

**Contribution to the knowledge of the east Palaearctic and Oriental species
of *Dinothenarus* Thomson, 1858, subgenus *Parabemus* Reitter, 1909
(Coleoptera: Staphylinidae: Staphylinini: Staphylinina)**

Aleš SMETANA

Agriculture and Agri-Food Canada, Canadian National Collection of Insects
Arachnids and Nematodes, 960 Carling Avenue, Ottawa, Ontario, K1A 0C6, Canada
e-mail: ales.smetana@canada.ca

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Abstract. Four species of the genus *Dinothenarus* Thomson, 1858, subgenus *Parabemus* Reitter, 1909 from Laos and Vietnam are described as new: *Dinothenarus (Parabemus) pallipes* sp. nov., *Dinothenarus (Parabemus) capito* sp. nov. and *Dinothenarus (Parabemus) holzschuhi* spec. nov, all from Laos and *Dinothenarus (Parabemus) similis* sp. nov. from Vietnam. Each species is described, illustrated and distributional data are given. These are the first records of the genus *Dinothenarus* from Laos and Vietnam and the records from Laos represent the southernmost record of the genus *Dinothenarus*. *Miobdelus insignitus* Smetana, 2011 and *Miobdelus insolens* Smetana, 2011, both from mainland China, are newly transferred to the genus *Dinothenarus* Thomson, 1858, subgenus *Parabemus* Reitter, 1909. *Dinothenarus dehradunensis* (Bernhauer, 1915) is recorded from Nepal for the first time.

INTRODUCTION

The subgenus *Parabemus* Reitter, 1909 of the genus *Dinothenarus* Thomson, 1858, as it was redefined by Smetana & Davies (2000) contains presently 15 Palaearctic/Oriental species and 5 Nearctic species and six additional species are added in this paper. For details see Smetana & Davies (2000), who also predicted that additional Oriental species will likely be added to this subgenus.

MATERIAL AND METHODS

Acronyms used in the text when referring to the deposition of the specimens are as follows:

- ASC collection of Aleš Smetana, deposited at The Museum of Nature and Science, Toshiba, Japan;
- CNC Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Canada;
- MSC collection of Michael Schülke, Berlin, Germany;
- NMW Naturhistorisches Museum, Wien, Austria;
- VAC collection of Volker Assing, Hannover, Germany.

After dissection, the type specimens were glued to the usual mounting plate and the dissected parts, mounted in Canada balsam on transparent plates for each specimen, were attached to the pin with the specimen.

The measurement ratios given in the descriptions are average values. Label data for all specimens are quoted exactly as they appear on the label.

TAXONOMIC PART

***Dinothenarus (Parabemus) insignitus* (Smetana, 2011) comb. nov.**

insignitus Smetana, 2011: 399 (*Miobdelus*; description); Schülke & Smetana, 2015: 1085 (*Miobdelus*; catalogue); He & Zhou, 2018: 339 (*Miobdelus*; habitus; male and female sexual characters illustrated; new records: Yunnan; Xizang; misidentification = *insolens*).

Comment. The species was originally described in the genus *Miobdelus* Sharp, 1889. However, based on the absence of the large pit-like punctures on the head and particularly on the characteristic shape of the aedeagus that is strange for the *Miobdelus*-species, it is here newly transferred to the genus *Dinothenarus* Thomson, 1859, subgenus *Parabemus* Reitter, 1909.

He & Zhou (2018) misidentified the species. The body length given (16.0-18.8 mm) is too small for the species (19.0-22.0 mm) and the illustrated aedeagus is that of *D. insolens*. The new records from Yunnan and Xizang are therefore transferred to *D. insolens*.

***Dinothenarus (Parabemus) insolens* (Smetana, 2011) comb. nov.**

(Figs. 1-2)

insolens Smetana, 2011: 399 (*Miobdelus*; description); Schülke & Smetana, 2015: 1085 (*Miobdelus*; catalogue); He & Zhou, 2018: 339 (*Miobdelus*; habitus; male and female sexual characters illustrated; new record: Sichuan; misidentification = *insignitus*).

Comment. The species was originally described in the genus *Miobdelus* Sharp, 1889. However, based on the absence of the large pit-like punctures on the head and particularly on the characteristic shape of the aedeagus that is strange for the *Miobdelus*-species, it is here newly transferred to the genus *Dinothenarus* Thomson, 1859, subgenus *Parabemus* Reitter, 1909.

He & Zhou (2018) misidentified the species. The body length given (19.27 mm) is too large for the species (13.0- 18.0 mm) and the illustrated aedeagus is that of *D. insignitus*. The “new” record from Sichuan is not new, the species was already known from Sichuan (Schülke & Smetana, 2015: 1085).

Dinothenarus insolens is at present known from the provinces of Sichuan, Yunnan and Xizang.

Dinothenarus (Parabemus) dehradunensis (Bernhauer, 1915)

dehradunensis Bernhauer, 1915: 52 (*Staphylinus* subg. *Parocypus*; description); Cameron, 1932: 203 (*Staphylinus* subg. *Parocypus*; redescription); Smetana & Davies, 2000: 26, 41 (*Dinothenarus* subg. *Parabemus*; assignment; check list); Schülke & Smetana, 2015: 1083 (*Dinothenarus* subg. *Parabemus*; catalogue).

New record. Nepal: Annapurna Ghoropani 2850 m, 12.10.1987 leg. Winkelmann: Klöck, 1 ♂, 3 ♀ (ASC, CNC, MSC).

Comment. The species is at present known from Himachal Pradesh and Uttarakhand in India (Schülke & Smetana, 2015: 1083). This is the first record of this species from Nepal.

Dinothenarus (Parabemus) pallipes sp. nov.

(Figs. 3-8)

Type locality. Laos: prov. Hua Phan, Ban Saluei, Phou Pan, 1500-1900 m, 20° 12'N 104° 01'E.

Type material. Holotype (♂) and allotype (♀): "NE-LAOS: prov. Hua Phan Ban Saluei, Phou Pan 11.4 - 15.5.2012, 1300-1900 m 20°12'N 104° 01'E 1500-1900 m, leg. Holzschuh" (holotype in NMW, allotype in ASC). Paratypes: (1 ♂, 2 ♀♀): same data as holotype, (ASC, NMW); (2 ♂♂, 4 ♀♀): same data as holotype, but 1.-31.5.2011, (CNC, NMW).

Description. Head and pronotum deep black, but head with a small, indistinct group of paler hairs in middle of disc and with yellowish hairs on tempora, pronotum with indistinct, small group of yellowish hairs in middle of each lateral portion; scutellum with deep black tomentose pubescence, elytra with golden yellow pubescence, but each with vague spot of darker pubescence around middle of lateral portion; first three visible abdominal tergites each with patch of black tomentose pubescence in middle and scattered golden-yellow hairs; fourth tergite almost entirely covered by golden-yellow tomentose pubescence, fifth tergite with dark pubescence and scattered spots of golden-yellow pubescence; sixth tergite with golden-yellow pubescence mixed with darker pubescence on middle portion; maxillary and labial palpi dark testaceous; antennae piceous-black, becoming gradually slightly paler toward apex; legs pale brown with all femora darkened. Head of rounded quadrangular shape with rounded posterior angles, wider than long (ratio 1.21), eyes moderately large and convex, tempora somewhat longer than length of eyes seen from above (ratio 1.18); disc of head moderately finely, quite densely punctate, punctation becoming gradually slightly sparser toward clypeus and to the contrary denser posteriad and posterolaterad; no impunctate midline apparent on disc; interspaces between punctures on disc without microsculpture. Antennae moderately long, slightly thickened toward apex, segment 3 longer than segment 2 (ratio 1.20), following segments longer than wide, gradually becoming shorter, segments 9 and 10 about as long as wide, last segment short, asymmetrically emarginated, along longer margin somewhat longer than penultimate segment. Pronotum slightly longer than wide (ratio 1.13) moderately convex, with rounded posterior margin, from about middle narrowed posteriad; punctation about as that on head on anterior third, from there becoming markedly finer and denser toward posterior margin; traces of incomplete, rudimentary impunctate midline present in some specimens. Elytra relatively long, vaguely dilated posteriad, at suture about

as long as pronotum at midline, at sides slightly longer (ratio 1.20) than pronotum at midline; punctation very fine and extremely dense, extremely small interspaces between punctures without fine microscopical irregularities, but elytra still appearing slightly dull. Wings fully developed. Abdomen with fifth visible tergite with very fine, pale apical seam of palisade setae; tergite 2 (in front of first fully visible tergite) with scattered, very fine punctures on ground with fine microsculpture of mostly incomplete waves; first three visible tergites each finely punctate in middle and with quite dense, granulose punctation on lateral portions, remaining tergites evenly, finely and densely punctate.

Male. Sternite 8 with very inconspicuous, obtuse medioapical emargination. Genital segment with tergite 10 narrowed toward arcuate apex, lacking long apical setae, setose as in Fig. 3; sternite 9 with long, narrow basal portion, apical portion with obtuse apex (Fig. 4). Aedeagus similar to that of *D. insolens*, but slightly smaller and narrower, with apical portion of median lobe less complex (Figs. 1, 5); paramere different, lacking the angular dilatation at midlength and different in the setation of the apical portion (Figs. 2, 5, 6); underside without sensory peg setae; paramere in lateral view not dilated (Fig. 7)

Female. Tergite of genital segment considerably, slightly unevenly narrowed toward subacute apex, with numerous relatively short setae at and near apex, rest setose as in Fig. 8.

Length 15.0-18.0 mm.

Geographical distribution. The species is at present known only from the type locality in northern Laos.

Bionomics. The specimens of the original series were apparently taken from pitfall traps, but nothing is known about the habitat the traps were set in.

Comments. Due to the prolonged exposure of the specimens to the fluids in the pitfall traps the complex colour pubescence, as it was described in the description, may not be fully observable in each specimen.

Etymology. The specific epithet is a combination of the part of the Latin adjective *pallidus*, -a, -um (pale) and the noun *pes*, m (leg). It refers to the pale coloration of the legs.

***Dinothenarus (Parabemus) similis* sp. nov.**

(Figs. 9-12)

Type locality. Vietnam: N-Vietnam pass 8 km NW Sa Pa 22°21'10"N 103°46'01"E 2010 m.

Type material. Holotype (♂): "N-Vietnam - pass 8 km NW Sa Pa, 22°21'10"N 103°46'01"E, 2010 m - second. Forest, 12.V.III.2013, V. Assing [7b+2] / *Dinothenarus* sp. ♂det. V. Assing 2015", (VAC). Paratype: (1 ♂): "VIETNAM Lai Châu Prov., WNW Sa Pa, Ton Pass ca 1920 m, 24.-30.V.I2017 22°20'56' N 103°46'30' E leg. Schillhammer (8F)", (NMW).

Description. In all characters quite similar to *D. insolens*, but different by the coarser and less dense punctation on the head and pronotum, and mainly by the different aedeagus and sternite 9 of the male genital segment.

Male. Sternite 8 with a small, narrow, obtusely triangular medioapical emargination. Genital segment with tergite 10 markedly narrowed toward obtusely rounded apical margin, without long apical setae, setose as in Fig. 9; sternite 9 with long, moderately narrow basal portion, apical portion long oval with apex obtuse (Fig. 10), in *D. insolens* markedly shorter with arcuate apex (Fig. 1 in Smetana, 2011: 401). Aedeagus similar to that of *D. insolens* but markedly smaller; median lobe in parameral view with apical portion different, less complex (Figs. 1, 11); paramere in parameral view similar to that of *D. insolens*, but narrower, lacking the angular dilatation at midlength, with markedly less numerous and finer setae of apical portion (Figs. 2, 11, 12), underside without sensory peg setae. The aedeagus is also similar to that of *D. pallipes*, but it is somewhat smaller with different paramere which has significantly less numerous setae (Figs. 5, 11, 6, 12).

Female. Unknown

Geographical distribution. The species is at present known only from the type locality in northern Vietnam.

Bionomics. Nothing is known about the collecting circumstances of the holotype.

Etymology. The specific epithet is the Latin adjective *similis*, *-e* (similar). It refers to the similarity of the species to *D. insolens*.

***Dinothenarus (Parabemus) capito* sp. nov.**
(Figs. 13- 17)

Type locality. Laos: prov. Hua Phan, Ban Saluei, Phou Pan, 1500-1900 m, 20° 12'N 104° 01'E.

Type material. Holotype (♂): “NE-LAOS: prov. Hua Phan Ban Saluei, Phou Pan 11.-31.5.2011 20°12'N 104° 01'E 1500-1900 m, leg. Holzschuh”, (NMW). Allotype (♀): same data as holotype, but 11.4-15.5.2012 1300-1900 m, (ASC). Paratypes: (1 ♂, 1 ♀): same data as holotype, (ASC, NMW); (1 ♀): same data as allotype, (NMW).

Description. In all external characters quite similar to *D. pallipes*, but different as follows: average size larger and body more robust; head and pronotum with vague to slight metallic sheen; pubescence of body same as that of *D. pallipes*, but darker pubescence on elytra more extended making the elytra appear darker. Legs darker, with middle and hind femora almost black. Head larger, slightly more wider than long (ratio 1.30), arcuately dilated posterior behind eyes, punctuation markedly less dense and coarser on anterior portion, particularly on clypeus; Y- shaped epicranial line apparent in variably rudimentary form. Pronotum more voluminous, punctuation vaguely coarser.

Male. Sternite 8 with very inconspicuous, obtuse medioapical emargination. Genital segment with tergite 10 larger and longer, setose in similar way as that of *D. pallipes* (Fig. 13); sternite 9 larger, narrowed toward markedly emarginated apex (Fig. 14). Aedeagus (Figs. 15-17) entirely different from that of *D. pallipes*; median lobe in parameral view quite constricted in middle portion and then dilated into quite characteristic apical portion;

paramere in parameral view anteriorly markedly shifted away from left margin of median lobe, with apex about reaching apex of median lobe, with differently setose apical portion (Figs. 6, 16); underside without sensory peg setae; paramere in lateral view dilated into a conspicuous, plate-like apical portion (Fig. 17).

Female. Tergite of genital segment not appreciably different from that of *D. pallipes*.
Length 16.0-19.0 mm.

Geographical distribution. The species is at present known only from the type locality in northern Laos.

Bionomics. The specimens of the original series were apparently taken from pitfall traps, but nothing is known about the habitat the traps were set in.

Comments. Same comment as under *D. pallipes* applies also for this species.

Etymology. The specific epithet is the Latin noun *capito*, *-onis*, m (big-headed). It refers to the large head of the species.

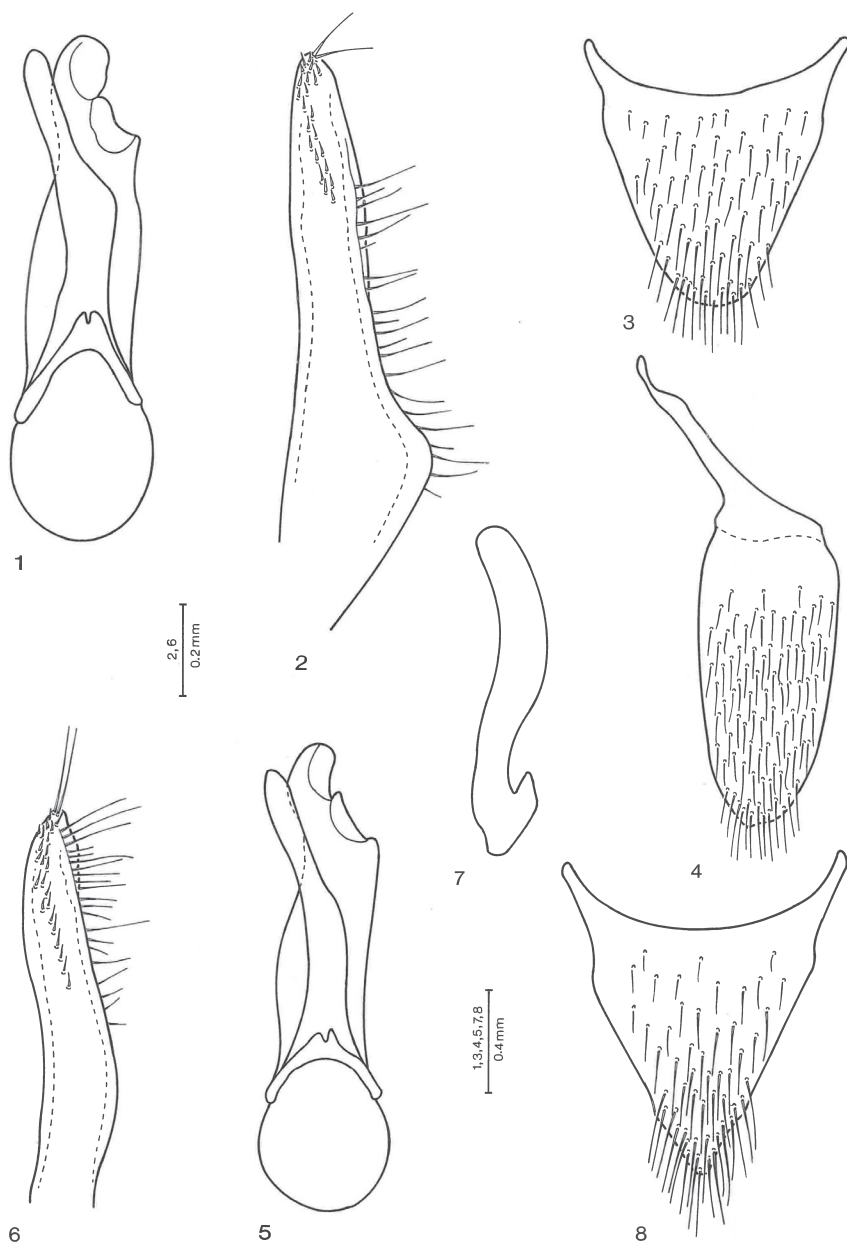
***Dinothenarus (Parabemus) holzschuhi* sp. nov.**

(Fig. 18)

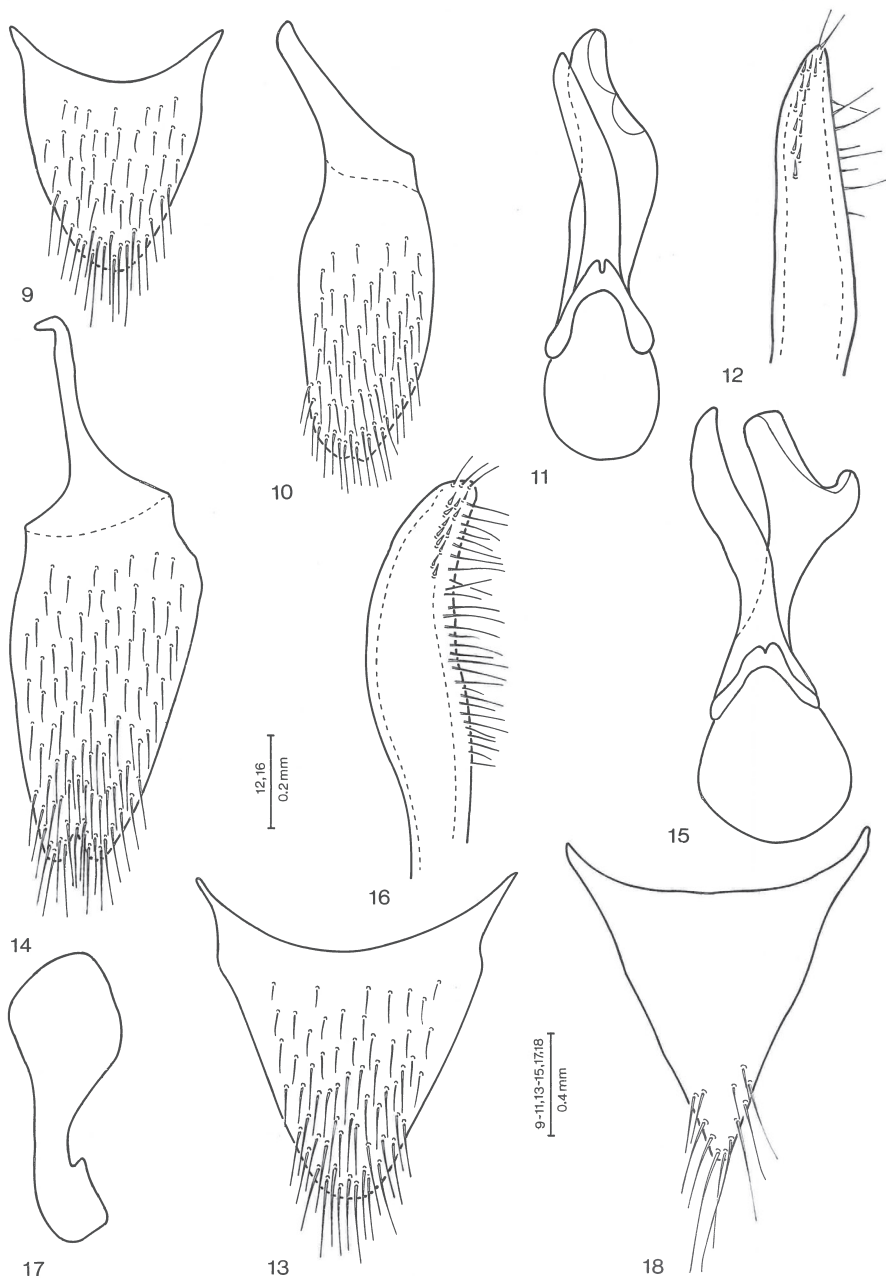
Type locality. Laos: prov. Hua Phan, Ban Saluei, Phou Pan, 1500-1900 m, 20° 12'N 104° 01'E.

Type material. Holotype (♀): "NE-LAOS: prov. Hua Phan Ban Saluei, Phou Pan 11.4-15.5. 2012 20°12'N 104° 01'E 1300-1900 m, leg. Holzschuh", (NMW). Paratype: (1 ♀): same data as holotype, but 1.-31.5.2011, 1500-1900m, (ASC).

Description. Entirely black; head, pronotum and elytra with black pubescence, but head with a few yellowish hairs on each tempus; scutellum with deep black tomentose pubescence, abdominal tergites with black pubescence and scattered golden-yellow hairs; maxillary and labial palpi brownish; antennae black, becoming vaguely paler toward apex; legs black, with all tarsi slightly paler. Head of rounded quadrangular shape with rounded posterior angles, wider than long (ratio 1.21), eyes moderately large and convex, tempora somewhat longer than length of eyes seen from above (ratio 1.18); disc of head moderately finely, quite densely punctate, punctation becoming gradually slightly sparser toward clypeus and to the contrary denser posteriad and posterolaterad; no impunctate midline apparent on disc; interspaces between punctures on disc without microsculpture. Antennae moderately long, slightly thickened toward apex, segment 3 longer than segment 2 (ratio 1.30), following segments longer than wide, gradually becoming shorter, segments 9 and 10 about as long as wide, last segment short, asymmetrically emarginated, along longer margin somewhat longer than penultimate segment. Pronotum slightly longer than wide (ratio 1.13) moderately convex, narrowed posteriad, with rounded posterior margin; punctation about as that on head on anterior third, from there becoming markedly finer and denser toward posterior margin; complete impunctate midline present. Elytra relatively



Figs. 1-8. *Dinotherarus insolens*: 1- aedeagus, parameral view; 2- apical portion of paramere with setation. *Dinotherarus pallipes*: 3- tergite 10 of male genital segment; 4- sternite 9 of male genital segment; 5- aedeagus, parameral view; 6- apical portion of paramere with setation; 7- lateral view of paramere (setation not shown); 8- tergite 10 of female genital segment.



Figs. 9-18. *Dinothenarus similis*: 9- tergite 10 of male genital segment; 10- sternite 9 of male genital segment; 11- aedeagus, parameral view; 12- apical portion of paramere with setation. *Dinothenarus capito*: 13- tergite 10 of male genital segment; 14- sternite 9 of male genital segment; 15- aedeagus, parameral view; 16- apical portion of paramere with setation; 17- lateral view of paramere (setation not shown). *Dinothenarus holzschuhi*: tergite 10 of female genital segment.

long, vaguely dilated posteriad, at suture about as long as pronotum at midline, at sides slightly longer (ratio 1.22) than pronotum at midline; punctation very fine and extremely dense, extremely small interspaces between punctures without fine microscopical irregularities, but elytra still appearing slightly dull. Wings fully developed. Abdomen with fifth visible tergite with very fine pale apical seam of palisade setae; tergite 2 (in front of first fully visible tergite) with very fine punctures along posterior margin, surface with fine microsculpture of mostly incomplete waves; first three visible tergites each finely punctate in middle and with quite dense, granulose punctation on lateral portions, remaining tergites evenly, finely and moderately densely punctate.

Female. Tergite of genital segment markedly triangular, considerably, evenly, narrowed toward acute apex (Fig. 18). See Comments concerning the setation.

Male. Unknown.

Length 19.0 mm (abdomen slightly extended).

Geographical distribution. The species is at present known only from the type locality in northern Laos where it occurs together with some specimens of *D. pallipes*.

Bionomics. The specimens of the original series were apparently taken from pitfall traps, but nothing is known about the habitat the traps were set in.

Comment. The setation of tergite 10 of the female genital segment is mostly gone, apparently due to the prolonged exposure of the specimens to the fluids in the pitfall trap. Only the setae still present on apical portion are shown in Fig. 18.

Etymology. The specific epithet is eponymic, it honours the renowned cerambycidologist Carolus Holzschuh (Wien, Austria), the collector of the two specimens of the original series

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