression in *A. imitator* (fig. 43) than in *A. zhousii* sp. nov. (fig. 46);
- 4) intervals between grooved striae on discal area of elytra more even in width in *A. imitator* than in *A. zhousii* sp. nov..

On the other hand, the *A. imitator* male looks like a larger version of the *A. kuangtungensis* Nagel, 1925 male in all of the corresponding forms.

In male genitalia, *A. imitator* is similar to *A. kuangtungensis* and *A. laevicollis* Saunders, 1854, but can be distinguished from the latter two by the following combination of characters:

- 1) median lobe in ventral view with caudal part broader than in *A. kuangtungensis* but narrower than in *A. laevicollis*; 2) median lobe in ventral view gradually tapering distad, not so markedly contracted before caudal apex as in *A. kuangtungensis*, nor rather even in width throughout as in *A. laevicollis*; 3) ventral caudal plate of basal piece M-shaped, shorter and broader than in *A. laevicollis*, not triangular as in *A. kuangtungensis*; 4) flagellum clearly divided into three part by width, not gradually tapering distad as in *A. kuangtungensis*.

In external features, the female of *A. imitator* (fig. 42) is easily distinguishable from that of all other species by the higher density of larger punctures on pronotum and elytra.

In female genitalia, *A. imitator* is very similar to *A. kuangtungensis* but differs from the latter by having all structures markedly larger in size.

The keys to Chinese *Aegus* species using external features and genital characters provided by Huang & Chen (2017: 237-247) are still useful under the condition that *A. eschscholtzii* and *A. imitator* are replaced by *A. imitator* and *A. zhousii* sp. nov. respectively.

**LB.** ♂♂: 17.8-47.0mm. ♀♀: 17.5-23.0mm.

**Distribution.** Yunnan, S Sichuan.

***Aegus zhouzii*** Huang & Chen, sp. nov.

(figs. 45-48, 51-54)

*Aegus imitator*: Fujita, 2010: 344, partim on pl. 215, fig. 1053-1, ♂; Huang & Chen, 2017: 272-275, figs. for ♂ & ♀ habitus, ♂ & ♀ genitalia.*Aegus* sp: Fujita, 2010: 345, partim on pl. 215, fig. 1058-1-2, ♂♂ from Sapa, Vietnam; Fujita, 2010: 349, pl. 217, fig. 1079, ♂ from Zhejiang.

**Type material. CHINA: Zhejiang: Holotype:** ♂ (SHNU; fig. 53), Lishui City, Qingyuan County, Baishanzu, 900m, VII.2007, Z.-Z. Yu leg.; **Paratypes:** 2 ♀♀ (CHH), Lishui City, Qingyuan County, Baishanzu, 900m, VII.2007, Z.-Z. Yu leg.; 1 ♂, 1 ♀ (CHH), Lishui, Qingyuan, Baishanzu, 900m, 8.VII.2009, Z.-Z. Yu leg.. **Guangxi: Paratypes:** 1 ♂, Laibin City, Jinxiu County, Dayaoshan, Shengtangshan, ca.1600m, 28. VII. 2011, Z. Peng & J.-Q. Zhu leg.; 2 ♂♂ (CCCC), Laibin, Jinxiu, Dayaoshan, local collector, VI. 2009, purchased by J. Hao. **Fujian: Paratypes:** 2 ♂♂ (CPYL), Nanping City, Wuyishan, Kuatun, 1200m, VI.2008, Y. Huang leg.. **Chongqing: Paratypes:** 1 ♂ (CCCC), Jiangjin, Simianshan, 1050m, 2.VIII.2009, X.-D. Yang leg.. **Hunan: Paratypes:** 25 ♂♂, 11 ♀♀ (CCCC), Zhuzhou City, Yanling County, 1770-1900 m, VI.2019-2022, Y.-T. Wang, Y.-T. Chung, J.-T. Zhao & Y.-Q. Lu leg.. 10 ♂♂ & 3 ♀♀ dissected.

**Etymology.** This new species is named in honour of our friend, Mr. Zhi-Zhou Yu, Shanghai, called "Zhouzi" by his friends, who first collected this amazing species from Zhejiang and generously helped us in various ways.

**Diagnosis.** In external features (figs. 45-47, 51-53), the male of this new species is rather similar to that of *A. kuangtungensis* but has a much larger size in all of the corresponding forms; it is also very similar to that of *A. imitator* in all of the corresponding forms, but can be distinguished from the latter as stated under Diagnosis of *A. imitator*. It is noteworthy that the male of this new species has the seta-tuft at the inner apex of the metatibia and the seta-areas near the distal margins of the 1st-5th ventrites less developed than those of *A. kuangtungensis* and *A. imitator*. The small-sized males of this new species could have the seta-areas near the distal margins of the 1st-5th ventrites obsolete or absent.

In male genitalia (fig. 53; Huang & Chen, 2017: 274, figs. for 7-1, 7-2 & 7-3), this new species is similar to *A. bidens* Möllenkamp, 1902 by having a shorter flagellum greatly expanded at distal apex, but can be distinguished from the latter by having a much larger size of genitalia and a narrower caudal ventral plate of basal piece.

In external features, the female (fig. 54) of this new species is similar to that of *A. labilis* Westwood, 1864 by having the rather wide striae and the smooth intervals between the striae on the elytra.

In female genitalia (fig. 54), this new species is similar to *A. subnitidus* Waterhouse, 1873 from Japan, but differs from the latter by having the branches of the spermatheca rather even in width throughout.

The keys to Chinese *Aegus* species using external features and genital characters provided by Huang & Chen (2017: 237-247) are still useful under the condition that *A. eschschoitzii* and *A. imitator* are replaced by *A. imitator* and *A. zhouzii* sp. nov. respectively.



**Remarks.** This new species was misidentified by us (Huang & Chen, 2017: 272-275) as *A. imitator*. In that work it is fully described under a wrong name with both male and female genitalia figured in details.

A survey in literature proves that this new species has not been named on any forms. Since Benesh (1960) published his catalogue, numerous *Aegus* species have been described by various authors (Araya, 1994; Bomans, 1974-1993; Bomans & Bartolozzi, 1990; Bomans & Benoit, 2007; Boucher, 1991 & 1996; de Lisle, 1967-1977; Ikeda, 2000 & 2003; Nagai in Mizunuma & Nagai, 1994; Nagai & Maeda, 2009; Nagai, 2001; Okuda, 2015; Sakamaki, 2006; Schenk, 2001-2008) from SE Asia. Some new taxa were published by Japanese entomologists from Japan and Taiwan. A complete catalogue of the subgenus *Aegus* can be found in the website built by Maes (2023).

The following four taxa deserve a discussion herein as they are described from the nearby area of China, possessing some similar characters to the Chinese species of *Aegus*. Their species identities need to be confirmed by a further research on the genitalia of the type materials in future.

*Aegus amplus* Nagai, 1994 from Chiangmai, N Thailand is a large species characterized by having a rectangular anterior angle of pronotum.

*Aegus milkintae* Bomans, 1992 (♂ paratypes figured by Mizunuma & Nagai, 1994) from Tonkin, N Vietnam could be a synonym of *A. parvus*, characterized by the combination of a small size (LB: 22.3 mm for holotype), a rather median dorsal tooth of mandible, the rather smooth medial area of pronotum, a rather rounded anterior angle of pronotum and the glabrous inner apex of metatibia. The smallest male of *A. zhouzii* sp. nov. has a still much larger size, a more elongate body and the much shorter mandibles than that of *A. milkintae*.

*Aegus curvus* Didier, 1928 (♂ syntype figured by Mizunuma & Nagai, 1994) from Tonkin, N Vietnam could be a synonym of *A. melli* Nagel, 1925, characterized by the combination of a small size and a rather long mandible with obsolete dorsal tooth. The smallest male of *A. zhouzii* sp. nov. has a still much larger size, a more elongate body and the much shorter mandibles than that of *A. curvus*.

*Aegus saitoi* Nagai, 2001 from Malay Peninsula could be a close relative of *A. bidens* Möllenkamp, 1902, being parallel-sided in body-shape and with a longer ventral tooth and a more frontal dorsal tooth on male mandible than *A. zhouzii* sp. nov..

**LB.** ♂♂: 22.5-44.7 mm (holotype: 37.8 mm). ♀♀: 22.0-26.0 mm.

**Distribution.** Guangxi, Fujian, Zhejiang, Chongqing, Hunan; N Vietnam.

***Aegus yangqiaozhii*** Huang & Chen, sp. nov.

(figs. 55-63, 69, 71-76, 82-84)

*Aegus taurus*: Huang & Chen, 2017: partim (283- 10-2, 10-7 for ♂♂ from Ruili).

**Type material. CHINA: Yunnan province: Holotype** ♂ (SHNU; figs. 56, 67- upmost, 71), Dehong Pref., Ruili City, Bangda shan, 1432 m, 5.IX.2014, X.-D. Yang leg.; **Paratypes**: 5 ♂♂, 3 ♀♀ (CCCC), same locality as holotype but 5-16.IX.2014, X.-D. Yang leg.; 10 ♂♂, 3 ♀♀ (CCCC), same locality as holotype but 30.VIII.- 1.IX.2015, X.-D. Yang leg.; 3 ♂♂ (CCCC), Dehong Pref., Ruili City, Precious Botany Garden, 1152 m, 8.VIII.2009, H.-L. Shi leg.; 3 ♂♂, 3 ♀♀ (CCCC), Nujiang Pref., Gongshan County, Dulongjiang, Naiwang, 2300 m, 29.VI.2015, X.-D. Yang leg.; 2 ♂♂ (CCCC), Nujiang Pref., Gongshan County, Dulongjiang, Xiongdang, 1919 m, 3.VII.2015, X.-D. Yang leg..

**Etymology.** This new species is named in honour of our friend, Mr. Qiaozhi Yang, a specialist in Dynastidae.

**Diagnosis.** This new species is very special in the following male characters of setae on ventrites and hind legs (fig. 67- upper part), being easily distinguishable from all known species of *Aegus* from China:

- 1) inner apex of metatibia glabrous or with very sparse short setae;
- 2) posterior margin of metafemur glabrous or with very sparse short setae;
- 3) 5th ventrite with a pair of isolated seta-tufts near caudal apex (glabrous or with continuous and uniform seta-area in all other species).

This new species is small in size, with the LB of the known largest male less than 27 mm. The large-sized males (figs. 55, 56 & 63) are similar to the same-sized males of *A. taurus* Boileau, 1899 (figs. 64, 66) and *A. parvus* Boileau, 1902 in characters of mandibles and body-shape, but can be distinguished from the latter two species by the following combination of characters:

- 1) posterior margin of metafemur glabrous or with sparse setae (with dense setae in *A. taurus*);
- 2) inner apex of metatibia glabrous or with sparse short setae (with dense, semi-erected, long setae in *A. parvus*; with dense, recumbent setae in *A. taurus*);
- 3) apical part of 5th ventrite with a pair of seta-tufts or with setae concentrated in two spots (with uniform sparse-seta-area in *A. parvus*; with uniform dense-seta-area in *A. taurus*);
- 4) mandible with apical half straighter, and with dorsal tooth placed more basal in the same-sized forms;
- 5) frontal margin of clypeolabrum more concaved in shape;
- 6) anterior angle of pronotum rounded rectangular and not excised in the largest form, more rounded in the smaller forms;
- 7) medial depression on pronotum more clearly defined and filled with much larger punctures;
- 8) intervals between striations on elytra with transversal surface more convex, not so flat as in *A. parvus* and *A. taurus*.

Beside the characters of setae on ventrite and hindleg, the small-sized males of this new species can be distinguished from those of *A. taurus* and *A. parvus* by having a longer and deeper medial depression on pronotum filled with larger punctures.

In male genitalia, this new species is very similar to *A. wernerii* Nagai, 1994, but can be distinguished from the latter by having the medial non-pigmented area of median lobe narrower.

Beside the above-mentioned character of seta-tufts on 5th ventrite, this new species is different from *A. weneri* also by having a much shorter ventral tooth of mandible, a less produced anterior canthus, a more pronounced medial depression on pronotum filled with larger punctures, the more transitionally convex intervals on elytra, and the absence of long setae on posterior margin of metafemur.

In male genitalia, this new species (figs. 71-76) is also somewhat similar to *A. taurus* (figs. 77-81), but is distinguishable from the latter by having a shorter and wider caudal ventral plate of the basal piece.

In external features of female, this new species (fig. 69) is very similar to *A. taurus* (fig. 70) or *A. weneri*, but can be distinguished from the latter two species by having thinner intervals between striations on elytra with more convex transversal surfaces.

In female genitalia, this new species (figs. 82-84) is very similar to *A. taurus* (fig. 85) and *A. weneri* (figs. 86-87), and is separable by having a pair of longer (than *A. taurus*) and more curved (than *A. weneri*) branches of spermatheca.

**Remarks.** All of the male type specimens of *A. taurus*, *A. beauchenei* Boileau, 1902 (type locality: Tonkin, Vietnam) and *A. caprinus* Didier, 1928 (type locality: Tonkin) have dense setae along posterior margin of metafemur (Cao et al., 2016), different from the male specimens of *A. yangqiaozhii* sp. nov.. *A. beauchenei* and *A. caprinus* were confirmed to be synonyms of *A. taurus*. This new species is sympatric with *A. taurus* at SW Yunnan, but is absent from N Vietnam and its adjacent areas in SE Yunnan and SW Guangxi.

The following taxa deserve a discussion herein as they are described from the nearby area of China, possessing some similar characters to this new species. Their species identities need to be confirmed by a further research on the genitalia of the type materials in future.

*Aegus linealis* Didier, 1928 from Bhutan needs a further research on the type material or topotypes. For the same-sized male forms, *Aegus linealis* has a markedly larger ratio of body-length to body-width than *A. yangqiaozhii* sp. nov., and a pair of markedly longer and more incurved mandibles than *A. yangqiaozhii* sp. nov..

*Aegus milkintae* has a rather smooth medial area of pronotum in all male syntypes, being strikingly different from *A. yangqiaozhii* sp. nov..

The only known male syntype of *Aegus curvus* has a longer mandible with more incurved apex and a rather smooth medial area of pronotum, so is easily separable from *A. yangqiaozhii* sp. nov..

The unique male holotype of *A. malayanus* Bomans, 1993 from Malay Peninsula has a longer and more median dorsal tooth of mandible, a more square pronotum without medial depression, so is sharply different from *A. yangqiaozhii* sp. nov..

*A. naungi* Nagai & Maeda, 2009 from NE Kachin, N Myanmar has the shorter teeth on male mandible, the less depressed medial area of pronotum in both sexes, the evenly and more coarsely punctate pronotum in both sexes and the wider and flat intervals on elytra in both sexes than *A. yangqiaozhii* sp. nov..

**LB.** ♂♂: 14.9-26.3 mm (holotype: 23.7 mm). ♀♀: 15.5-16.2 mm.

**Distribution.** SW Yunnan.

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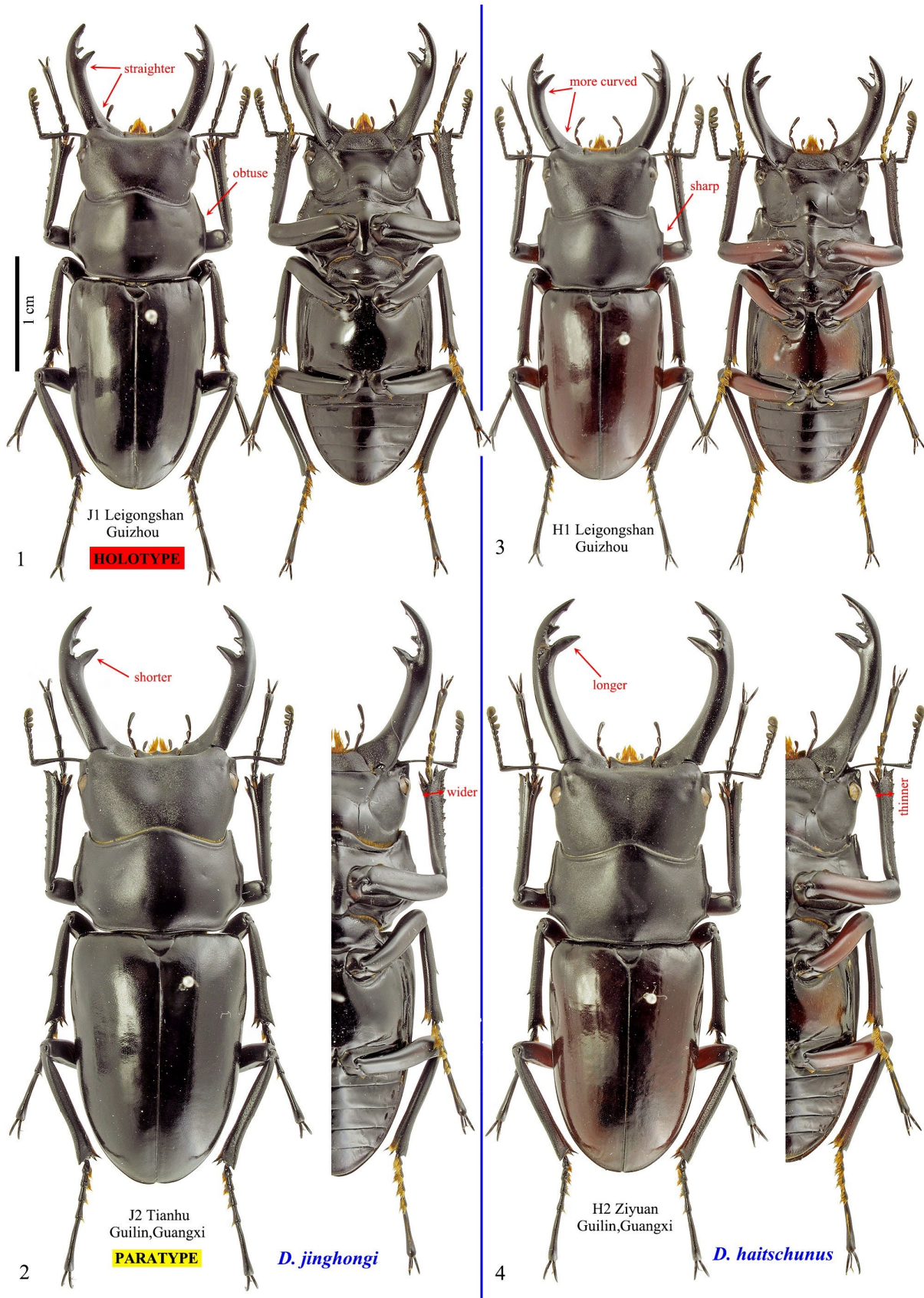
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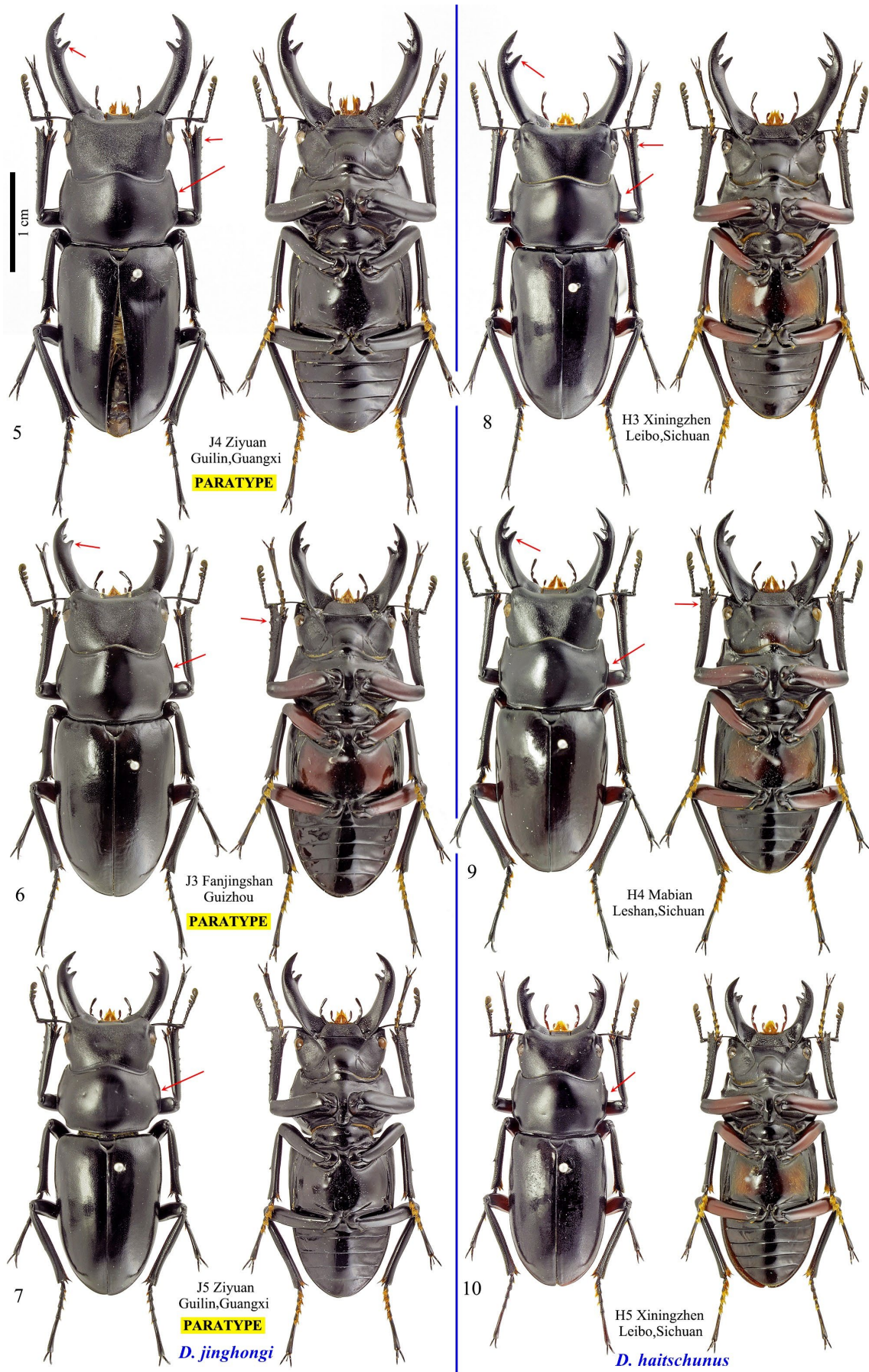
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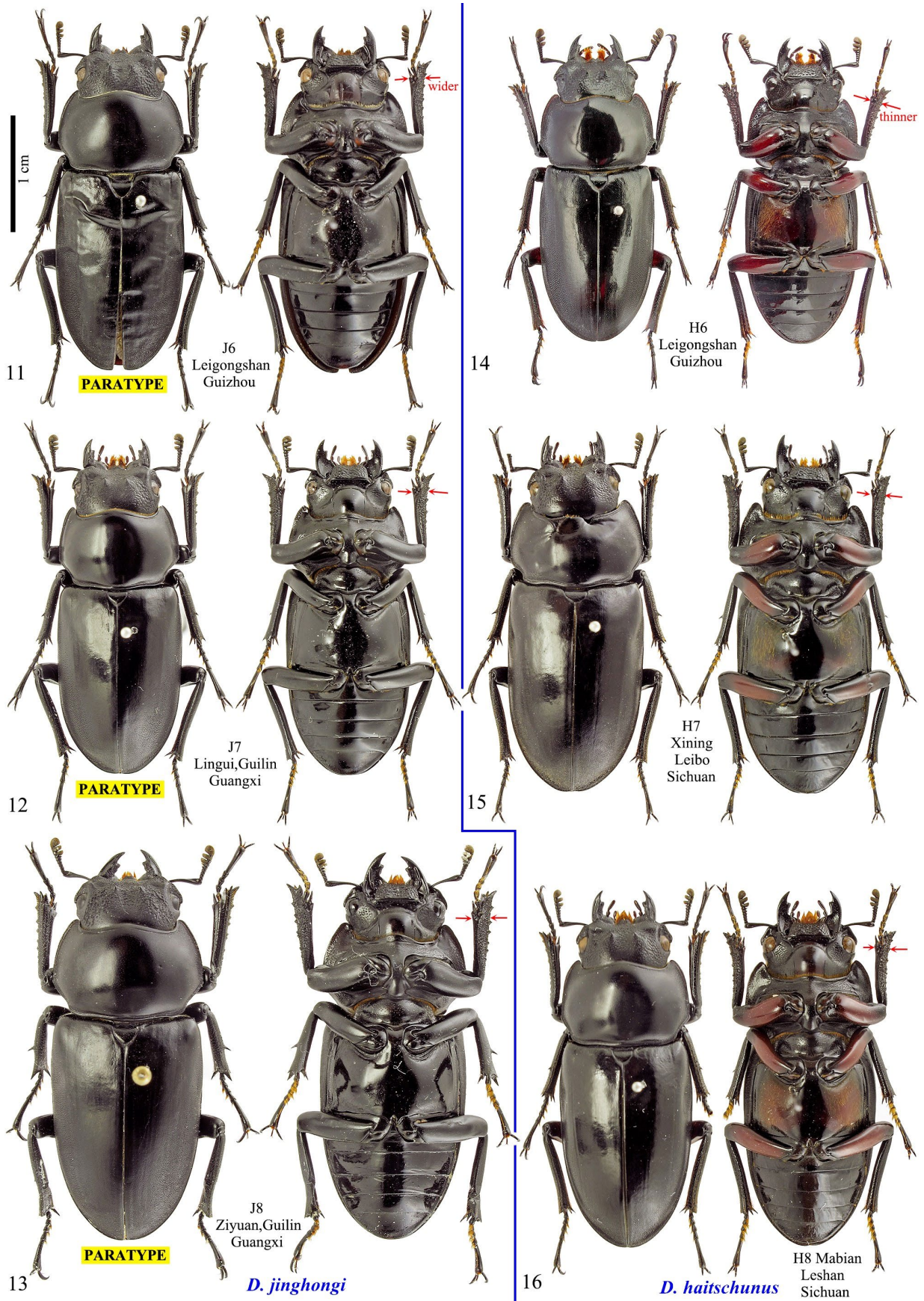


FIGURES 1-4. *Dorcus jinghongii* and *D. haitschunus* male specimens at same scale.

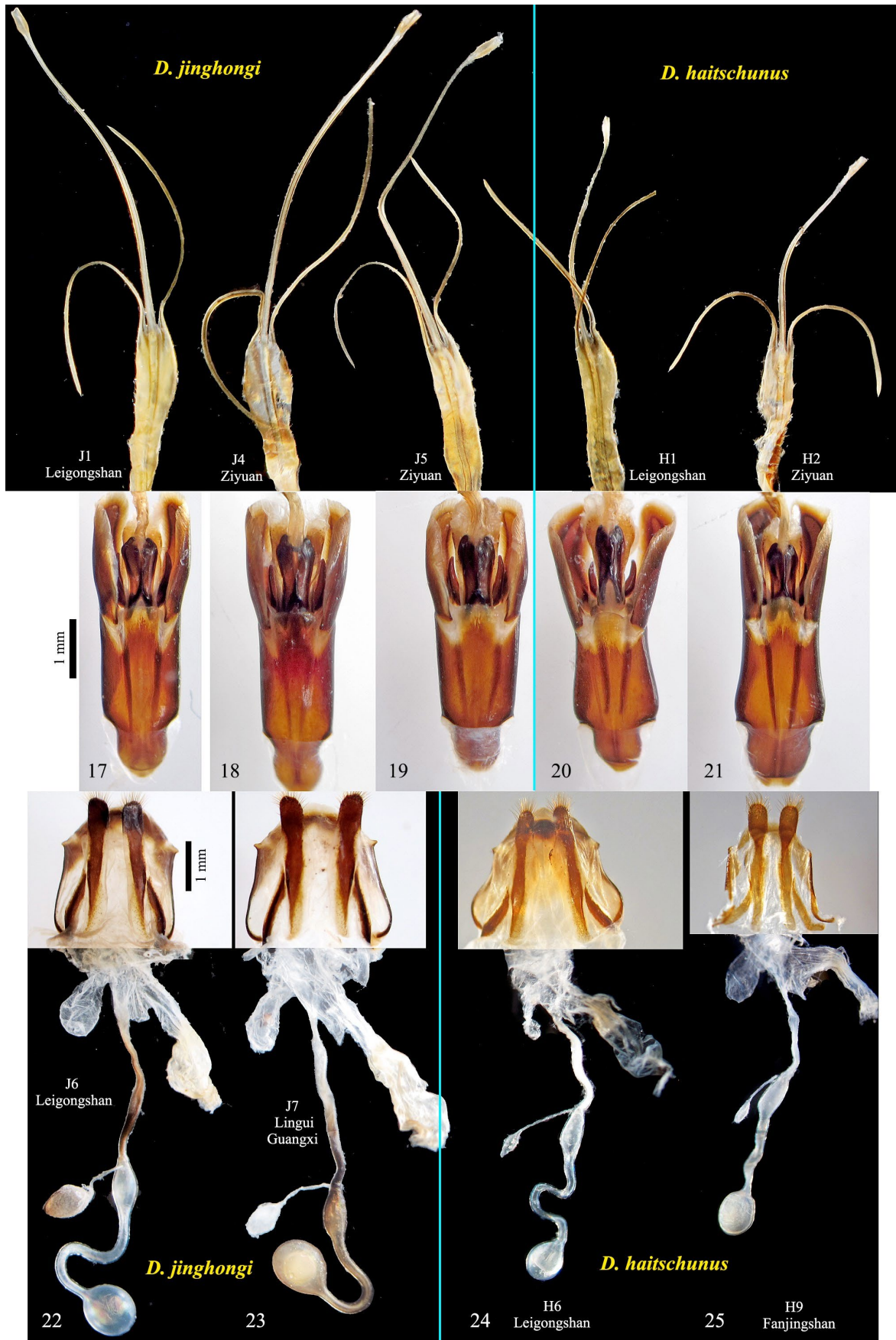




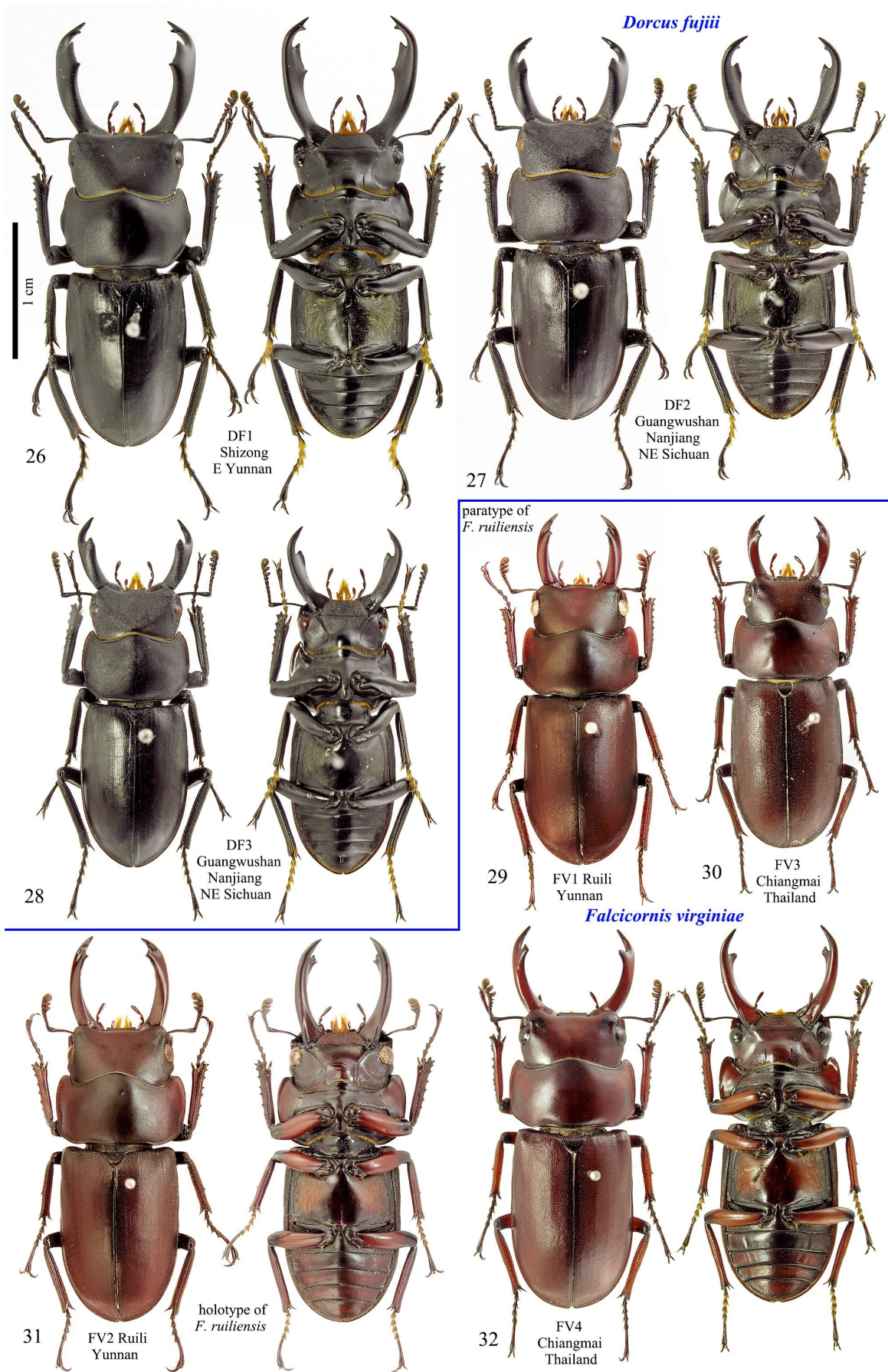
FIGURES 5-10. *Dorcus jinghongii* and *D. haitschunus* male specimens at same scale. Red arrows directing to diagnostic characters.



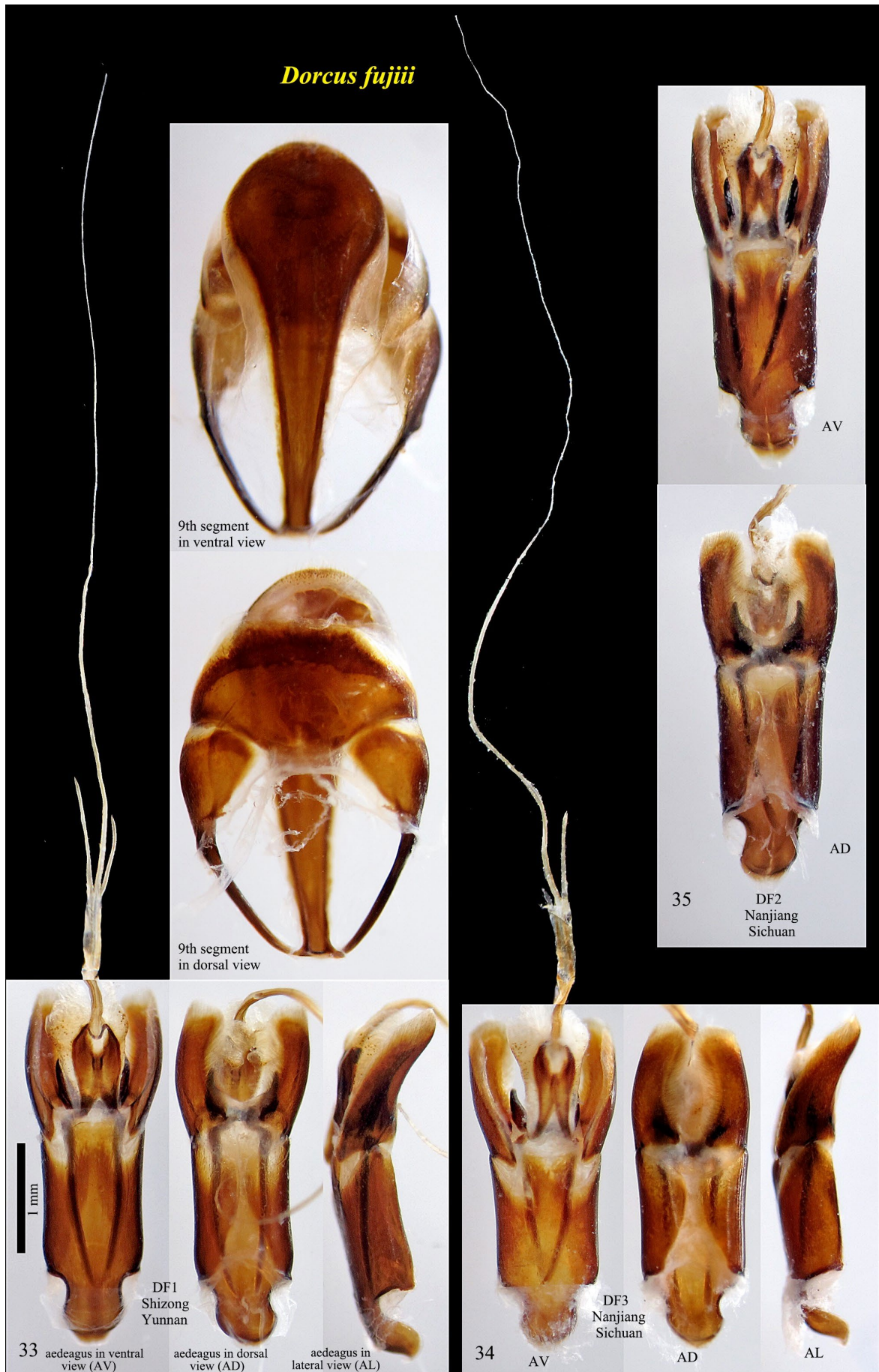
FIGURES 11-16. *Dorcus jinghongii* and *D. haitschunus* female specimens at same scale. Red arrows directing to diagnostic characters.



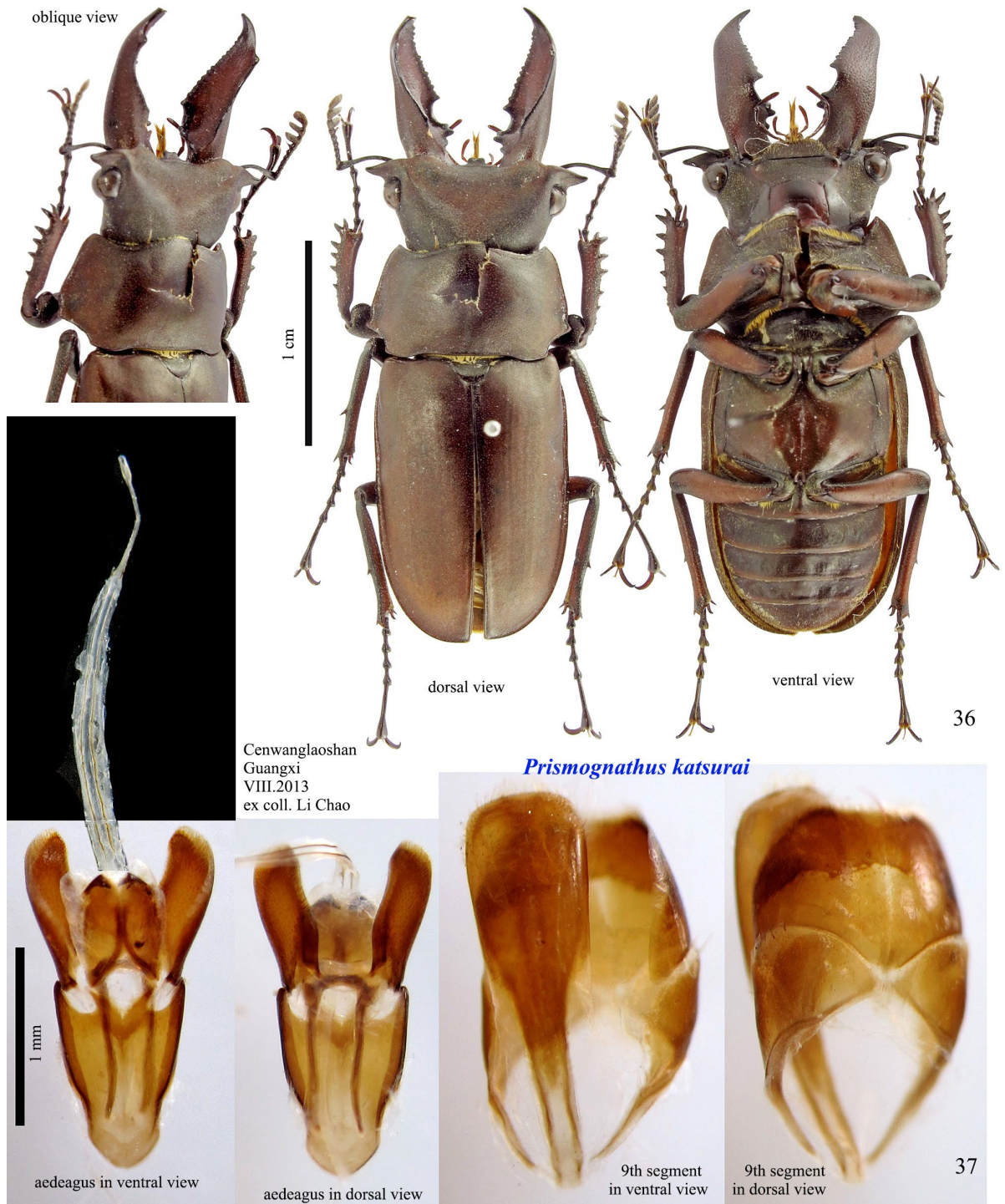
**FIGURES 17-25.** *Dorcus jinghongii* and *D. haitschunus*. (17-21) male genitalia of at same scale; (22-25) female genitalia at same scale.



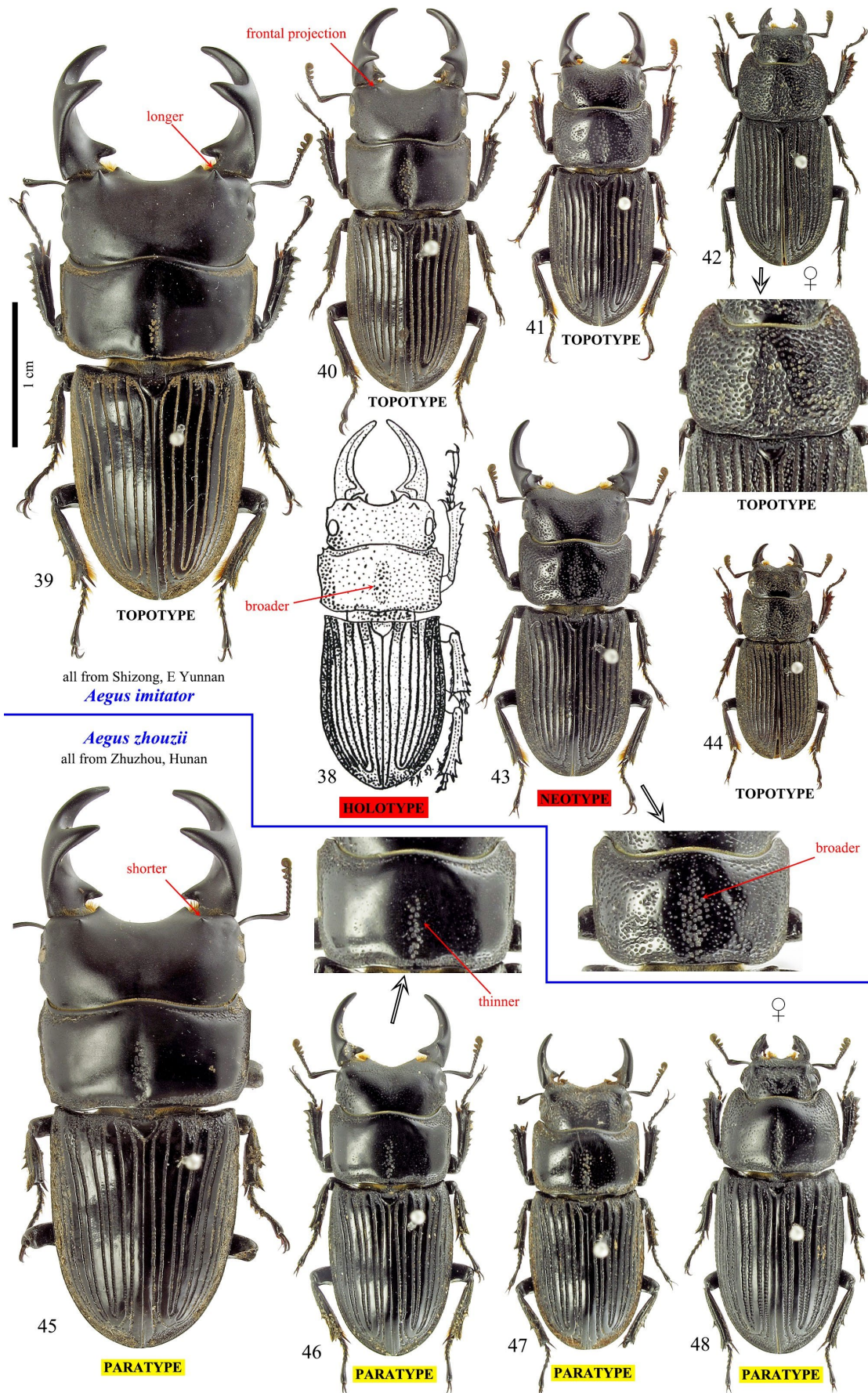
FIGURES 26-32. Habitus at same scale. (26-28) *Dorcus fujiii* males; (29-32) *Falcicornis virginiae* males.



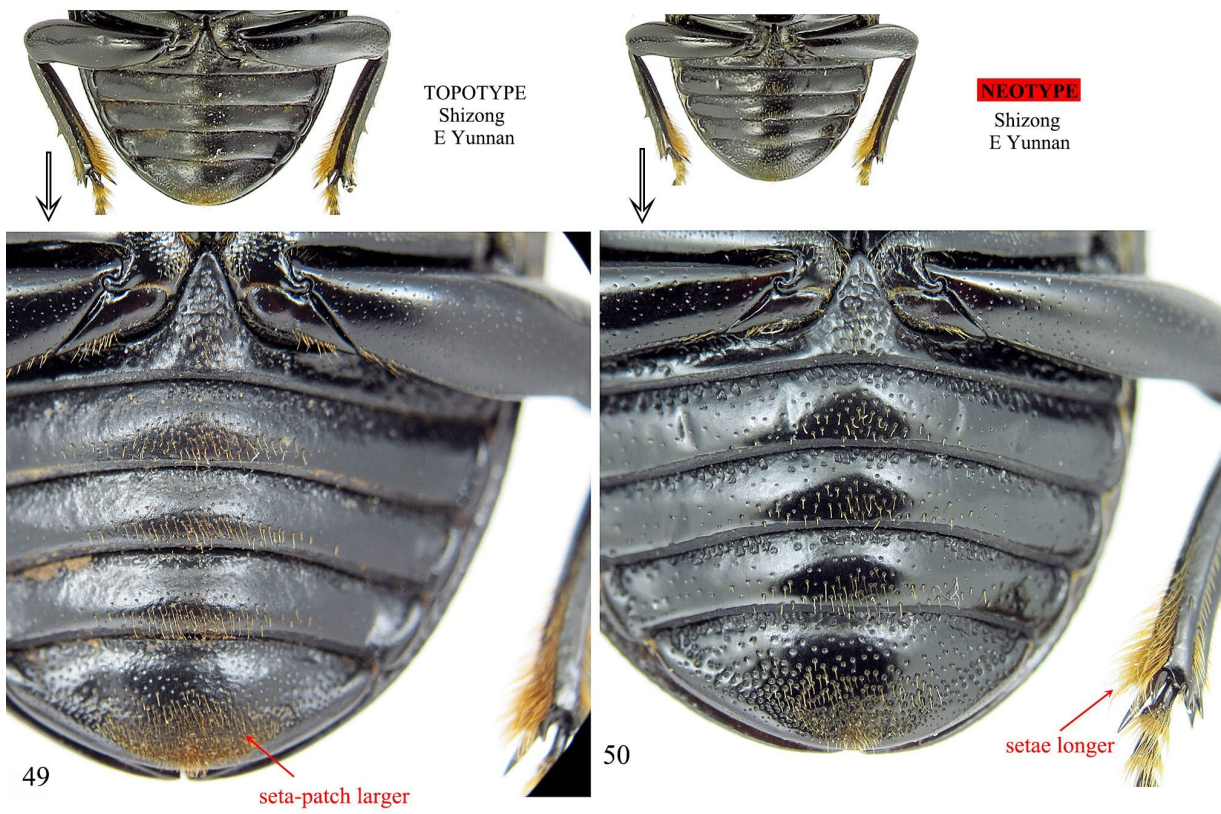
FIGURES 33-35. Male genitalia of *Dorcus fujiii* at same scale.



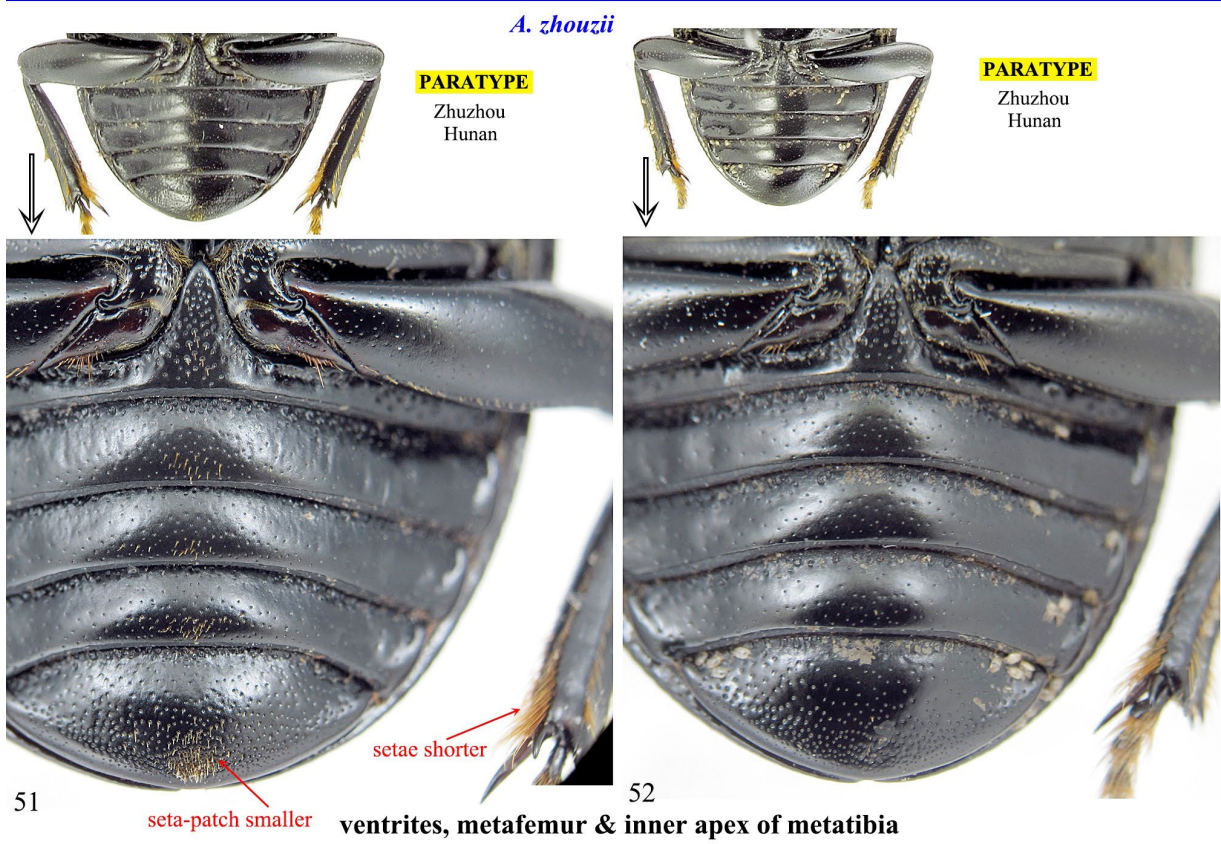
FIGURES 36-37. *Prismognathus katsurai*. (36) habitus; (37) male genitalia.



FIGURES 38-48. Habitus at same scale. (38-44) *Aegus imitator*, (45-48) *Aegus zhouzii* sp. nov..



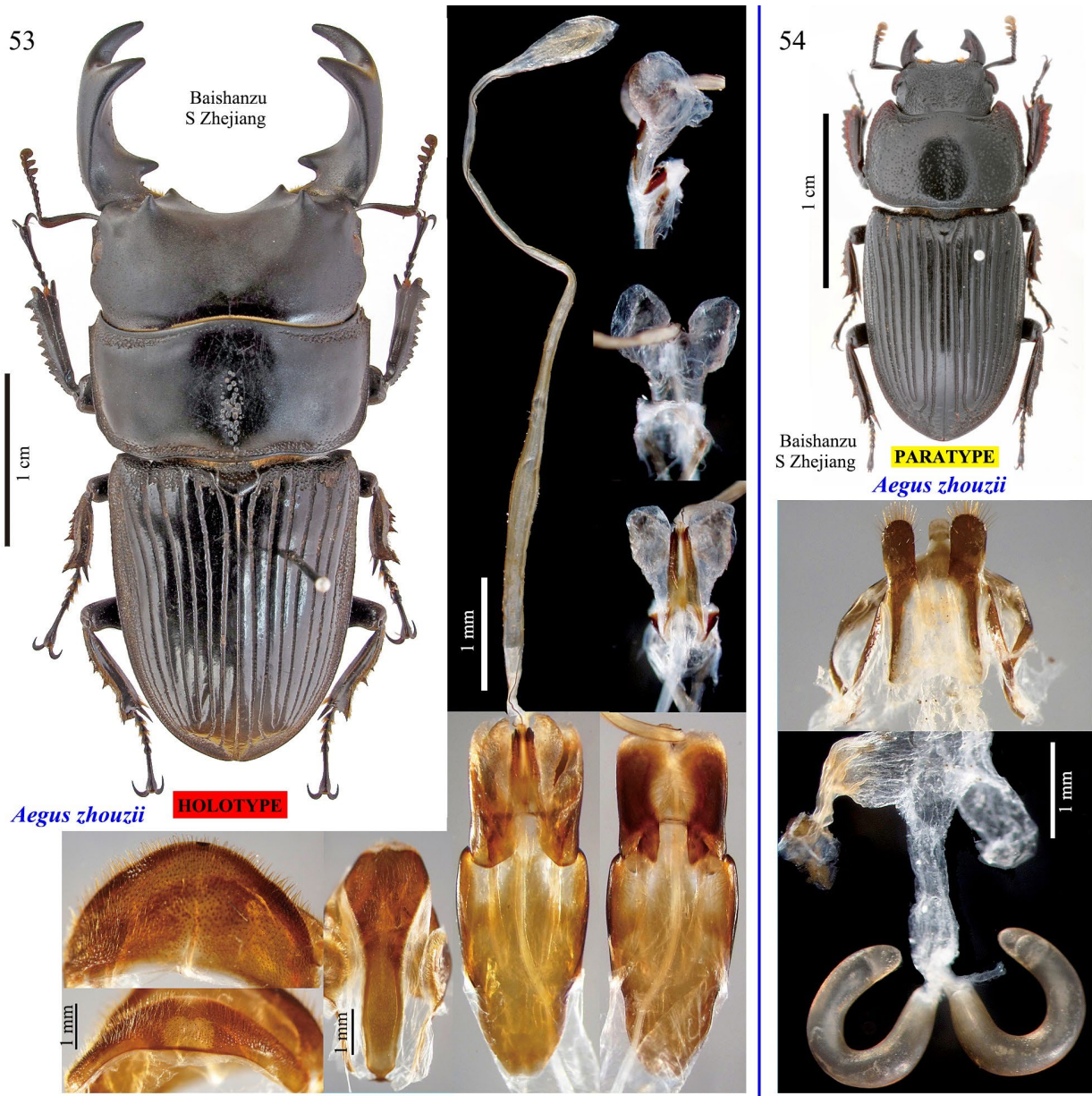
*A. imitator*



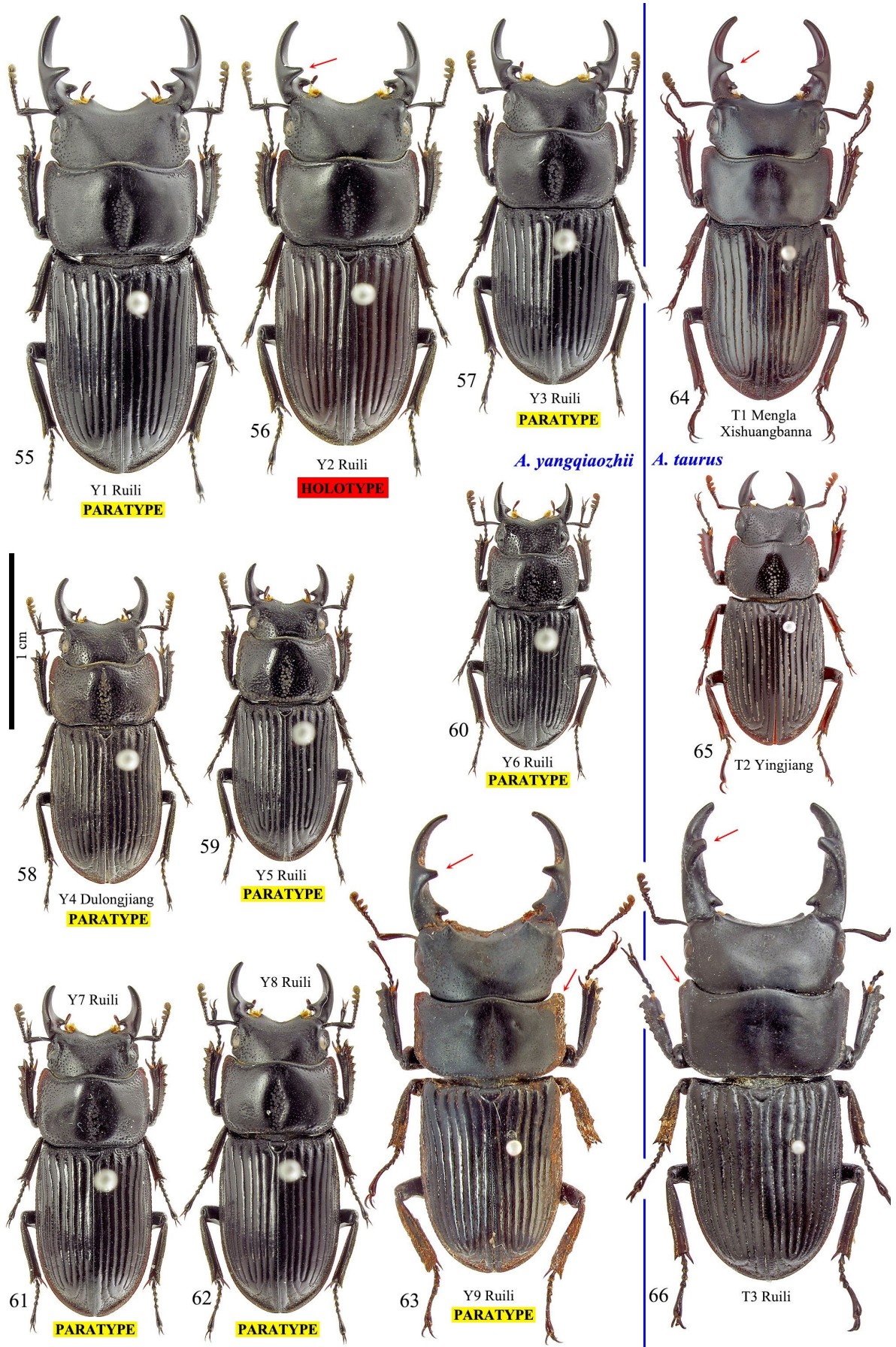
*A. zhouzii*

FIGURES 49-52. Morphological differences on underside between *Aegus imitator* and *A. zhouzii* sp. nov..

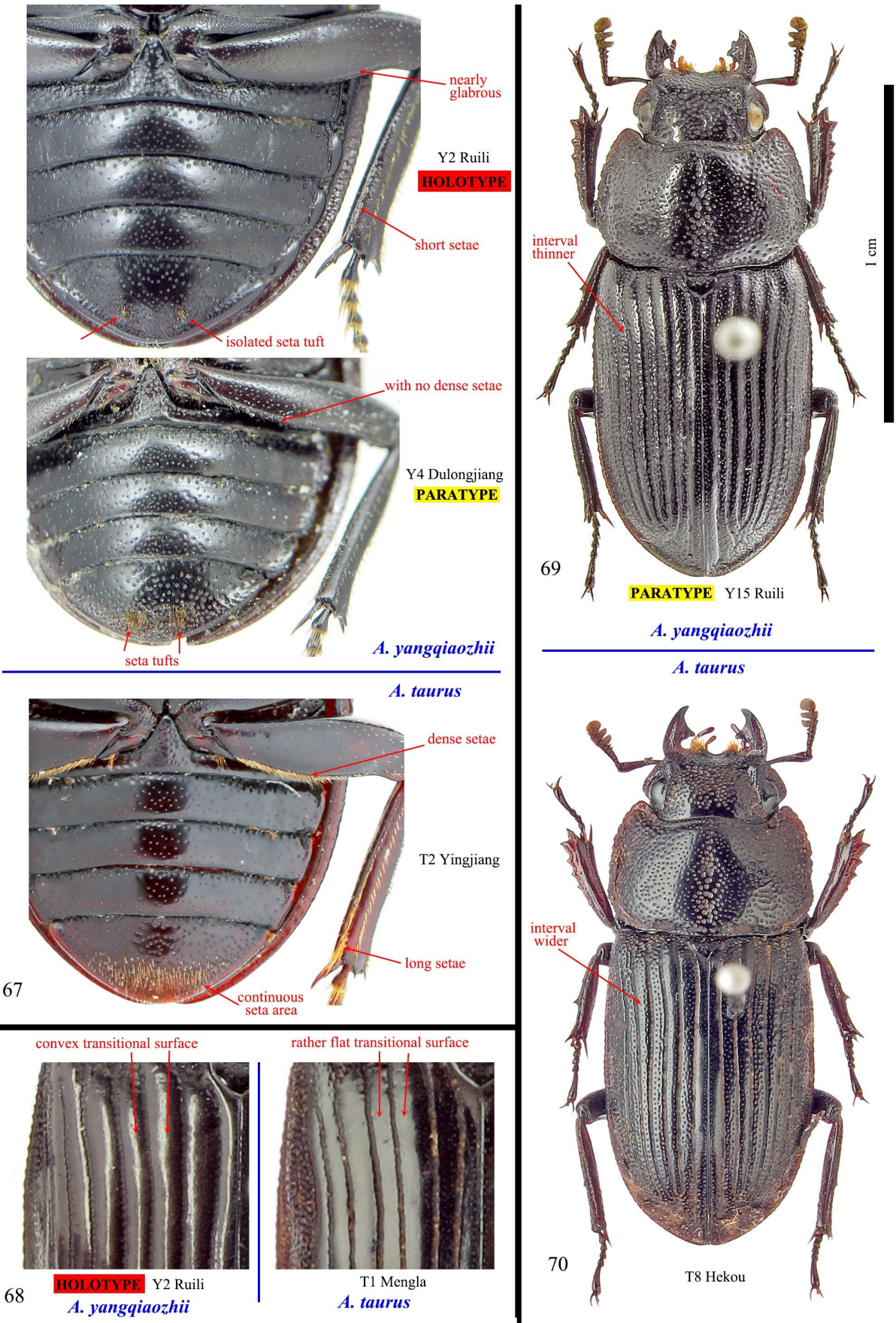




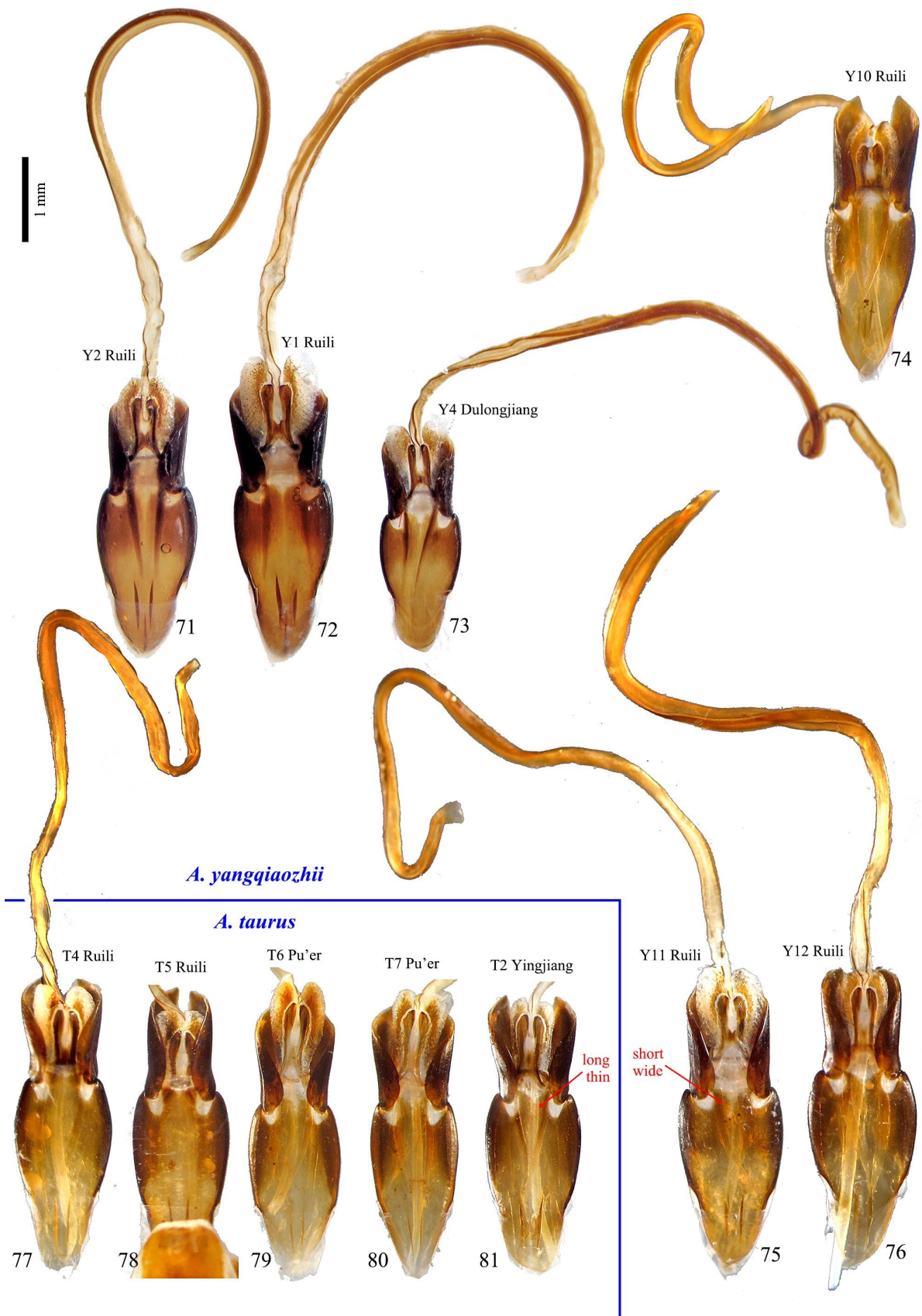
FIGURES 53-54. *Aegus zhousii* sp. nov.. (53) male holotype and its genitalia; (54) female paratype and its genitalia.



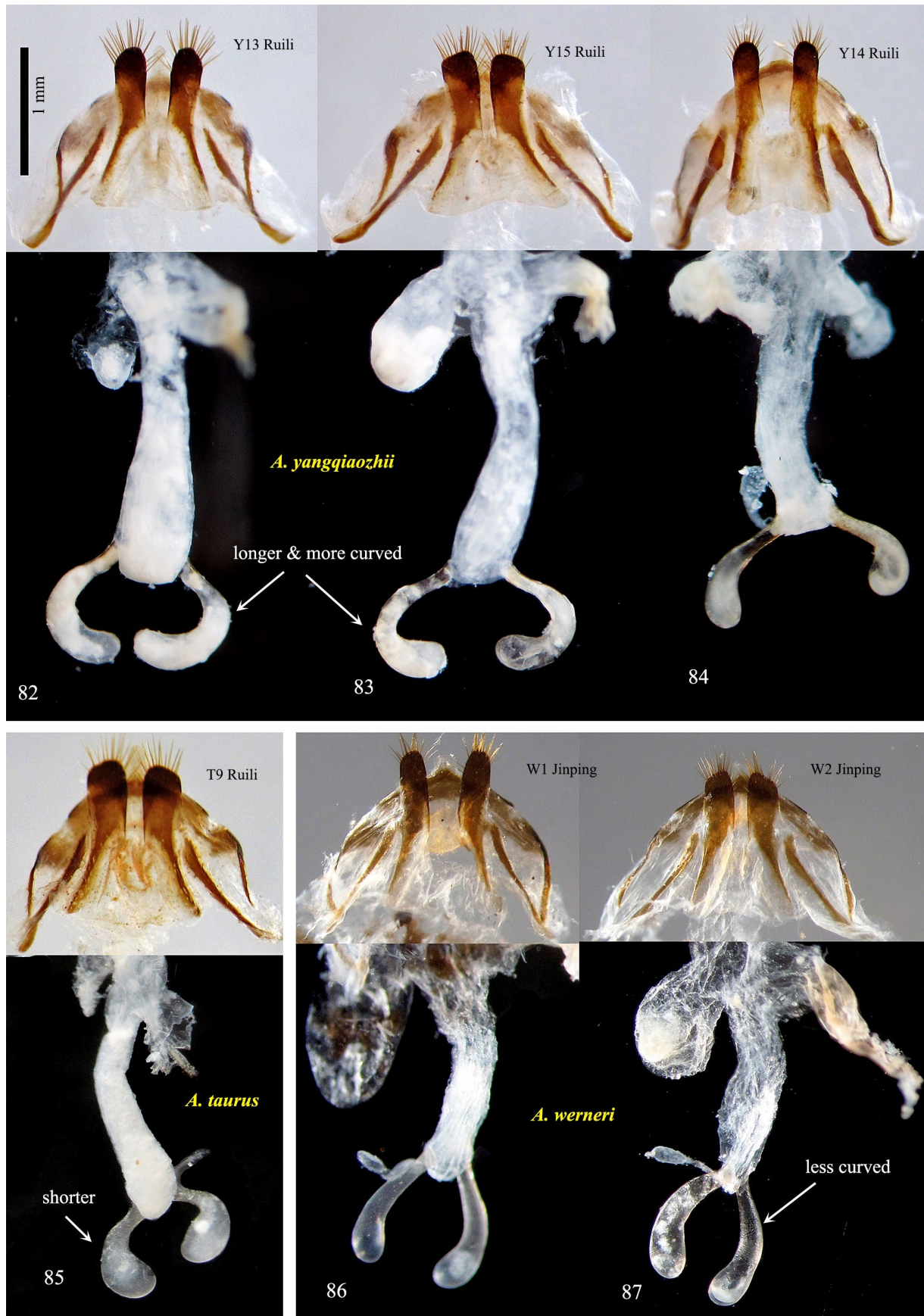
FIGURES 55-66. *Aegus yangqiaozhii* sp. nov. and *A. taurus* male specimens at same scale. Red arrows directing to diagnostic characters.



FIGURES 67-70. *Aegus yangqiaozhii* sp. nov. and *A. taurus*. (67) differences on underside of male; (68) differences on upper side of male elytra; (69-70) female habitus at same scale.



FIGURES 71-81. Male genitalia of *Aegus yangqiaozhii* sp. nov. and *A. taurus* at same scale.



FIGURES 82-87. Female genitalia of *Aegus yangqiaozhii* sp. nov., *A. taurus* and *A. weneri* at same scale.

## Notes on *Odontolabis stevensi* with description of a new subspecies (Coleoptera, Lucanidae)

Klaus-Dirk Schenk

### Abstract

A new subspecies of *Odontolabis stevensi* from Sulawesi is described and compared with the nominotypical taxon. The taxonomical status and the distribution of *O. stevensi*-related taxa from the Indonesian islands Sulawesi, Sangihe, Tahulandang, Talaud and Peleng is discussed and their distribution is shown on a map.

### Keywords

*Lucanidae*, *Odontolabis stevensi*, *Odontolabis stevensi marlenae*, new subspecies, Indonesia, Sulawesi, Sangihe, Tahulandang, Talaud, Peleng.

### Introduction

After publication of the first book on Odontolabinae by Lacroix in 1984 (LACROIX, 1984) several new taxa of the genus *Odontolabis* Hope, 1842 have been described. Many of them are figured in the encyclopaedic books of Mizunuma et Nagai, 1994, Fujita, 2010 and Yi, 2023. Here a new subspecies of *Odontolabis stevensi* Thomson, 1862, *Odontolabis stevensi marlenae* is described and compared with similar taxa.

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***Odontolabis stevensi marlenae* sspec. nov.**

**Holotype.** ♂, south-east Sulawesi, Tiwu Lapolu, V.2007, Jasmin leg., in coll. K.-D. Schenk, Wehretal, Germany.

**Paratypes.** 8 ♂, same collecting data as holotype, in coll. K.-D. Schenk, Wehretal, Germany, 6 ♂, 1 ♀, same collecting data as holotype, in coll. H. Rudolph, Quedlinburg, Germany, 1 ♂, south-east. Sulawesi, Kolaka, Tiwu Lapolu., VI 2019, in coll. K. Maruyama, Tokyo, Japan, 1 ♂, south-east. Sulawesi, Kolaka, Tiwu Lapolu., VI 2019, in coll. K. Kobayashi, Saitama, Japan.

**Etymology.** The name is dedicated to Marlana, the granddaughter of the author.

### Description

**Holotype** (fig. 1), ♂, total length 77,1 mm, mandibles length 21,8 mm, head width 25,6 mm, prothorax width 26,0 mm, elytra length 30,0 mm, elytra width 25,4 mm.

**Paratypes** (fig. 2), ♂, total length 41,0- 78,0 mm.

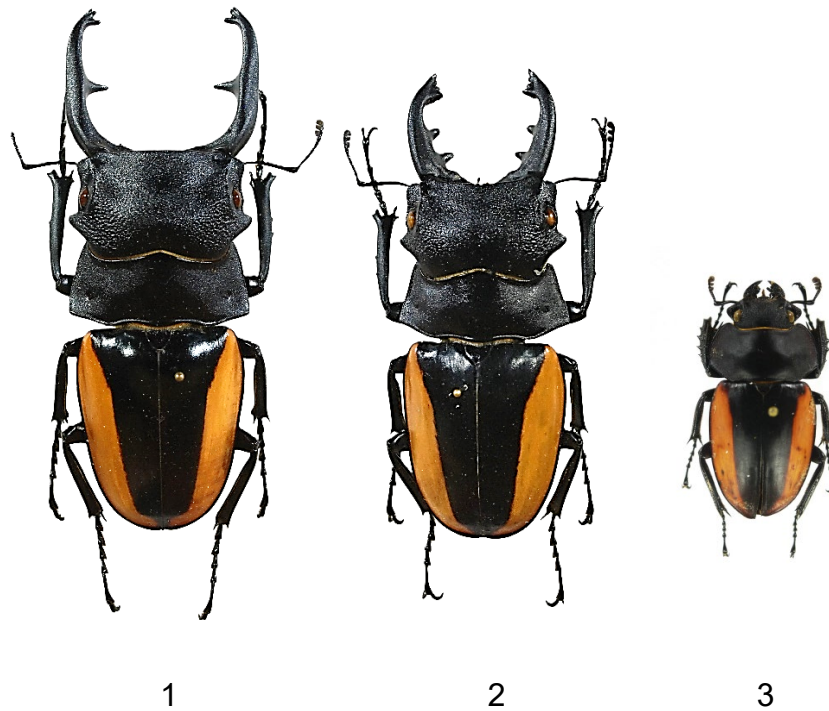


Fig. 1: *Odontolabis stevensi marlenae* (1) ♂ holotype (77,1 mm), (2) ♂ paratype (70,1 mm), (3) ♀ paratype (36,1 mm), Tiwu Lapolu, south-east Sulawesi, V.2007 (♂ in coll. K.-D. Schenk, Wehretal, Germany, ♀ in coll. H. Rudolph, Quedlinburg, Germany)

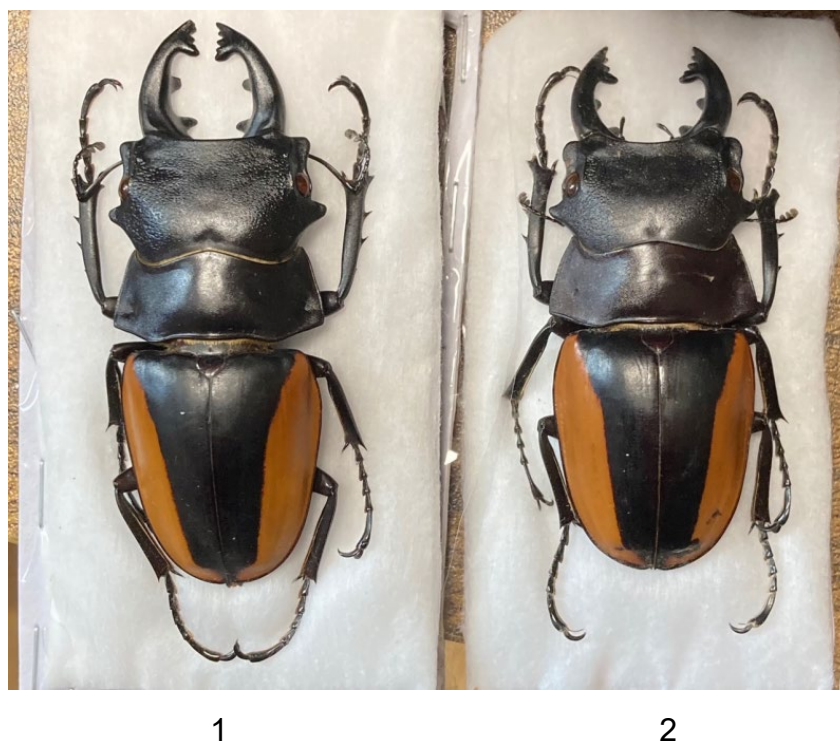


Fig. 2: *Odontolabis stevensi marlenae* paratypes from south-east Sulawesi, Tiwu Lapolu, Kolaka, (1) in coll. K. Maruyama, Tokyo, Japan, (2) in coll. K. Kobayashi, Saitama, Japan

The body shape and the colour of *Odontolabis stevensi marlenae* sspec. nov. is similar to *O. stevensi limbata* from the northern part of south Sulawesi but can be separated from this subspecies by 1) the less massive form of the body; 2) less shiny head, mandibles and prothorax; 3) by having in big specimens the major tooth about at the middle of the mandibles (similar bigger *O. duivenbodei*); 4) major tooth long and placed perpendicular (major tooth of mandibles at *O. stevensi limbata* shorter, directed somewhat forward and placed near tip); 5) black marking of elytra regulatory black (marking of *O. stevensi limbata* dark reddish-brown near suture, similar elytral colour of *O. duivenbodei*); 6) at downside metasternum and sternum totally black, frosted (metasternum and sternum of *O. stevensi limbata* reddish-brown and more shining).

♀ paratype: total length 36,1 mm, form of the body very similar *O. stevensi limbata* but colour same as males

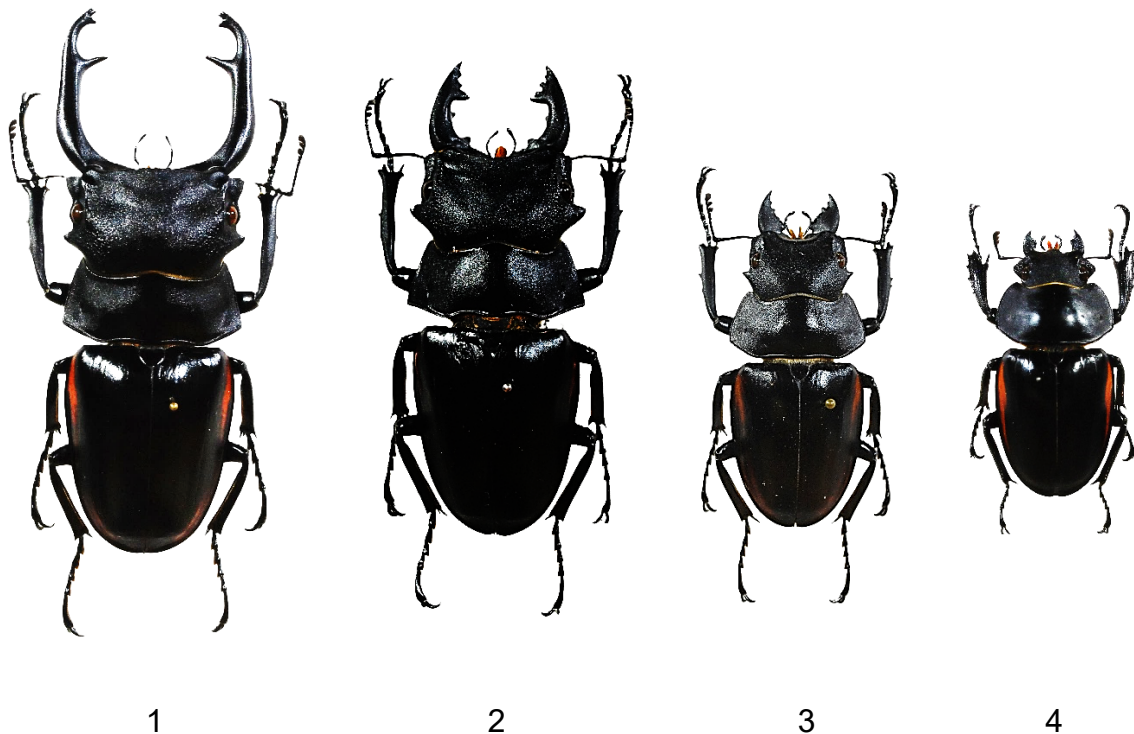


Fig. 3: *Odontolabis stevensi* sspec. incert. (1) ♂, 81,1 mm, west Sulawesi, Quarles Mts., (2) ♂, 70,0 mm, Sulawesi, Sampuraga, (3) ♂, 49,1 mm, west Sulawesi, Makki env., (4) ♀, 39,0 mm, west Sulawesi, Quarles Mts. (in coll. K.-D. Schenk, Wehretal, Germany)





Fig. 4: (1) ? *Odontolabis stevensi yasusukei* ♂, 81,1 mm, south Sulawesi, Mt. Lompobattang, (2) ? *Odontolabis stevensi stevensi* ♂, 62,2 mm, Gunung Mekongga, south-east Sulawesi (in coll. K.-D. Schenk, Wehretal, Germany)

## Discussion

*Odontolabis stevensi* and most of its similar taxa are well known since a long time. The following taxa have been described so far:

### *Odontolabis stevensi* Thomson, 1862

Material examined: 29 ♂, 1 ♀ (2 ♂, north Sulawesi, Menado env., 3 ♂, central Sulawesi, Palolo, Palu., 1 ♂, northern south Sulawesi, Puncak Palopo, 22 ♂, northern south Sulawesi, Seko), 1 ♂ south-east Sulawesi, Mt. Mekongga (fig. 4.2).

This species was first mentioned in the catalogue of Thomson as a species coming from Menado, northern Sulawesi without a further description (THOMSON, 1862). Leutner described *O. stevensi* in his monography of Odontolabini as “uniform black, with a satiny lustre”. He examined 11 ♂ and 3 ♀ from Celebes (Menado) (LEUTNER, 1885). Fujita figured 1 ♂ from Tondano, north Sulawesi, 3 ♂ and 1 ♀ from Palolo, Palu, central Sulawesi and 1 ♀ from Sampuraga, Palopo, south Sulawesi (FUJITA, 2010, plate 68).

Finally Yi indicated north and central Sulawesi as patria of *O. stevensi* and figured 3 ♂ and 1 ♀.

***Odontolabis duivenbodei*** Deyrolle, 1865

Material examined: 24 ♂, 3 ♀ (21 ♂, 3 ♀, Sangihe Island, 2 ♂, Talaud Island., 1 ♂, Tahulandang Island).

*O. duivenbodei* was described first from Menado, northern Sulawesi. But this species is more frequently represented on the islands Sangihe, Tahulandang and Talaud, all north of Sulawesi. Some entomologists are guessing that the type locality Menado is not correct. Leuthner examined 10 ♂ and 5 ♀ from Sangir (= Sangihe). Lacroix figured 3 ♂ and 1 ♀ from Sangir also. *O. duivenbodei* is characterised by the special colour of the body with tricoloured elytra. Big males have the major tooth at middle of mandibles and the biggest males have no major tooth. *O. duivenbodei* has to be regarded as a well-defined separate species because it is morphologically quite different from the other taxa and because of its sympatric distribution with *O. stevensi stevensi* in northern Sulawesi.

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***Odontolabis stevensi limbata*** Kriesche, 1922

Material examined: 33 ♂, 4 ♀ (3 ♂, 1 ♀, Puncak Palopo, 8 ♂, 3 ♀ Bungadidi., 3 ♂, Mt. Sampuraga, 8 ♂, Mt. Todjamboe, 5 ♂, Seko, 6 ♂, Peleng Island).

This taxon was described by Kriesche coming from “Zebebes” (without exact locality). It is differing from *O. stevensi stevensi* by the broad orange-yellow ground colour of the elytra with the wide pallial blackish area narrowing to the apex. Lacroix figured in his book only 1 small ♂ and 1 ♀ and indicated Menado and central Celebes (Todjamboe) as location. This taxon is represented in the north-western area of the south Sulawesi province and on Peleng Island.

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***Odontolabis stevensi yasusukei*** Nagai, 2001 (fig. 4.1)

Material examined: 2 ♂, Mt. Lompobattang, S Sulawesi

The type locality of *O. stevensi yasusukei* is south Sulawesi, Mt. Lompobattang.

This taxon is very similar to *O. stevensi limbata*; differing from this taxon only by a somewhat smaller and more gracile body and the more yellow lateral parts of the elytra. But the two *O. stevensi yasusukei* from Mt. Lompobattang in the collection of the author looking exactly like the *O. stevensi limbata* from the location Seko far more in the north (compare fig. 4.1). Due to the blunt differences *O. stevensi yasusukei* is regarded in the internet as a synonym (CATALOGUE OF LIFE). So, the status of this taxon remains uncertain.

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***Odontolabis stevensi mamaesaensis*** Nagai, 2001

Material examined: 21 ♂, 7 ♀ (3 ♂, 1 ♀, Palolo, Palu, 18 ♂, 6 ♀ Mamasa area, West Sulawesi).

This variable taxon is coming from the Mamasa area of the west Toraja Land in west Sulawesi. It is differing from *O. stevensi limbata* by the less wide orange-yellow lateral part of the elytra. The *Odontolabis* spec. incert. figured in the new book of Yi, 2023 (plate 115, fig. 728e-1 and 2; fig. 3) seems to be a colour variation of *O. stevensi mamaesaensis*. Those specimens are differing from the latter by having the black coloured elytra with short dark-red stripes on the anterior and/or posterior lateral margin of elytra.

The specimens with this colour pattern on elytra in the collection of the author are coming from Palolu, Palu, central Sulawesi, Mamasa area, west Sulawesi and Mt. Sampuraga, northern part of south Sulawesi; the same distribution area as *O. stevensi mamaesaensis*.



Fig. 5: Distribution of *O. stevensi* and related taxa

*O. stvensi marlenae* sspec. nov. from Tiwu Lapolu, south-eastern peninsula of Sulawesi seems to be geographical more isolated from all the other subspecies. The bicolored elytra are similar to the elytra of *O. stvensi limbata*. But the form of the Mandibles is rather similar to bigger males of *O. duivenbodei*.

The author thinks that the relatively big number of morphologically different *O. stevensi*-related taxa and / or colour morphs living on the same Island is caused by the paleo-geographic history of Sulawesi. Sulawesi is not of truly oceanic origin, but a composite island at the centre of the Asia-Australia collision zone. Sulawesi with its 4 peninsulas and numerous more or less separated mountains and volcanos has been separated in geographic history several times by changing sea level into isolated islands. This history is also explaining the high number of different *Calcodes*-taxa of Sulawesi.

Yi is writing in his new book on Lucanidae about *O. stevensi* “currently subspecies (of *O. stevensi*) are divided based of habitats and colour of elytra. Color variations of elytra tend to be determined according to habitats. However, many exceptions are observed. Thus, current subspecific taxonomy of *O. stevensi* may be changed after further investigations (YI, 2023). It is more than questionable whether the subspecies concept for the *Odontolabis* of Sulawesi can be maintained. The distributional areas of some taxa are obviously overlapping in several regions of Sulawesi. Therefore it is hard to decide finally whether those *Odontolabis*-taxa should have the status of a species, a subspecies or only a morph with a different colour pattern on the elytra. Since genital examination is not working in the genus *Odontolabis* (HUANG ET CHEN, 2015) maybe a future genetic analysis could give an answer on those questions.

The geographic distribution of *O. stevensi*-related taxa is shown on the map of figure 5.

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## Remarks on the Genus *Dorcus* with description of new taxa from the Himalaya Mountains (*Coleoptera, Lucanidae*)

Klaus-Dirk Schenk

### Abstract

An overview is given on the *Dorcus reichei* species group and the recently described taxa of the genus *Dorcus* Mac Leay, 1819 represented in the Himalaya mountains and Tibet. The new species *Dorcus hartmanni* from West Nepal and north-western India (Uttarakhand), *Dorcus himalayaensis* spec. nov. from East Nepal and the new subspecies *Dorcus suturalis weigeli* from West Nepal are described and the morphological differences versus the *Dorcus* species of similar geographic distribution are discussed. *Dorcus zhangmuensis* is recorded for Nepal first time. The status of *Dorcus reichei praecellens* has been revised.

### Keywords

Coleoptera, Lucanidae, *Dorcus reichei reichei*, *Dorcus hartmanni*, *Dorcus himalayaensis*, *Dorcus zhangmuensis*, *Dorcus reichei praecellens*, *Dorcus suturalis weigeli*, northern India, Nepal, Tibet, Himalaya.

### Introduction

About 20 taxa of the genus *Dorcus* sensu Huang et Chen are known so far to be represented in the Himalaya Mountains (Pakistan, India, Nepal, Tibet), Meghalaya and northern Myanmar.

Eight new species from the Himalayas and Tibet have been described after the publication of Fujita's book "*The Lucanidae of the World*" (FUJITA, 2010). Most of the new taxa are distributed in south-east Tibet and north-east India (Arunachal Pradesh).

These are:

- ***Dorcus chayuensis*** Huang et Chen, 2017 China (Tibet)
- ***Dorcus cuonaensis*** Huang et Chen, 2013 China (Tibet, Cuona), Bhutan
- ***Dorcus menba*** Huang et Chen, 2013 China (Tibet)
- ***Dorcus monpa*** Okuda et Maeda, 2014 n India (Arunachal Pradesh)
- ***Dorcus lhoba*** Huang et Chen, 2013 China (Tibet, Chayu)
- ***Dorcus pemakoi*** Huang et al., 2017 China (Tibet, Motuo), NE India (Arunachal Pradesh, Lower Subansiri)
- ***Dorcus zhangmuensis*** Huang et Chen, 2015 China (SC Tibet, Zhangmu\*), Nepal
- ***Dorcus kawamurai*** Fujita, 2010 N India (West Bengal), Myanmar  
*Dorcus kawamurai* belongs to the subgenus *Velutinodorcus* Maes, 1992

***Dorcus reichei* Hope, 1842 and related taxa**

Arrow regarded most taxa similar *D. reichei* Hope, 1842 as synonyms. Later the *Dorcus reichei* species group has been investigated by Bomans and he considered *D. cervulus* (Boileau, 1901) from Yunnan, Tonkin, Myanmar and Thailand as separate species. Based on genital preparation Huang & Chen confirmed that *Dorcus hirticornis* (Jakowlew, 1897) and *Dorcus hansteini* (Albers, 1889) are well defined separate species and not a subspecies of *Dorcus reichei* as treated before by Arrow, Mizunuma & Nagai and Fujita.

*Dorcus reichei* Hope 1842 has been described first from Sylhet (actually Bangladesh) and is well known from Khasi Hills (Meghalaya) and Assam. Huang et Chen are showing in a map (HUANG ET CHEN, 2013, page 471) the distribution of *D. reichei* reaching the Uttarakhand province of northern India. But there are no reliable records of *D. reichei* from the Himalayas west of central Nepal.

*Eurytrachelus praecellens* Möllenkamp, 1902 (now in the genus *Dorcus*) is very close to *D. reichei* but has been placed as a synonym of *D. reichei* (ARROW, 1950). This taxon is reported from the Himalaya Mountains (east Nepal, West Bengal, Darjeeling, Sikkim and Bhutan. Huang et Chen figured the holotype of *D. praecellens* (total size 56 mm) in comparison to a *D. reichei* probably from Meghalaya (syntype, in OXUM) (HUANG ET CHEN, 2013, page 484)

Now the author examined carefully the following specimen of *D. reichei*:

From Meghalaya and Assam: 8 ♂ 2 ♀ n India (Meghalaya, Khasi Hills); Himalaya Mountains: 25 ♂ 10 ♀ N India (West-Bengal, Kurseong and Sikkim); 2 ♂ 2 ♀ NE India (Arunachal Pradesh); 8 ♂ 2 ♀ E Nepal (Taplejung, Everest region and Kathmandu valley); 4 ♂ 3 ♀ Bhutan; 2 ♂ 2 ♀ Myanmar.

The investigation of those specimens of *D. reichei* revealed that the populations from the Himalaya Mountains are differing from the populations of *D. reichei* from Meghalaya and Assam by the following external characters: 1) larger size (23-62,5 mm versus 24,0-48,2 mm) 2) double tooth of mandible in big sized males narrower 3) clypeolabrum narrower 4) elytra dark brown, glossier. Those differences, mentioned already by Möllenkamp in his publication, justify to split *D. reichei* into the subspecies *D. reichei reichei* Hope, 1845 (Meghalaya and Assam) and *D. reichei praecellens* (Möllenkamp 1902) from N India (West-Bengal, Sikkim, Arunachal Pradesh); Nepal and Bhutan. **stat. revised.**

Two males of *D. reichei praecellens* from Mt. Sandakphu, Darjeeling are figured in the book of Fujita as *Dorcus spec.* (FUJITA 2010, plate 172, fig. 772-1 and 772-2). The specimens from Thailand and Vietnam have been misidentified by Fujita as *D. reichei* but are in fact *Dorcus cervulus* (FUJITA 2010, plate 172, fig. 770-1 to 770-14, compare HUANG ET CHEN, 2013).

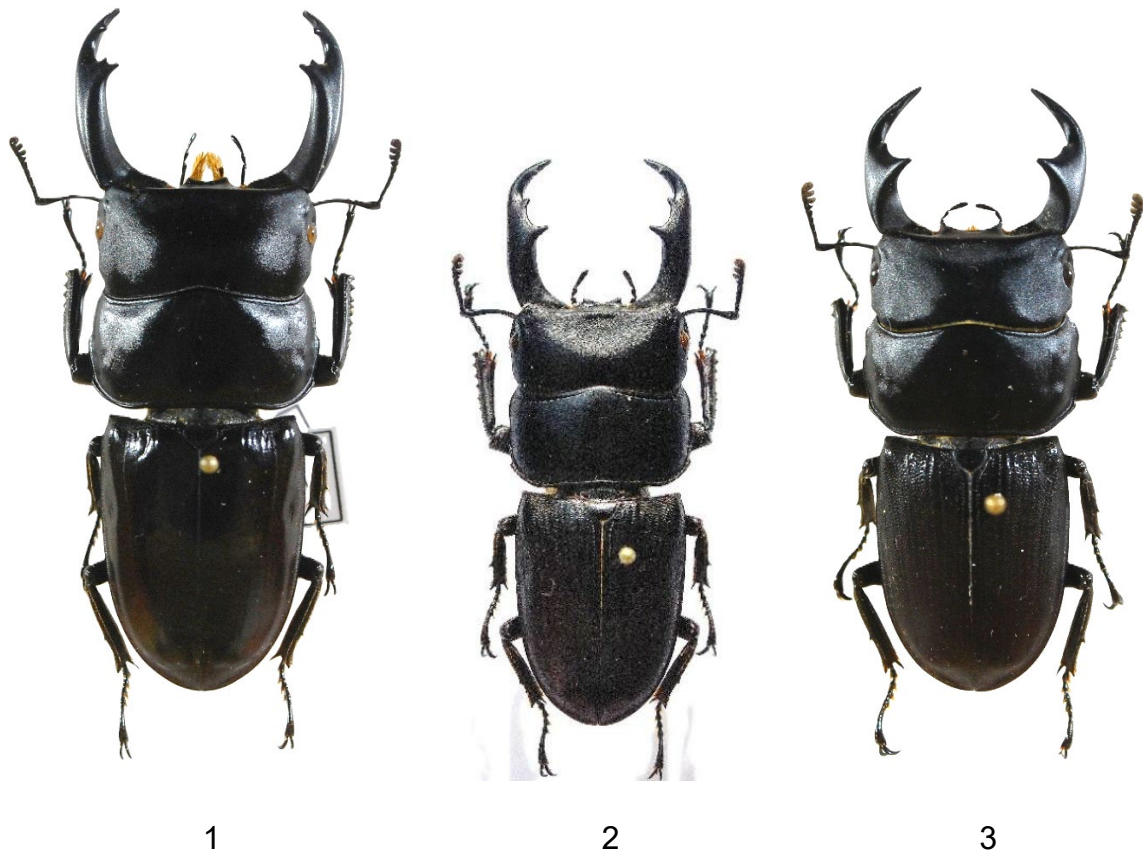


Fig. 1: (1) *D. reichei praecellens* ♂ (51,4 mm) Nepal, Taplejung,  
 (2) *Dorcus castelnaudi* ♂ (42,3 mm) N India, Khasi Hills,  
 (3) *Dorcus blanchardi* (45,5 mm) Myanmar, Chin Hills  
 (in coll. K.-D. Schenk, Wehretal, Germany)

Yi recalled the old taxa *Eurytrachelus castelnaudi* Deyrolle 1865 (now in the genus *Dorcus*) from N India, Bengal (Yi 2023, plate 45, fig. 467) (Fig. 1.2) and *Dorcus blanchardi* Hope, 1842 described first from N India, Khasi Hills (Yi, 2023, plate 45, fig. 468) (Fig. 1.3) from the synonymy of *D. reichei*. **stat. revised.**

*Dorcus glabripennis* Westwood, 1871 was described from N India, Khasya Hills also. Fig. 2 is showing the hand drawing of Westwood and two males identified as *D. glabripennis* from Bhutan; fitting more or less the description of Westwood. But Huang et Chen guess that *D. glabripennis* could be a synonym of *D. blanchardi*. Thus, this taxon remains a **spec. incert.**

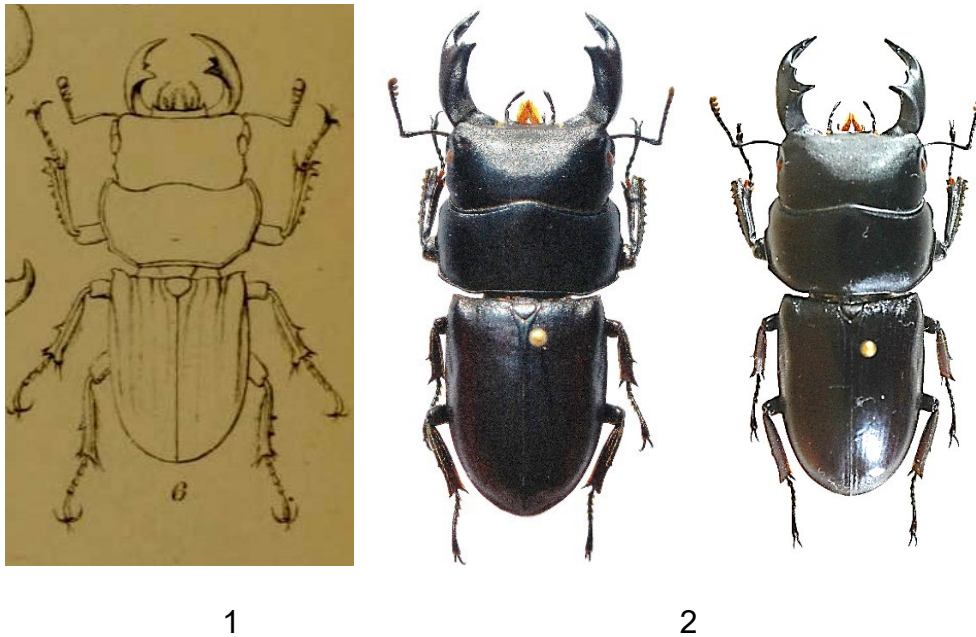


Fig 2: *Dorcus glabripennis* Westwood, 1871  
 (1) hand drawing of Westwood ♂ (15 lin = about 32 mm),  
 (2) ♂ specimens from Bhutan, Thrumchingla National Reserve  
 (♂ 31,4 mm and ♂ 29,3 mm)  
 (in coll. K.-D. Schenk, Wehretal, Germany)

***Dorcus hartmanni* spec. nov.**

Due to the kindness of Mattias Hartmann (Erfurt, Germany) the author was enabled to study a number of Lucanidae collected in Nepal during several collecting trips. Among the specimens have been three *Dorcus*-specimens of different size from Nepal and northern India (Uttarakhand Province); all misidentified and wrongly labelled as *Dorcus reichei*.

The careful examination revealed that those specimens are representing a new species described here as *Dorcus hartmanni*.

**Holotype.** ♂, west Nepal, Mahakali Prov., Darchula Distr., near Godhani, 1380m-1920m, 16.VI.2017, Mattern leg. in coll. K.-D. Schenk, Wehretal, Germany.

**Paratypes.** 1 ♂, northern India, Uttarakhand Prov., Mussoorie (Masuri) env., Mussoorie Mountain Range, VII.1992, Werner leg., 1 ♂, west Nepal, Seti Prov., Bajhang Distr., NE Chainpur, 1400m, Sprecher leg., all in coll. K.-D. Schenk, Wehretal, Germany.

**Etymology.** The name of the new species is dedicated to Matthias Hartmann who collected many interesting Lucanidae during his expeditions to Nepal.





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Fig. 3: *Dorcus hartmanni* spec. nov. ♂ holotype, (39,3 mm) West Nepal, Mahakali Prov., Darchula Distr., near Godhani

### Description and diagnosis

♂ holotype (Fig. 3 and 4), total length 39,3 mm; mandibles length 9,3 mm; prothorax width 16,8 mm; elytra width 13,8 mm; elytra length 17,0 mm.

Total length of the ♂ paratypes (Fig. 5): 29,3 mm and 35,3 mm.



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Fig. 4: *Dorcus hartmanni* spec. nov. ♂ holotype, head and prothorax enlarged, West Nepal, Mahakali Prov., Darchula Distr., near Godhani



Fig. 5: ♂ *Dorcus hartmanni* spec. nov. paratypes (1) 35,3 mm, northern India, Uttarakhand Prov., Mussoorie env., Mussoorie Mountain Range, (2) 29,3 mm, West Nepal, Seti Province, Bajhang District, NE Chainpur

Body black, moderately shining; shape similar *D. yaksha yaksha* but less elongate. Head transverse, smooth, clypeus broadly concave. Mandibles relatively short, broad and strongly bend at anterior 1/3. With a strong and broad tooth at about 2/3 and a small but significant uprising tooth near tip. Prothorax widest and rounded anterior and strongly contracted towards the hind angles. Elytra smooth and moderately shining. Anterior tibiae slightly incurved. Metasternum covered with yellow hairs.

*Dorcus hartmanni* spec. nov. belongs to the *Dorcus reichei*-species group. The species closest to *D. hartmanni* spec. nov. seems to be *Dorcus blanchardi* Hope, 1842 from N India, Meghalaya, Khasi Hills.

Comparison versus *Dorcus blanchardi* (= *D. glabripennis* Westwood, 1871, ?) (compare Huang et Chen, page 475):

1) Mandibles more strongly incurved 2) Median double tooth strong and broad; with a small but significant uprising tooth near tip. 3) Elytra of bigger specimens smooth, without well-defined striae 4) Prothorax broadest in front and regularly rounded anteriorly not more or less concave.

Yi figured two males (39,5 mm and 31,0 mm) coming from Arunachal Pradesh and determined as *Serrogathus* (= *Dorcus*) *blanchardi* differing significantly from *D. hartmanni* spec. nov. (YI, 2023, plate 47, fig. 468) By a superficial look *Dorcus hartmanni* spec. nov. could be confused with smaller males of *Dorcus reichei* or *Dorcus tityus*. But a careful examination is revealing the following significant morphological differences.

Comparison versus *Dorcus reichei* (compare fig. 6.3):

- 1) Total body less elongate, elytra less shining
- 2) Mandibles stronger bend inside at anterior 1/3, median double tooth strong and broad; with a small but significant uprising tooth near tip.
- 3) Prothorax broadest in front and regularly rounded anteriorly not more or less concave.
- 4) Elytra of small mails smoother, without well-defined striae
- 5) Head of small males nearly smooth, not punctured.

Comparison versus *Dorcus curvidens* (compare fig. 7.3):

- 1) Much smaller
- 2) Head and prothorax less shining
- 3) Different form of the median tooth
- 4) Small uprising tooth near tip
- 5) Prothorax widest anterior
- 6) Elytra smoother compared to small *D. curvidens*

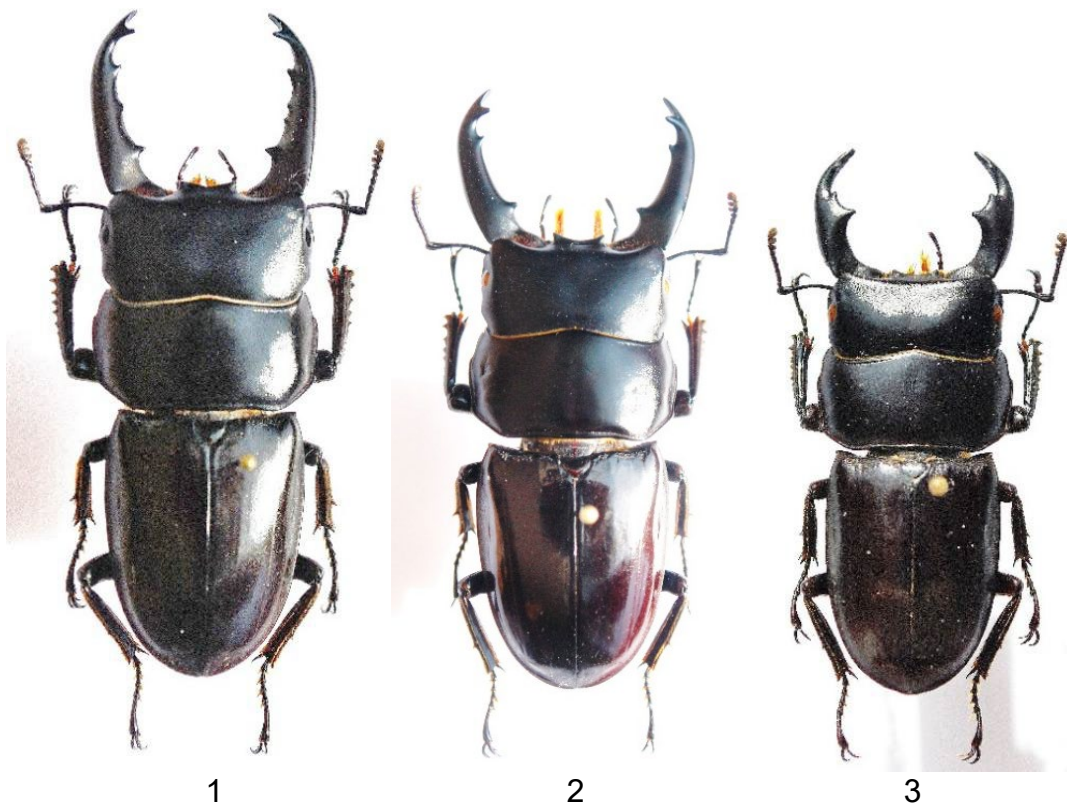


Fig. 6: *Dorcus*-taxa from N India and Nepal for comparison:  
 (1) *Docus tityus*, 49,3 mm, India, West Bengal, Kurseong,  
 (2) *Dorcus lineatopunctatus lineatopunctatus* 45,0 mm N India, Darjeeling,  
 (3) *Dorcus reichei praecellens* 40,0 mm N India, West Bengal, Kurseong  
 (in coll. K.-D. Schenk, Wehretal, Germany)

Comparison versus *D. yaksha* (compare Fig. 5/1):

1) The clypeus is less wide and slightly concave at middle. 2) The mentum is more rounded in front and the frontal margin is densely covered with short yellow hairs. 3) The surface of head and prothorax is stronger and more densely punctured. 4) The elytra are stronger punctured and the punctures are confluent around the scutellum.

The ♀ of *Dorcus hartmanni* spec. nov. is unknown. But note: *Dorcus punctatostratus* has been described by 3 females from the Himalaya, Massuri (REDTENBACHER, 1848) and was later treated as a synonym of *D. tityus* by Parry (1870) and by Huang & Chen (2013) as a synonym of *D. reichei*. Because the type location "Massuri" is identical with the collecting site "northern India, Uttarakhand Prov., Mussoorie env., Mussoorie Mountain Range" of one paratype of *D. hartmanni* spec. nov. it is possible that those females are representing females of *D. hartmanni* spec. nov..

*Dorcus hartmanni* spec. nov. is allopatric from *D. reichei reichei* (NE India, Meghalaya, Assam, N Myanmar ?). It is found in the Himalaya mountains west of the distribution areas of *D. reichei praecellens* (E Nepal, NE India, West Bengal, Sikkim, Arunachal Pradesh, Bhutan, SE Tibet).

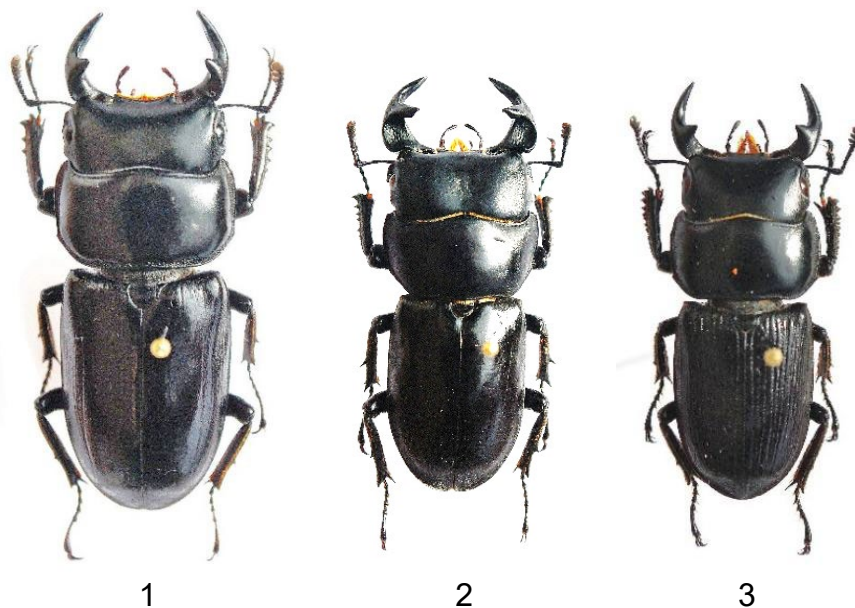


Fig. 7: (1) *Dorcus yaksha yaksha*, 36,5 mm, Myanmar, Chin Hills,  
 (2) *Dorcus ratiocinativus*, 31,5 mm, Nepal, Solo Kumbu, Taktor,  
 (3) *Dorcus curvidens* (very small male, 31,1 mm) Nepal, Everest region 31,1 mm  
 (in coll. K.-D. Schenk, Wehretal, Germany)

***Dorcus himalayaensis* spec. nov.**

Two further *Dorcus*-specimens from Nepal, wrongly determined as *D. lineatopunctatus* turned out to be unknown for science and will be described here as *Dorcus himalayaensis*.

**Holotype.** ♂, east Nepal, Taplejung Distr., west slope of Panthibara, 2600-2800m, 18.V.2016, in coll. Dr. K.-D. Schenk, Wehretal, Germany.

**Paratype.** ♂, east Nepal, Sankhuwasabha Distr., north of Chauki, 2600-2700m, 27°12'52"N, 87°27'47"E, 27.V.2016, Schmidt leg., in coll. Dr. K.-D. Schenk, Wehretal, Germany.

**Etymology.** This species is named after the Himalaya Mountains.

**Description and diagnosis**

♂ holotype (Fig. 8 and 9), total length 43,2 mm, mandibles length 11,5 mm, head width 14,1 mm, prothorax width 15,0 mm, elytra width 13,1 mm, elytra length 17,6 mm.

Body black and smooth, prothorax moderately shining, elytra very shining. Body shape similar a medium sized *D. nosei*. Head transverse, smooth, clypeal process very short and broad with sharp angles; densely covered with orange hairs. Canthi very narrow, not prominent at all; dividing half of the eyes. Frontal carina of the head well developed and strait. Mandibles about twice as long as the head. The middle part of the mandibles is relatively strait, but mandibles significantly incurved at the tip. Mandibles with a strong and broad triangular tooth at about  $\frac{1}{2}$ . Internal site in front of the strong tooth sharply carinated. Upper carina with a small tooth just behind the tip and the lower carina with another small tooth.



Fig. 8: *Dorcus himalayaensis* spec. nov. ♂ holotype (43,2 mm), East Nepal, Taplejung District, Panthibara



Fig. 9: *Dorcus himalayaensis* spec. nov. ♂ holotype (43,2 mm) head and prothorax enlarged, East Nepal, Taplejung District, Panthibar



Fig. 10: Comparison of left Mandibles of about same sized specimens of:  
 (1) *Dorcus himalayaensis* spec. nov. ♂ holotype (43,2 mm), (2) *Dorcus lineatopunctatus*  
*lineatopunctatus* 45,0 mm, (3) *Dorcus tityus* 49,3 mm, (4) *Dorcus castelnaudi* 42,2 mm,  
 (5) *Dorcus reichei praezellens* 40,0 mm.

Note: Only *D. himalayensis* spec. nov. has two small teeth on the mandible tip.

The prothorax is smooth and moderately shining. The anterior part is broadly emarginated then strongly concave forming a sharp median angle, then converging to the sharp posterior angle, Elytra totally smooth and very shining. Anterior tibiae with 7-8 small teeth, the middle and hind tibiae each with a sharp lateral spine. Mentum with well-defined big grooves. Metasternum covered with yellow hairs. Size of the Paratype 37,2 mm.

The species closest to *Dorcus himalayaensis* spec. nov. seems to be *Dorcus niedorfi* Schenk, 2013 (Myanmar, Chin Hills). *Dorcus himalayaensis* spec, nov. is differing from the sympatric distributed *Dorcus lineatopunctatus lineatopunctatus* by the following external morphological characters (compare fig. 6.2 and fig. 10.21):

1) Only one big major tooth at middle of mandible (two strong teeth, one near base the other smaller near tip), 2) Mandibles in front of the major tooth carinated with an upper and a lower small tooth (*D. lineatopunctatus* mandibles flat, not carinated with only one tooth near tip), 3) Frontal carina of the head well developed (*D. lineatopunctatus* not well defined), 4) Clypeus very short and broad, 5) The anterior part of the prothorax is broadly emarginated and then strongly concave to the sharp median angle, 6) Mentum with well-developed big grooves (*D. lineatopunctatus* mentum scattered with small punctures).

***Dorcus suturalis weigeli* sspec. nov.**

*Dorcus suturalis* Westwood, 1871 is known from the western Himalaya Mountains. There are records in the entomological literature from Afghanistan, Pakistan and India (Jammu & Kashmir, Punjab) but not from Nepal. The synonyms *Dorcus opacipennis* Zang 1906 (from Kashmir) and *Dorcus rotundopunctatus* Nagel, 1936 (from Afghanistan, Nuristan) are described from the western Himalayas also. Arrow is reporting *D. suturalis* (= *D. opacipennis*) from Kashmir, Gulmarg and Sonamarg and from Punjab, Thobba, Murree Hills (ARROW, 1950). Fujita figured a pair of *D. suturalis* from Pakistan, Batgram (FUJITA, 2010, plate 163, fig. 754).

The author received recently several *Dorcus*-specimens from west Nepal looking at the first sight exactly like a *Dorcus suturalis* from the far more western locations of this taxon in Afghanistan, Pakistan or north-west India but the careful examination revealed some slightly different morphological characters. Those specimens are described here as the new subspecies *Dorcus suturalis weigeli*.

**Holotype.** ♂, West Nepal, Karnali Province, Humla District, NW Simikot, 2900-3000m, 20.-22.VI.2001, in coll. K.-D. Schenk, Wehretal, Germany.

**Paratypes.** 2 ♂, 3 ♀, same location, in coll. K.-D. Schenk, Wehretal, Germany, 2 ♂, 1 ♀ same location, in coll. H. Rudolph, Quedlinburg, Germany, 14 ♂, 3 ♀, west Nepal: Karnali/Humla, 18 km NW Simikot, Chumsa Khola, 2950m, 30°02'25"N, 81°39'06"E, 20.-22. VI. 2001, river valley, taken from dead wood, A. Weigel leg., in coll. A. Weigel, Wernburg, Germany, 3 ♂, 6 ♀, same location, A. Kopetz leg., in coll. Naturkundemuseum Erfurt, Erfurt, Germany.

**Etymology.** This species is named after A. Weigel. He collected many specimens of the new subspecies in the Karnali province of west Nepal.

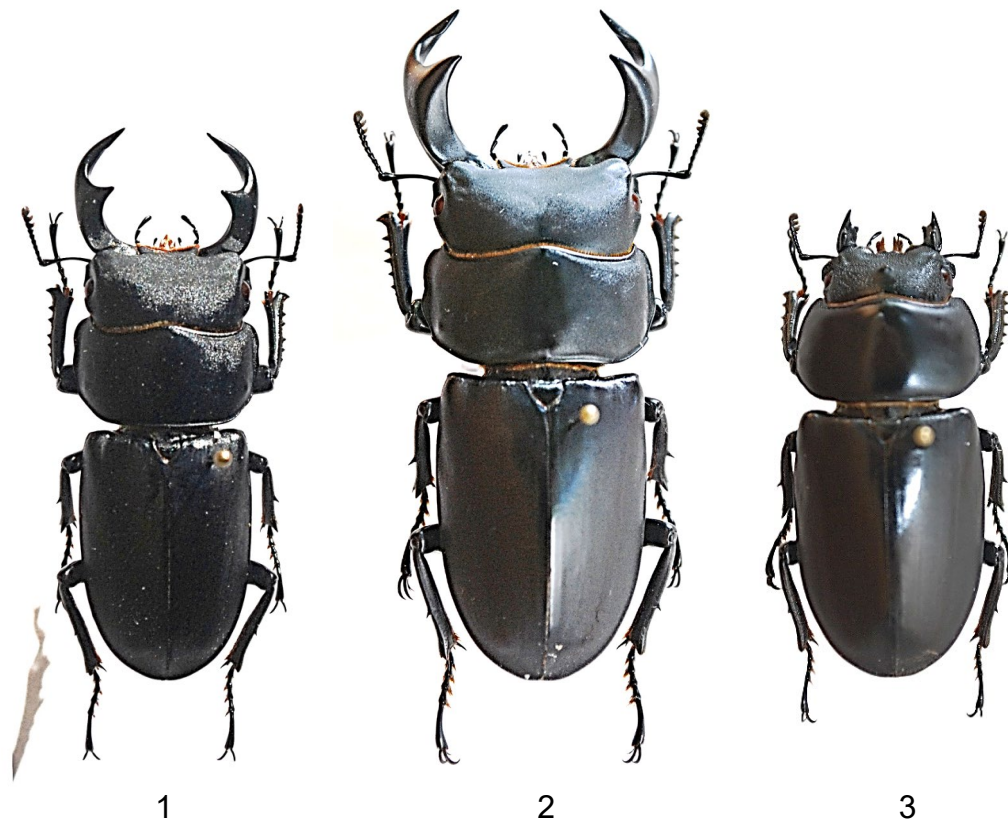


Fig. 11: *Dorcus suturalis weigeli* sspec. nov. (1) ♂ holotype (43,2 mm), (2) ♂ paratype (49,7 mm), (3) ♀ paratype (34,5mm), West Nepal, Karnali Prov., Humla Distr., NW Simikot



Fig. 12: *Dorcus suturalis weigeli* sspec. nov. ♂ holotype (43,2 mm), head and prothorax enlarged, West Nepal, Karnali Prov., Humla Distr., NW Simikot



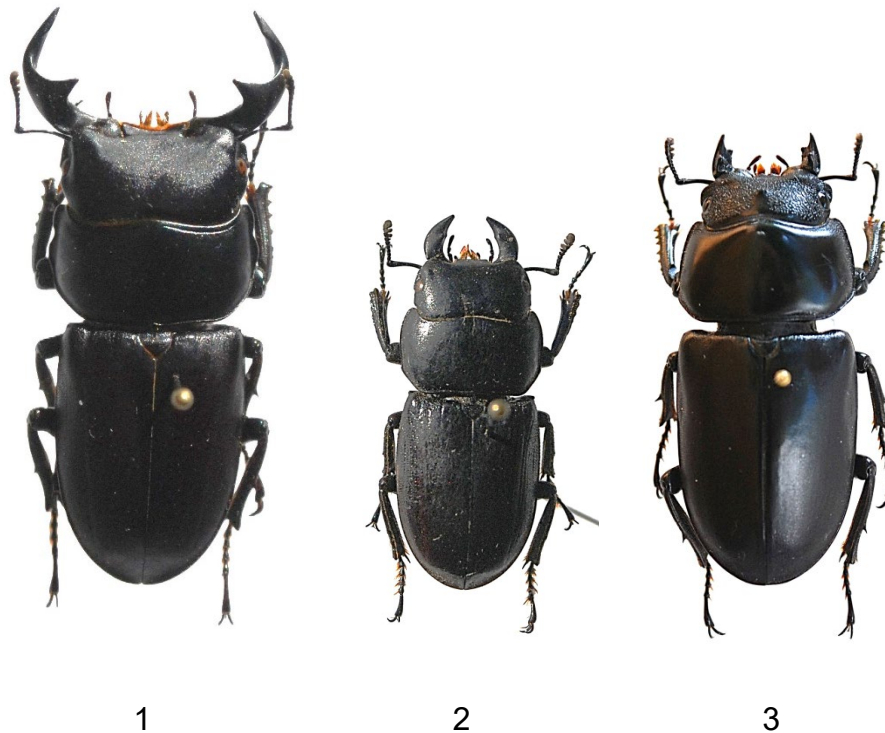


Fig. 13: For comparison: *Dorcus suturalis suturalis* (1) ♂ 43,2 mm, (2) ♂ small, 27,5 mm, India, Jammu & Kashmir, Srinagar, ne Gangangit (in coll. A. Puchner, Oberdanegg, Austria), (3) ♀ 33,0 mm, Pakistan, Jammu & Kashmir, Pooch Distr., nw Bagh, Sundhangali (in coll. K.-D. Schenk, Wehretal, Germany)

### Description and diagnosis

♂ holotype (Fig. 11 and 12), total length 43,2 mm, mandibles length 9,3 mm, prothorax width 13,3 mm, elytra width 13,1 mm, elytra length 18,7 mm.

Size of ♂ paratypes: 36,0-51,2 mm

Size of ♀ paratypes: 35,5-38,6 mm

*Dorcus suturalis weigeli* sspec. nov. is differing from the nominotypical taxon by the following morphological characters (compare the holotype in fig.11 with *D. suturalis suturalis* of about equal size in fig. 13):

♂ 1) Body larger and more elongate, 2) Head less transverse, 3) Mandibles longer, less strongly incurved, 4) Median tooth of the mandibles shorter and directed perpendicular or forward (not directed slightly backward), 5) Prothorax in front wider, more rounded and remoter from head; lateral margins of pronotum in front less strongly sinuate and less contracted, 6) Elytra opaque with a V-shaped shining area around suture and scutellum. This V-shaped shining area is not present at *D. suturalis suturalis* from Kashmir as already have been mentioned by Gravelly (GRAVELLY, 1915). ♀ 1) Body more elongate, 2) Elytra opaque with a V-shaped shining area around suture and scutellum.

It should be noted that obviously all known specimens of *D. suturalis weigeli* sspec. nov. which are stored now in different collection have been collected in June 2001 at the same locality of West Nepal, Karnali province. No other localities or later records are known to the author. Maybe this subspecies / population is restricted to a small area of the Himalaya mountains.

***Dorcus zhangmuensis***  
Huang et Chen, 2015

*Dorcus zhangmuensis* Huang & Chen, 2013 has been described by 3 ♂ from south-central Tibet, Xigaze Pref., Zhangmu Township and 1 ♀ south-central Tibet, Yadong county, Xiyayadong (HUANG ET CHEN, 2013). The size range of male *D. zhangmuensis* is 22,4 - 36,0 mm. The external features are close to those of *D. nosei* from Myanmar and south-eastern Tibet.

The author could now identify 3 *Dorcus*-specimens from Nepal as *Dorcus zhangmuensis*. (Fig. 14). The elytra of the smaller male have stronger costae as the bigger one. This can be seen frequently at small males of many other *Dorcus*-species.

The collecting data of the 3 specimens from Nepal are: Bhairav Kunda, south of Tinsure Danda, V. 2011 and Bhairav Kunda, Lekh Ambarsing, Pokhari, 13.V.2011 an Nepal, Katmandu valley, Nagajung, Jamakok. Those locations are close or very close to the type-location of *D. zhangmuensis* in south-central Tibet.

This is the first record of *Dorcus zhangmuensis* for Nepal.

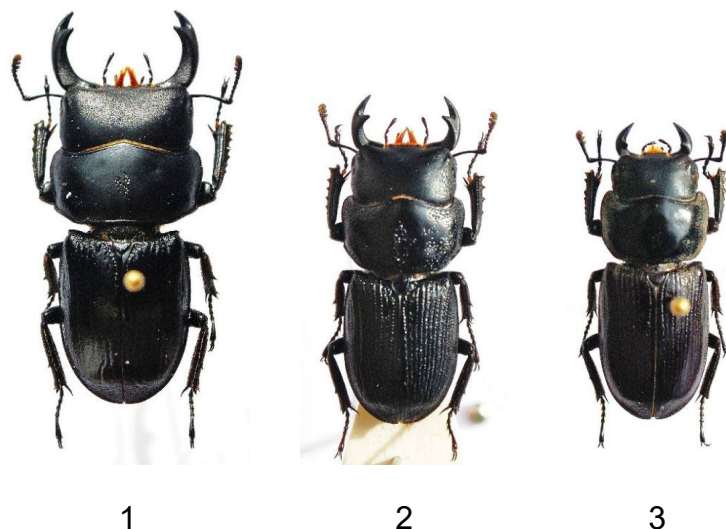


Fig. 14: ***Dorcus zhangmuensis*** (1) ♂, 29,6 mm, Nepal, Bhairav Kunda, south of Tinsure Danda, (2) ♂, 23,6 mm, Nepal, Bhairav Kunda, Lekh Ambarsing, Pokhari, (3) ♂ 22,4 mm Nepal, Kathmandu valley, Nagarjung, Jamakok (in coll. K.-D. Schenk, Wehretal, Germany)

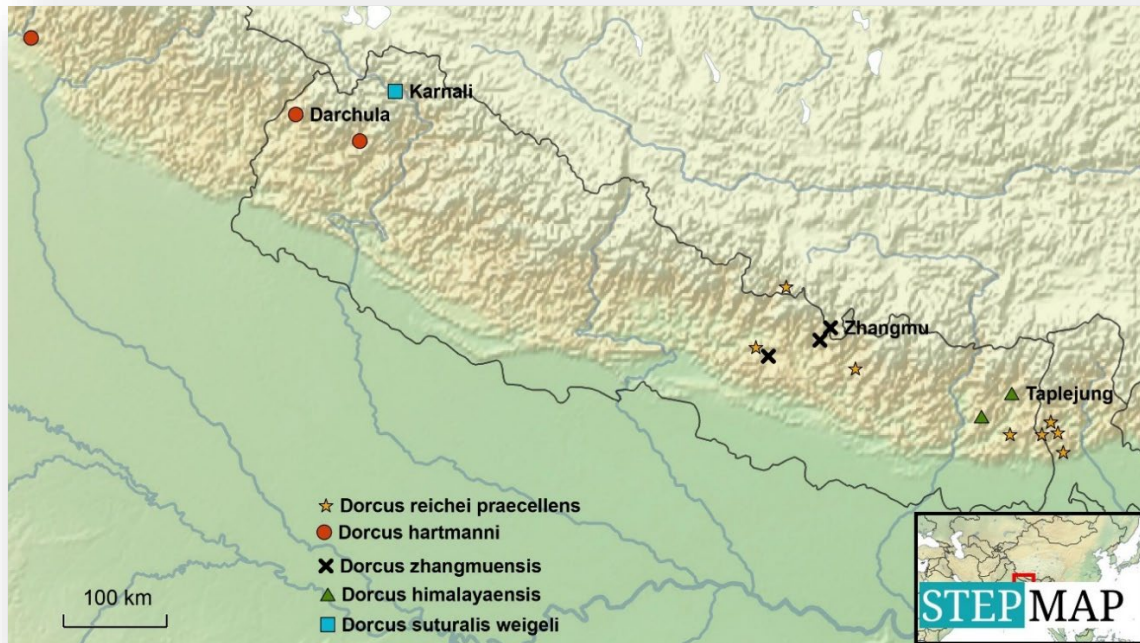


Fig. 15: Map showing the geographic distribution of *Dorcus reichei praecellens* (Möllenkamp, 1902), *Dorcus hartmanni* spec. nov., *Dorcus zhangmuensis* Huang et Chen, 2013, *Dorcus himalayaensis* spec. nov. and *Dorcus suturalis weigeli* sspec. nov.

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