

**A review of the genera *Indostola*, *Tagenostola*, *Indochillus*,  
*Pseudethas*, and *Pseudochillus* gen. nov. in South East Asia  
(Coleoptera: Tenebrionidae: Stenosini)**

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**Abstract.** *Indostola kaengkrachanensis* sp. nov. from Thailand is described. *Pseudochillus* gen. nov. is described and subdivided into three subgenera: *P.* (*Pseudochillus* subgen. nov.), *P.* (*Kaszabochillus* subgen. nov.), and *P.* (*Micro-pseudochillus* subgen. nov.). Two species of the genus *Indochillus* are transferred to *Pseudochillus*: *P.* (*P.*) *bangaloreanus* (Kaszab, 1981) comb. nov. and *P.* (*Kaszabochillus*) *andamanus* (Kaszab, 1981) comb. nov. Additionally, five new species are described: *Pseudochillus* (*Pseudochillus*) *aalbui* sp. nov. (India), *Pseudochillus* (*Kaszabochillus*) *helferi* sp. nov. (Myanmar), *Pseudochillus* (*Micro-pseudochillus*) *palawanus* sp. nov. (Philippines: Palawan), *P.* (*M.*) *thailandicus* sp. nov. (Thailand), and *P.* (*M.*) *indochinensis* sp. nov. (Laos, Vietnam). *Tagenostola albovillosa* Koch, 1940 stat. nov., described as subspecies of *T. turkestanica* (Reitter 1886), is raised to species rank. Diagnostic characters for all discussed genera and species are illustrated. A key to species of *Pseudochillus* gen. nov. and allied genera of the subtribe Dichillina (sensu REITTER 1916) is provided. New faunistic records of Stenosini from Laos, Myanmar, Philippines, Thailand and Vietnam are presented.

**Key words.** Coleoptera, Tenebrionidae, Stenosini, new genus, new subgenus, new species, new combination, new status, taxonomy, description, key to genera, India, South East Asia, Oriental Region

## Introduction

The present paper deals with taxonomy of the tribe Stenosini (Coleoptera: Tenebrionidae) in South East Asia. The study is divided in two parts. The present first part includes the genera *Indostola* Medvedev, 1991 and *Tagenostola* Reitter, 1916 of the subtribe Stenosina sensu REITTER (1916), and the genera *Pseudethas* Fairmaire, 1896, *Indochillus* Koch, 1941,

and *Pseudochillus* gen. nov. of the subtribe Dichillina sensu REITTER (1916). The second part will include the genera *Stenosis* Herbst, 1799, *Gebieniella* Koch, 1940, *Dichillus* Jacquelin du Val, 1861, and *Harvengia* Ferrer, 2004.

The genus *Indostola* was described by MEDVEDEV (1991) as a monotypic genus with *Indostola pulchella* Medvedev, 1991 as the type species. The description was based on a single specimen from India (West Bengal). Later, additional specimens of *I. pulchella* were found together with specimens of so far unknown species described here as new. Based on the new material the known distribution of the genus *Indostola* is extended to India (West Bengal, Uttarakhand) and Thailand (Phetchaburi).

The genus *Tagenostola* Reitter, 1916 was established by REITTER (1916) for *T. turkestanica* (Reitter, 1886) and *T. muelleri* (Reitter, 1886), originally described in the genus *Stenosis* Herbst. KOCH (1940) described the subspecies *T. turkestanica albovillosa* Koch, 1940 and transferred *Stenosis seriepilosa* Fairmaire, 1893 to *Tagenostola*. *Tagenia pilosa* Motschulsky, 1839 was treated as *Tagenostola pilosa* by MEDVEDEV & NEPESOVA (1985). MEDVEDEV (2008) mentioned the names erroneously used by REITTER (1889, 1916), namely *Stenosis pilosa* (Motschulsky) for *Stenosis armeniacus* (Motschulsky, 1849) and *Tagenostola turkestanica* Reitter for *Tagenostola pilosa* (Motschulsky, 1839).

The tenebrionid genus *Indochillus* was described by KOCH (1941) by monotypy in the subtribe Dichillina (REITTER 1916) based on a single specimen of *I. cristatus* Koch, 1941 from 'Molwar, Ind.'. This is the only specimen known to the author. KASZAB (1981) described two additional species: *I. bangaloreanus* Kaszab, 1981 based on one specimen from Bangalore, India and *I. andamanus* Kaszab, 1981 from the Andaman Islands. Finally REN & SHI (2006) added *I. convexigena* Ren & Shi, 2006 from Tibet. FOUQUÉ (2008) expressed some doubts about the position of *I. convexigena* and suggested that it needed to be verified. Acquisition of one specimen of *I. convexigena* by Dr. Ren confirmed this opinion. The transfer of *I. convexigena* to *Pseudethas* was proposed by LIU (2010) in an unpublished Ph.D. thesis, and was finally published by BA & REN (2013).

According to KASZAB (1981) the position of *I. bangaloreanus* and *I. andamanus* is unclear. After the study of the complete type material of the genus *Indochillus* the author decided to describe a new genus including three subgenera in this paper. Affiliation to the subgenera is based on different group characters and is also supported by geographical distribution.

The genus *Pseudethas* includes 19 species distributed in Afghanistan, Pakistan, India, Nepal, Tibet, and Thailand.

The material studied is not very numerous, four species are known only from single specimens. The material presented in this paper yielded new faunistic records and two genera new for the fauna of Thailand (besides already known genera *Stenosis*, *Gebieniella*, *Dichillus*, and *Pseudethas*), two genera new for the fauna of Vietnam (besides already known genera *Gebieniella* and *Harvengia*), one genus new for the fauna of Myanmar (besides already known genera *Stenosis* and *Tagenostola*), two genera new for the fauna of Laos (besides already known genus *Gebieniella*) and one genus new for the fauna of Philippines (besides already known genus *Gebieniella*). The distribution of all mentioned species is summarized in the map (Fig. 44).

## Material and methods

Stated lengths and widths represent the maximum values of the measured parts. Length of the head is measured from the anterior margin of the clypeus to the cervical constriction. Antennomere 1 is not clearly visible and therefore is not regarded in the length and width ratios of antennomeres. The sizes in section of description represent the holotype, ranges of the type series are in parentheses.

The photographs were taken using a Canon EOS 550D and were composed by Helicon Focus SW from stacks of approximately 30 photos. An MBS10 microscope with a 100× magnification was used to study the specimens.

The map basis from d-maps.com is used and modified in CorelDRAW.

Label data of the type material are given verbatim. All specimens of the type series of new species bear one printed red label: 'HOLOTYPE [or PARATYPE], *name of species* sp. nov., det. R. Fouquè 2013'. Label data of non-type material are rewritten to standardized form.

The specimens studied are deposited in the following collections:

BMNH	The Natural History Museum, London, United Kingdom (M. Barclay);
CASC	California Academy of Sciences, San Francisco, California, USA (David H. Kavanaugh);
HNHM	Hungarian Natural History Museum, Budapest, Hungary (O. Merkl);
KMCT	Kimio Masumoto collection, Tokyo, Japan;
MHNG	Muséum d'Histoire Naturelle, Genève, Switzerland (G. Cuccodoro);
NHMB	Frey collection, Naturhistorisches Museum, Basel, Switzerland (E. Sprecher);
NHMW	Naturhistorisches Museum Wien, Vienna, Austria (H. Schillhammer);
NHRS	Naturhistoriska riksmuseet, Stockholm, Sweden (J. Ferrer);
NMPC	National Museum, Prague, Czech Republic (J. Hájek);
RFCL	René Fouquè collection, Liberec, Czech Republic;
RLAC	Rolf L. Aalbu collection, El Dorado Hills, California, USA;
SBPC	Stanislav Bečvář, Prague, Czech Republic;
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany (W. Schawaller);
ZIN	Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (M. G. Volkovich).

## Taxonomy

### *Indostola* Medvedev, 1991

*Indostola* Medvedev, 1991: 557 (original description). Type species: *Indostola pulchella* Medvedev, 1991 (by original designation).

**Diagnosis.** The genus *Indostola* is characterized by eyes not divided into upper and lower parts by genae; eyes in lateral view not diminished to narrow transverse stripe of facets in lower part (Figs 27–28) as in *Stenosis* Herbst, 1799 (see MEDVEDEV 1994, Fig. 25); pronotum longer than wide and distinctly narrower than head; tempora almost parallel for one eye length behind posterior margin of eyes.

**Remarks.** The illustration of the elytra in MEDVEDEV (1991: Fig. 1) is not accurate, as in fact the elytra are narrowing gradually to elytral base (see Fig. 1 in this paper).

***Indostola pulchella* Medvedev, 1991**

(Figs 1, 23, 27, 38)

*Indostola pulchella* Medvedev, 1991: 558 (original description).**Type locality.** India, West Bengal, Kalimpong.**Type material examined.** HOLOTYPE: ♀, INDIA, Kalimpong (ZIN).**Additional material examined.** INDIA: UTTARAKHAND: Rishikesh, 2.–4.vii.1989, leg. A. Riedel (1 ♂ SMNS); 14 mi. SW Dehra Dun, 525 m a.s.l., 11.xii.1961, leg. E. S. Ross & D. Cavagnaro (4 ♂♂ 3 ♀♀ CASC, 1 ♂ RFCL); Dehra Dun, 700 m a.s.l., 9.xii.1961, leg. E. S. Ross & D. Cavagnaro (1 ♂ CASC).**Diagnosis.** See diagnosis of *I. kaengkrachanensis* sp. nov. below for characters distinguishing both species.**Distribution.** India: West Bengal (MEDVEDEV 1991), Uttarakhand (new record).***Indostola kaengkrachanensis* sp. nov.**

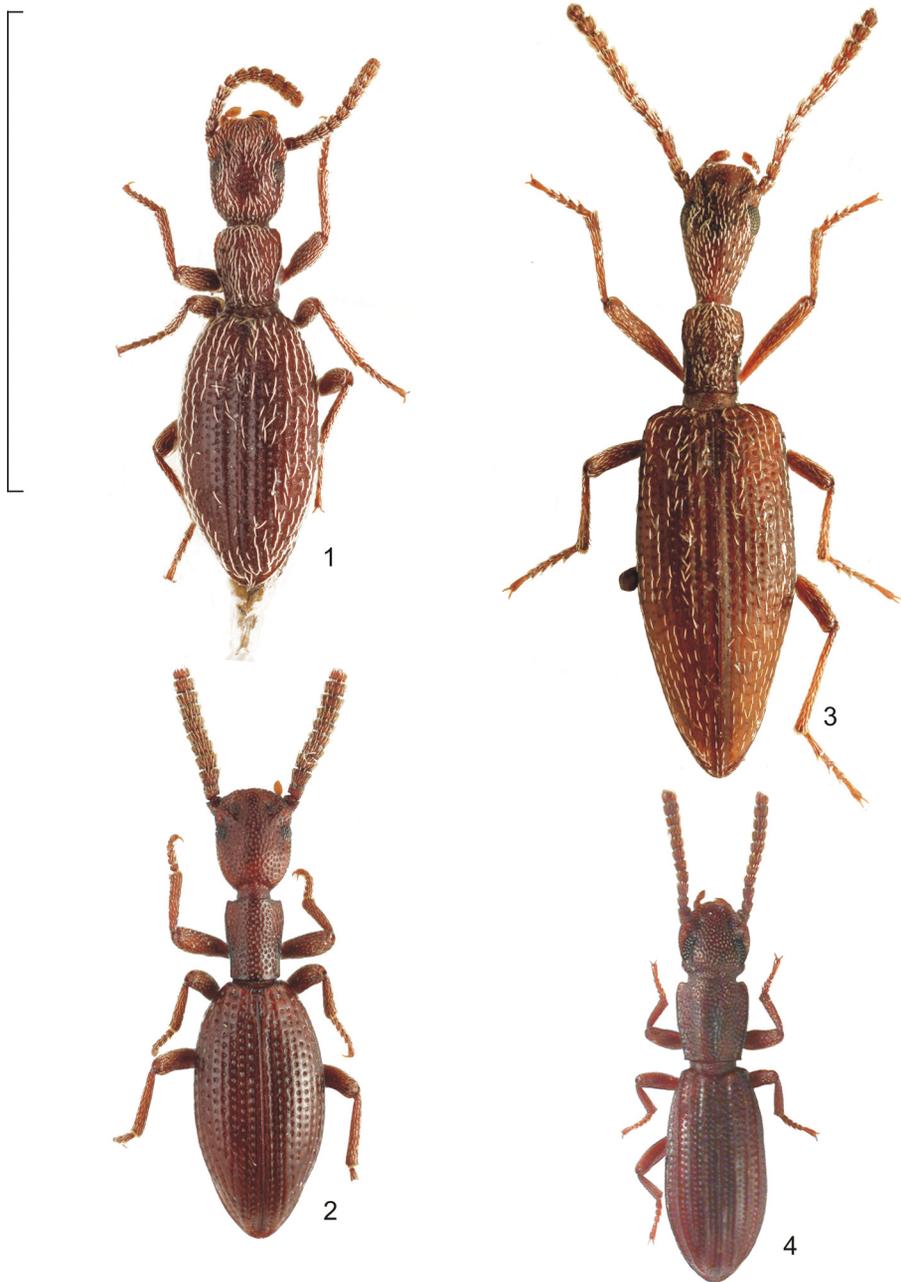
(Figs 2, 22, 28, 37)

**Type locality.** Thailand, Phetchaburi Province, Kaeng Krachan National Park.**Type material.** HOLOTYPE: ♂, THAILAND: Phetchaburi / Kaeng Krachan Nat. Pk / 450 m, 19.XI.1985 / Burckhardt-Löbl' (MHNG). PARATYPES: same data as holotype (2 spec. MHNG, 1 ♂ 1 spec. RFCL); same data as holotype, but 18.xi.1985 (1 ♂, 1 spec. MHNG).**Description.** Body length 3.7 mm (3.6–4.0 mm), body width 1.1 mm (1.1–1.2 mm). – Body, legs and antennae brown to rusty brown.

Head elongate, length/width ratio 1.38, widest at one eye length before anterior margin of eyes. Tempora long, widest at posterior margin of eyes, from there one eye length behind posterior margin of eyes very fine, then gradually narrowing to cervix. Frons with two distinct impressions. Genae slightly extending from anterior margin of eyes to widest point, and then directly narrowing to clypeus. Genae concave opposite to frons impressions. Clypeus straight. Ratio of head/cervix widths 2.36. Eyes (Fig. 28) are not divided by genae, with about 17 facets. Shape of eye in lateral view is somewhat triangular, but not diminished to narrow transverse stripe of facets in lower part. Punctuation rounded, on vertex little bit elongate. Surface between punctures finely wrinkled. Head glabrous, only clypeus and tempora covered with very fine setae. Antennae (Fig. 22): all antennomeres wider than long, trapezoidal, second antennomere almost fused with third one. Antennae densely covered with light setae, as long as  $\frac{3}{4}$  length of antennomeres. Antennomeres 2–11 combined 1.3 times longer than length of head; last antennomere rounded apically. Antennomeres 2 and 11 markedly narrower than others; length ratio of antennomeres 2–11 100 : 122 : 113 : 96 : 87 : 100 : 87 : 96 : 96 : 96, width ratio 117 : 152 : 157 : 157 : 152 : 152 : 165 : 165 : 157 : 130.

Pronotum distinctly longer than wide (1.40), widest in anterior quarter and distinctly narrower than head; width ratio of head / anterior edges of pronotum / widest point of pronotum / posterior edges of pronotum 100 : 73 : 77 : 65. Anterior corners rectangular, not protruding. Posterior corners obtuse. Base of pronotum slightly convex. Anterior margin bisinuate. Lateral margin bordered; behind anterior corners gently arched to first quarter than little bit convexly narrowing to base. Punctuation dense and rounded, larger than that on the head. Space between punctures glossy, slightly wrinkled. Pronotum without setae.

Elytra elliptical; 3.1 times longer and 2.2 times wider than pronotum, widest in middle; elytral length/width ratio 1.98. Base concave, as wide as pronotal base. Each elytron with 10



Figs 1–4. Dorsal view. 1 – *Indostola pulchella* Medvedev, 1991, holotype ♀, India (West Bengal). 2 – *Indostola kaengkrahanensis* sp. nov., holotype ♂, Thailand. 3 – *Tagenostola albobillosa* Koch, 1940, Vietnam. 4 – *Pseudethas thailandicus* Fouquè, 2008, holotype ♂, Thailand. Scale bar = 4 mm.



Figs 5–9. Dorsal view. 5 – *Indochillus cristatus* Koch, 1941, holotype, India (Karnakata). 6 – *Pseudochillus* (*Pseudochillus*) *bangaloreanus* (Kaszab, 1981), holotype ♂, India (Bangalore). 7 – *P. (P.) aalbui* sp. nov., holotype ♂, India (Tamil Nadu). 8 – *P. (Kaszabochillus) andamanus* (Kaszab, 1981), paratype ♀, India (Andaman Islands). 9 – *P. (K.) helferi* sp. nov., holotype ♀, Myanmar (Tennasserim). Scale bar = 4 mm.

rows of punctures, 8 on dorsal side, 2 on deflexed part; all intervals slightly convex, interval 9 and 10 arched. Punctures deep and rounded, larger than those on pronotum. Space between punctures glossy and slightly wrinkled. Each interval with very thin setae which are absent on the disk and are as long as puncture diameter. Scutellum very small; scutellar row with four punctures. Epipleura with one row of punctures on their whole length, punctures somewhat smaller than in row 10. Humeral calli not developed, apterous.

Aedeagus (Fig. 37) length approximately 0.7 mm; in anterior third strongly arched in lateral view; with one pair of long setae and two pairs of smaller setae at apex.

Abdomen: first abdominal ventrite with sparse punctures smaller than those on epipleura; second to fourth abdominal ventrites with punctures of same size, concentrated on lateral parts, finer and sparser in middle. Last abdominal ventrite with rounded and deep punctures of same size as those of epipleura.

**Differential diagnosis.** *Indostola kaengkrachanensis* sp. nov. can easily be recognized from *I. pulchella* by almost glabrous body; by trapezoidal antennomeres and the antennomere 3 shorter than wide (0.80); by only gently cordiform shape of pronotum, with anterior corners rectangular and anterior margin bisinuate. *Indostola pulchella* is entirely covered by setae; the antennomeres are more club-shaped, and antennomere 3 is distinctly longer than wide (length/width ratio 1.60); the shape of the pronotum is cordiform with obtuse anterior corners and convex anterior margin.

**Etymology.** Named after its type locality, Kaeng Krachan National Park in Thailand, where the type series was collected.

**Distribution.** Thailand: Phetchaburi Province.

### *Tagenostola* Reitter, 1916

*Tagenostola* Reitter, 1916: 151 (original description). Type species: *Stenosis turkestanica* Reitter, 1886, subsequently designated by GEBIEN (1937).

**Diagnosis.** The genus *Tagenostola* is characterized by eyes not divided into upper and lower parts by genae; eyes in lateral view not diminished to narrow transverse band of facets in lower part; pronotum longer than wide and distinctly narrower than head; tempora almost straightly narrowed to cervical constriction; elytra are on humeral part suddenly narrowed to base.

**Remarks.** ARNDT & FERRER (1997) stated that the type species is *T. turkestanica* (Reitter, 1886) by 'original description'. However, REITTER (1916) did not designate any type species for *Tagenostola*, but just included *T. turkestanica* and *T. muelleri* Reitter, 1916 in the genus. Subsequently GEBIEN (1937) stated that the type species is *T. turkestanica*, which the author of the present paper considers the type species designation.

### *Tagenostola albovillosa* Koch, 1940 stat. nov.

(Fig. 3)

*Tagenostola turkestanica albovillosa* Koch, 1940: 735 (original description).

**Type locality.** 'Vorderindien'.

**Type material.** Holotype and paratype in NHMB, not examined.

**Additional material examined.** LAOS: SEKONG PROVINCE: ca. 12 km S Sekong, Tad Faek waterfalls (at light), 15°14.7'N 106°45.1'E, 118 m, 8.+12.v.2010, leg. Jiří Hájek (1 spec. NMPC). MYANMAR: YANGON REGION: Pégu, 60 km NNE Yangon, 17°16'N 96°28'E (lux), 22.xi.2003, leg. M.Hornburg (1 spec. RFCL); MANDALAY REGION:

Bagan env., 21°09'N 94°53'E, alt. 80 m, 10.–14.+22–24.x.2014, leg. R.Fouqué (2 ♀♀ RFCL). **TENASSERIM REGION:** Mekane, 90 km E of Moulmein, 200 m, 2.–8.xi.1984, leg. Malaise (2 spec. NHRS). **NEPAL: BAGMATI ZONE:** Halambu Distr., Gosaigonda [= Gosaikunda Lake] 1300 m, 1.–16.v.1989, leg. Pashang (1 spec. SBPC); **NARAYANI ZONE:** Chitwan, Narayanghat 170 m, 12.xi.1993, leg. Moor et al. (1 spec. NHMW). **VIETNAM: QUANG BINH PROVINCE:** 1 km N of Cha Lo, 400m, Vietnam-Laos border area, 17°41'22"N 105°45'45"E, 11.–24.iv.2010, leg. L. Dembický (1 spec. NHMB).

**Diagnosis.** This species differs from *T. turkestanica* in long and thin legs, anterior tibiae length/width ratio 8.00. Head ratio of width on eyes/cervix 2.25. Posterior half of elytra narrowed almost directly to apex.

**Distribution.** Bhutan (KASZAB 1975), Northern India (KOCH 1940, ARNDT & FERRER 1997), Laos (present paper), Myanmar (MEDVEDEV 1994, present paper), Nepal (ARNDT & FERRER 1997, present paper), Vietnam (present paper). New species records and the first record of the genus *Tagenostola* for Laos and Vietnam.

**Remarks.** The genus *Tagenostola* in Asia includes the following species: *T. pilosa* (Motschulsky, 1839) known from eastern Transcaucasia to northern Caucasian Area, *T. seriepillosa mulleri* (Reitter, 1886) known from Saudi Arabia, Egypt and Sudan, *T. turkestanica turkestanica* (Reitter, 1886) known from southern Kazakhstan, Middle Asia and Afghanistan, and *T. turkestanica albobillosa* Koch, 1940 known from India, Nepal, Bhutan and Myanmar. I was not able to study the type material, but the genus should be revised. KOCH (1940) described new subspecies of *T. turkestanica* mainly based on different color of setae, narrower head, and tempora directly narrowed to cervix. MEDVEDEV (2008) used the color of setae and the length/width ratio of posterior femur as differential characters in his key. The study of non-type material of both subspecies revealed that the main difference is the different length of legs, particularly the length of tibiae which are markedly longer in *T. turkestanica albobillosa*. Based on the above-mentioned characters and on the different distribution, *T. turkestanica albobillosa* is herewith raised to species level.

The species seems to be attracted to the lights as the two specimens collected by the author in Myanmar were found after nightfall on the pedestal of a light banner to the temple. Similarly the specimen from Laos was collected during light trapping.

### *Tagenostola turkestanica* (Reitter, 1886)

*Stenosis turkestanica* Reitter, 1886: 123 (original description).

*Tagenostola turkestanica*: REITTER (1916): 152 (key).

**Type locality.** 'Turkestan'.

**Type material.** Type should be located in Reitter's collection (REITTER 1886), however, I was not able to find any type specimen in HHNM.

**Additional material examined.** **TAJIKISTAN: DISTRICTS OF REPUBLICAN SUBORDINATION:** Gissar Range, 30 km N Dushanbe, Varzob, 4.vi.2004, alt. 1100 m, leg. O.Pak (1 ♂ RFCL). **UZBEKISTAN: KARSHI REGION:** Jakkabag v., 1.xii.1963 (2 spec. RFCL); Zeravshan River valley, reserv. near Samarkand, 12.v.1990, leg. Zd. Jindra (1 spec. SBPC).

**Diagnosis.** This species differs from *T. albobillosa* in shorter legs, anterior tibiae length/width ratio 5.50. Head ratio of width across eyes/cervix 1.79. Elytra narrowed to apex in gentle arch.

**Distribution.** Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan (MEDVEDEV 2008, present paper).

***Pseudethas* Fairmaire, 1896**

*Pseudethas* Fairmaire, 1896: 57 (original description). Type species: *Pseudethas quadraticeps* Fairmaire, 1896 (by original designation).

**Diagnosis.** The genus *Pseudethas* is characterized by parallel-sided elytra with flattened surface; elytral base considerably wider than pronotal base; tempora often convex, sometimes parallel; pronotum usually with mid-longitudinal impression which may sometimes be only very slightly developed; middle and posterior male tibiae with apical tooth on inner side.

***Pseudethas thailandicus* Fouqu , 2008**

(Fig. 4)

*Pseudethas thailandicus* Fouqu , 2008: 366 (original description).

**Type locality.** Thailand, Phetcha Buri Province, 2 km N of Ban Sa Yai Non, 12°56'58"N 99°47'44"E, 40 m a.s.l.

**Type material examined.** HOLOTYPE: ♂, 'THAILAND, Phetcha Buri pr. / 2 km N of BAN SA YAI NON / 12°56'58"N 99°47'44"E / 16.–18.i.2006, alt. 40 m / leg. Be v f S. & Fouqu  R.' (RFCL).

**New material examined.** THAILAND: PHETCHABURI: 2 km N of Ban Sa Yai Non, 12°57'23"N 99°47'57"E, 13.–16.i.2013, alt. 50m, leg. R. Fouqu  (3 spec. RFCL). SARABURI: Phra Buddaha Chai, 16.v.2012, leg. Y. Hirai (KMCT).

**Distribution.** Thailand: Phetchaburi, Saraburi (FOUQU  2008, present paper).

***Indochillus* Koch, 1941**

*Indochillus* Koch, 1941: 300 (original description). Type species: *Indochillus cristatus* Koch, 1941 by original designation.

**Diagnosis.** The genus *Indochillus* is characterized by prominent suborbital keel. Eyes completely divided by genae. Clypeus concave, with one small tooth in middle. Tempora concave. Occiput with sharply bordered triangular impression with mid-longitudinal keel. Base of elytra markedly wider than pronotal base. Elytra with keeled intervals 3, 5, 7 and 9, interval 3 and 5 flattened behind first quarter of its length, interval 5 keeled also in its last (apical) fifth. Antennomere 3 as long as antennomere 4.

**Remarks.** This genus does not belong to the fauna of South East Asia, but it is mentioned here because of its close relation to the genus *Pseudochillus* gen. nov.

***Indochillus cristatus* Koch, 1941**

(Figs 5, 17, 29)

*Indochillus cristatus* Koch, 1941: 300 (original description).

**Type locality.** India, [Karnataka], Molwar [= Molwad?].

**Type material examined.** HOLOTYPE: unsexed, 'INDIA / Molwar' (NHMB).

**Additional material examined.** None.

**Diagnosis.** This species differs from the remaining species, previously classified in *Indochillus* and transferred here into *Pseudochillus* gen. nov. (see below), in elytral base markedly wider than pronotal base; sharply bordered triangular impression on occiput; concave tempora; elytral interval 3 and 5 not keeled in whole length; antennomere 3 as long as antennomere 4; posterior tibiae shorter and thicker, width/length ratio of posterior tibia 0.20.

**Distribution.** India: Karnataka (KOCH 1941).

***Pseudochillus* gen. nov.**

**Type species.** *Indochillus bangaloreanus* Kaszab, 1981, here designated.

**Description.** Body length 3.15–6.2 mm. Eyes completely divided by genae. Inner side of eyes with suborbital keel which is sometimes somewhat reduced. Genae widest before anterior margin of eyes. Tempora convex, narrowing to cervical constriction. Clypeus often concave with small tooth (Fig. 13), sometimes without tooth and straight. Antennomere 3 longer than antennomere 4. Pronotum with dense punctation, sometimes with mid-longitudinal impression. Pronotum longer than wide, widest between anterior quarter and anterior third. Lateral margin concave before pronotal base. Elytra oval, elytral base at most as wide as pronotal base. Elytra with 10 rows of punctures and 4 keels in intervals 3, 5, 7, and 9. Junction of interval 7 and 9 sometimes forming a small obliquely directed humeral corner (Figs 14–15). Wings absent. Posterior tibiae longer and thinner, width/length ratio of posterior tibia more than 0.16.

**Differential diagnosis.** *Pseudochillus* gen. nov. can be distinguished from two closely related genera, *Indochillus* Koch, 1941 and *Pseudethas* Fairmaire, 1896, by elytral base at most as wide as pronotal base. *Pseudochillus* also has convex tempora; occiput without impression or with not sharply bordered impression without mid-longitudinal keel; antennomere 3 longer than antennomere 4; width/length ratio of posterior tibia more than 0.17, while *Indochillus* Koch, 1941 has concave tempora; occiput with sharply bordered triangular impression with midlongitudinal keel; antennomere 3 as long as antennomere 4; width/length ratio of posterior tibia 0.20.

**Etymology.** The name is a combination of Greek *pseudo-* (= false) and part of the name of the genus *Indochillus* for their close relation, gender masculine.

***Pseudochillus* subgen. nov.**

**Type species.** *Pseudochillus* (*Pseudochillus*) *bangaloreanus* (Kaszab, 1981), here designated.

**Description.** Body length 4.0–6.2 mm. Clypeus concave with small tooth. Tempora 1.5–2.0 times longer than eye length. Suborbital keel prominent and markedly convex. Occiput with triangular impression, but not sharply bordered. Junction of interval 7 and 9 on elytra forming a small obliquely directed humeral corner. Elytra glabrous. Antennomeres longer than wide.

**Diagnosis.** *Pseudochillus* subgen. nov. differs from *Kaszabochillus* subgen. nov. and *Micropseudochillus* subgen. nov. primarily in a prominent suborbital keel and tempora that are 1.5–2.0 times longer than eye length. In both, *Kaszabochillus* subgen. nov. and *Micropseudochillus* subgen. nov. the suborbital keel is reduced and the tempora are at most as long as eye length. In *Kaszabochillus* the clypeus is straight without tooth, while in *Pseudochillus* the clypeus is concave and with a small tooth. *Micropseudochillus* subgen. nov. also differs in oval elytra; elytral intervals not forming humeral corners; elytral intervals 1, 3, 5, 7, and 9 with row of setae, while *Pseudochillus* subgen. nov. has elongate elytra, in middle third almost parallel; junction of interval 7 and 9 on elytra forming small obliquely directed humeral corner; glabrous elytra.

***Pseudochillus (Pseudochillus) bangaloreanus* (Kaszab, 1981) comb. nov.**

(Figs 6, 15, 16, 18, 30, 39)

*Indochillus bangaloreanus* Kaszab, 1981: 310 (original description).**Type locality.** India, Bangalore.**Type material examined.** HOLOTYPE: ♂, 'Inde / Bangalore / 1902' (HNHM).**Additional material examined.** None.**Differential diagnosis.** See diagnosis for *P. (Pseudochillus) aalbui* sp. nov.**Distribution.** India: Bangalore (KASZAB 1981).***Pseudochillus (Pseudochillus) aalbui* sp. nov.**

(Figs 7, 19, 31, 40)

**Type locality.** India, Tamil Nadu, 7 mi SW of Avanashi.**Type material.** HOLOTYPE: ♂, 'S INDIA / 7 mi SW / Avanashi / 390 m, III-7-62 // collectors: / E. S. Ross / D. Q. Cavagnaro' (CASC). PARATYPES: same data as holotype (9 spec. CASC, 3 spec. RLAC, 1 spec. RFCL).**Description.** Body length 4.3 mm (4.0–4.5 mm), body width 1.2 mm (1.2–1.3 mm). Body, legs and antennae brown.

Head length/width ratio 1.18, head widest at distance equal to half eye length before anterior margin of eyes. Tempora widest at posterior margin of eyes, from there slowly narrowed up to distance equal to one and half eye length, than rounded and sharply narrowed to cervix. Genae markedly arched from posterior margin of eyes to the widest point of head, there arched and directly narrowed to clypeus. Clypeus concave, with small tooth situated slightly to the right. Inner margin of eye with pronounced suborbital keel vanishing at the end of eye groove. Frons with two distinct impressions. Occiput markedly flattened. Ratio of head/cervix widths 1.96. Eyes (Fig. 31) completely divided by genae, dorsal part with 25 facets in 4 rows, ventral part with 8 facets arranged in triangle. Punctures rounded, almost touching each other, gradually smaller towards clypeus, with very short setae oriented forwards, as long as half of puncture diameter. Space between punctures finely wrinkled. Antennae (Fig. 19) with yellow forward-oriented hairs, setae cut apically and there widest, setae on middle antennomeres as long as third of length of these antennomeres; antennomeres 2–11 combined twice as long as head width; antennomeres elliptical, last antennomere cut apically; antennomere 3 longest, 1.1 times longer than antennomere 4, antennomeres 9 and 10 widest; length ratio of antennomeres 2–11 100 : 158 : 142 : 142 : 142 : 142 : 137 : 142 : 147 : 126, width ratio 168 : 174 : 174 : 168 : 168 : 168 : 184 : 189 : 189 : 147.

Pronotum cordiform, longer than wide (length / width ratio 1.12), widest in anterior quarter; width ratio of head / anterior edges of pronotum / widest point of pronotum / posterior edges of pronotum 100 : 69 : 95 : 67. Anterior corners obtusely rounded, not protruding. Posterior corners obtuse. Pronotal base straight. Anterior margin bisinuate. Lateral margin cordiform. Pronotum with mid longitudinal impression in its whole length. Pronotum in rear view arched with impression in middle and with further impression on each side (the latter is therefore concave). Punctuation of same size as on vertex, rounded. Punctures almost touching each other, with forward-oriented yellow setae at least as long as puncture diameter. Space between punctures finely wrinkled.

Elytra elongate; 2.9 times longer and 1.6 times wider than pronotum, elytra length/width ratio 2.05. Base of elytra concave, as wide as pronotal base, with keel as high as keels on elytra. Lateral margin before humeral corners concave. Each elytron with 10 rows of punctures, 8 on dorsal side, 2 on deflexed part; intervals 3, 5, 7 and 9 sharply roof-shaped. Intervals 5 and 9 ending on elytral declivity. Intervals 3 and 7 joined before apex and continued to apex as one short keel. Junction of intervals 7 and 9 forming small obliquely directed humeral corner. Punctures of same size as on pronotum, rounded. Distance between punctures equal to puncture diameter. Interspaces gently wrinkled. Elytra without setae. Epipleura with one row of punctures throughout its whole length; punctures somewhat smaller than in row 10, gradually smaller towards apex. Humeral calli not developed, apterous.

Legs finely covered with pale adherent hairs. Male and female tibiae without small inner subapical tooth. Width/length ratio of posterior tibia 0.15.

Abdomen with small, rounded punctures gradually smaller on fourth and anal abdominal ventrite. Space between punctures on all ventrites equal to 1.0–1.5 puncture diameter.

Aedeagus (Fig. 40) length approximately 0.75 mm (measured on a paratype, body length 4.05 mm).

**Differential diagnosis.** This species can easily be distinguished from *P. (P.) bangaloreanus* (Kaszab, 1981) by smaller body size (4.0–4.5 mm); brown color of body; presence of mid-longitudinal impression on pronotum; punctures on epipleura somewhat smaller than in row 10. *Pseudochillus (P.) bangaloreanus* is larger (6.2 mm); with whole body black; pronotum without mid-longitudinal impression; punctures on epipleura very fine and hardly visible (Fig. 16).

**Etymology.** The new species is named in honour of Dr. Rolf L. Aalbu (El Dorado Hills, California, USA), expert in Tenebrionidae.

**Distribution.** India: Tamil Nadu.

### *Kaszabochillus* subgen. nov.

**Type species.** *Indochillus andamanus* Kaszab, 1981, here designated.

**Description.** Body length 3.9–5.0 mm. Clypeus straight, without tooth. Tempora shorter than eye length. Suborbital keel reduced. Occiput very slightly flattened. Junction of interval 7 and 9 on elytra forming small obliquely directed humeral corner (Fig. 14). Elytra glabrous. Antennomeres longer than wide.

**Diagnosis.** *Kaszabochillus* subgen. nov. is characterized by straight clypeus without tooth (remaining subgenera have concave clypeus with small tooth); glabrous elytra and presence of small obliquely directed humeral corners (*Micropseudochillus* subgen. nov. possesses row of setae on elytral intervals 1, 3, 5, 7 and 9); elytra without humeral corner; and tempora shorter than eye length (*Pseudochillus* subgen. nov. has tempora 1.5–2.0 times longer than eye length).

**Etymology.** The new subgenus is named in honor of Dr. Zoltán Kaszab (1915–1986), expert in Tenebrionidae, and the name is derived from his surname and genus *Pseudochillus*, gender masculine.

***Pseudochillus (Kaszabochillus) andamanus* (Kaszab, 1981) comb. nov.**

(Figs 8, 20, 32)

*Indochillus andamanus* Kaszab, 1981: 311 (original description).**Type locality.** India, Andaman Islands.**Type material examined.** HOLOTYPE: 'Capt. / Wimberley // Andaman / Islands' (BMNH). PARATYPES: same data as holotype (2 spec. BMNH, 1 spec. HHNM); 'Andaman Is. / 1915–38 // Andaman / Isles' (1 spec. HHNM).**Material examined.** INDIA: ANDAMAN ISLANDS: Havelock Island, env. of village No 7. 11°59'N, 92°58'E, 22.iv.–14.v.1998, leg. Karel & Simon Majer (1 spec. NHMB).**Differential diagnosis.** This species is very similar to *P. (K.) helferi* sp. nov. but differs in absence of mid-longitudinal impression on pronotum and punctate lateral margins of pronotum.**Distribution.** India: Andaman Islands (KASZAB 1981, present paper).***Pseudochillus (Kaszabochillus) helferi* sp. nov.**

(Figs 9, 14, 21, 33)

**Type locality.** Myanmar, Tenasserim.**Type material.** HOLOTYPE: ♀, 'TENASSERIM / Coll. Helfer' (NMPC).**Description.** Body length 3.9 mm, body width 1.1 mm. Body, legs and antennae rusty brown.

Head length/width ratio 1.06, head widest at anterior margin of eyes. Tempora widest at posterior margin of eyes, from there slowly narrowed up to distance equal to half eye length, than rounded and sharply narrowed to cervix. Cervical constriction on the same level as interior margin of eyes. Genae arched from posterior margin of eyes to the widest place, there arched and directly narrowed to clypeus. Clypeus straight without tooth. Inner margin of eye with reduced suborbital keel vanishing in middle of eye groove. Cervical constriction concave. Frons with two distinct impressions. Occiput to cervical constriction very slightly flattened. Ratio of head/cervix widths 1.73. Eyes (Fig. 33) completely divided by genae, dorsal part with 18 facets in 3 rows, ventral part with 7 facets arranged in triangle. Punctuation teardrop like, distance between punctures as large as their diameter, on occiput punctures rounded and largest, almost joined. Punctures gradually smaller towards clypeus, with very small setae as long as punctures diameter, oriented forwards. Clypeus with longer setae and longer impressions. Space between punctures finely wrinkled. Antennae (Fig. 21) with yellow setae directing forwards. Setae cut apically and there widest, on middle antennomeres as long as 0.4 length of these antennomeres. Antennomeres 2–11 combined twice as long as pronotum width; antennomeres trapezoidal, last antennomere cut latero-apically; antennomere 3 longest, 1.3 times longer than antennomere 4, antennomeres 9 and 10 widest; length ratio of antennomeres 2–11 100 : 135 : 104 : 96 : 96 : 96 : 96 : 104 : 104 : 104, width ratio 109 : 126 : 126 : 117 : 122 : 122 : 126 : 139 : 139 : 130.

Pronotum longer than wide (1.22), widest in anterior fifth; width ratio of head / anterior edges of pronotum / widest point of pronotum / posterior edges of pronotum 100 : 75 : 87 : 62. Anterior corners obtusely rounded, not protruding. Posterior corners obtuse. Pronotal base convex. Anterior margin straight. Lateral margin cordiform. Pronotum with mid longitudinal impression in its whole length. Pronotum in rear view arched with impression in middle and with impression on each side (the latter is therefore concave). Punctuation dense and larger

than that on head, rounded. Punctures largest near lateral margins. Space without punctures at distance equal to 1.5–2.0 diameter of lateral punctures from lateral margin. Punctures with forward-oriented yellow setae at least as long as puncture diameter. Space between punctures very finely wrinkled.

Elytra elongate; 2.8 times longer and 1.6 times wider than pronotum, elytra length/width ratio 2.20. Base of elytra concave, narrower than pronotal base (0.84). Each elytron with 10 rows of punctures, 8 on dorsal side, 2 on deflexed part; intervals 3, 5, 7 and 9 keeled. Intervals 5 and 9 flattened on base and elytral declivity. Intervals 3 and 7 joined before apex. Junction of interval 7 and 9 forming small obliquely directed humeral corner (Fig. 14). Punctures deep, rounded and larger than those on pronotum. Distance between punctures in row smaller than puncture diameters. Interspaces gently wrinkled. Elytra without setae. Epipleura with one row of punctures throughout its whole length, its punctures somewhat smaller than in row 10, becoming smaller towards apex. Humeral calli not developed, apterous.

Legs finely covered with pale adherent hairs. Female tibiae without small inner subapical tooth (male tibiae unknown). Width/length ratio of posterior tibia 0.13.

Abdomen with small, rounded punctures gradually smaller towards apex. Distance between punctures on first ventrite 3–4 times higher than puncture diameters; on second ventrite 2 times higher than puncture diameters; on third and fourth ventrites 1.0–1.5 times higher than puncture diameters; and on anal ventrite with space between punctures equal to puncture diameter.

Male unknown.

**Differential diagnosis.** This species is very similar to *P. (K.) andamanus* (Kaszab, 1981) but at first sight it differs in presence of mid-longitudinal impression on pronotum and in impunctate lateral margins of pronotum.

**Etymology.** The new species is named in honour of Johann Wilhelm Helfer (1810–1840), Czech doctor, traveller, and entomologist (see BEZDĚK & HÁJEK 2010), collector of the type species.

**Distribution.** Myanmar: Tenasserim.

**Remarks.** According to BEZDĚK & HÁJEK (2010) the holotype was collected between the years 1837–1840.

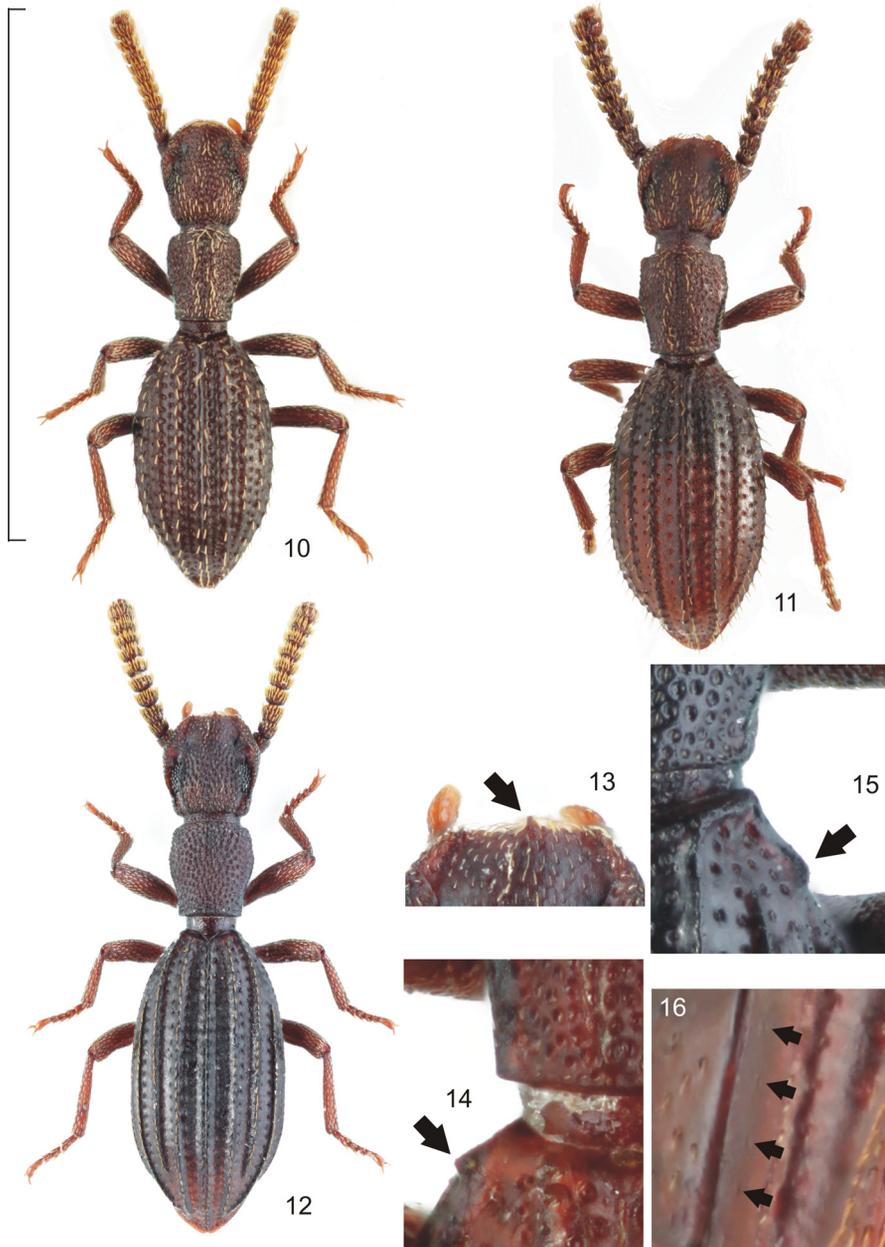
### *Micropseudochillus* subgen. nov.

**Type species.** *Pseudochillus (Micropseudochillus) palawanus* sp. nov., here designated.

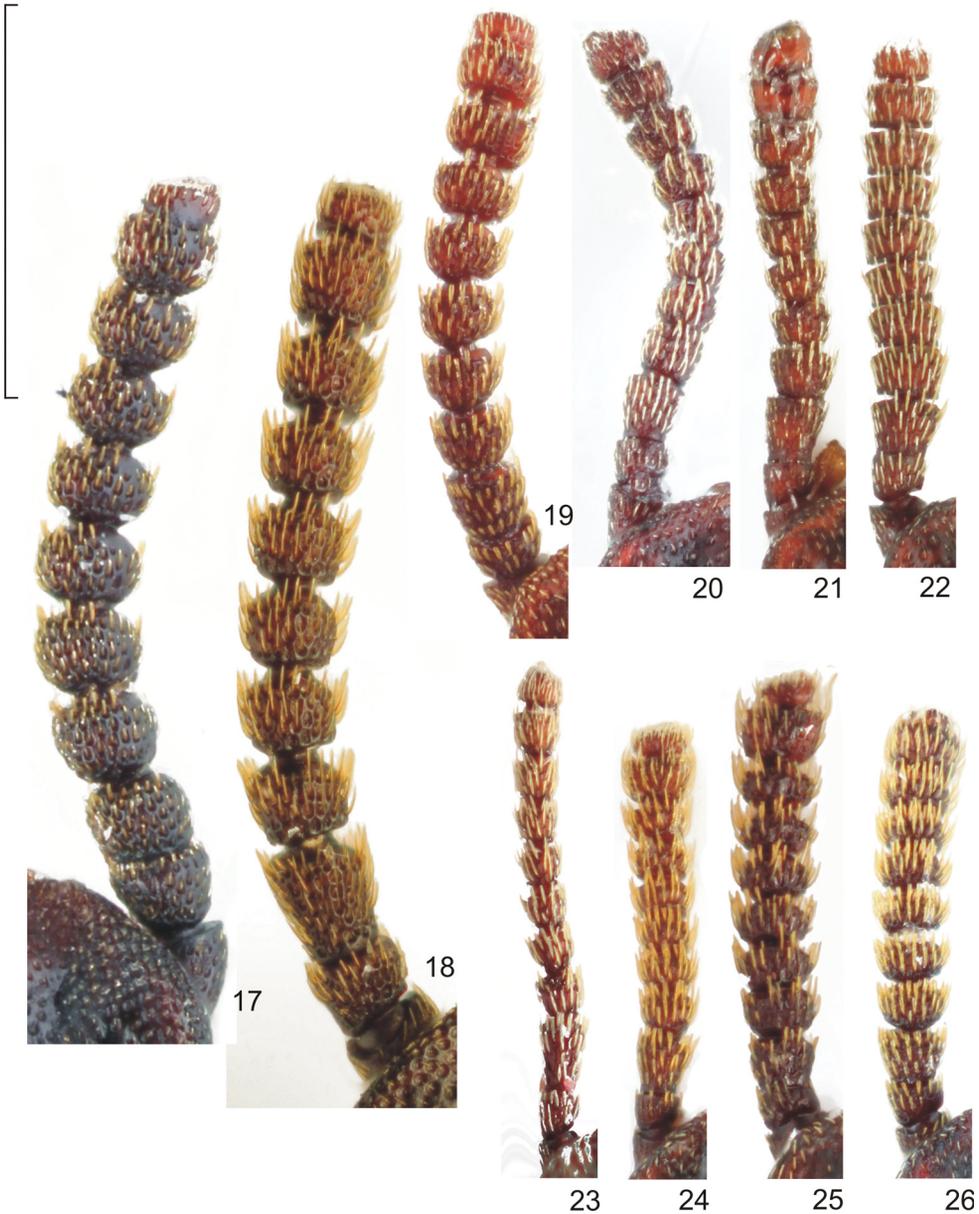
**Description.** Body length 3.2–3.9 mm. Clypeus concave with small tooth situated slightly to the right (Fig. 13). Tempora at most as long as eye length. Suborbital keel reduced. Occiput sometimes with mid-longitudinal impression. Intervals on elytra without humeral corner, base of elytra slightly narrower than pronotal base, elytra with one row of setae on intervals 1, 3, 5, 7 and 9. Antennomeres thick, wider than long, only antennomere 3 can be slightly longer than wide.

**Differential diagnosis.** *Micropseudochillus* subgen. nov. differs from both remaining subgenera in oval elytra without humeral corners; elytra with rows of setae; antennomeres thick and wider than long. The remaining subgenera have elongate elytra, almost parallel in middle third; junction of intervals 7 and 9 forming small obliquely directed humeral corner; glabrous elytra; antennomeres longer than wide.

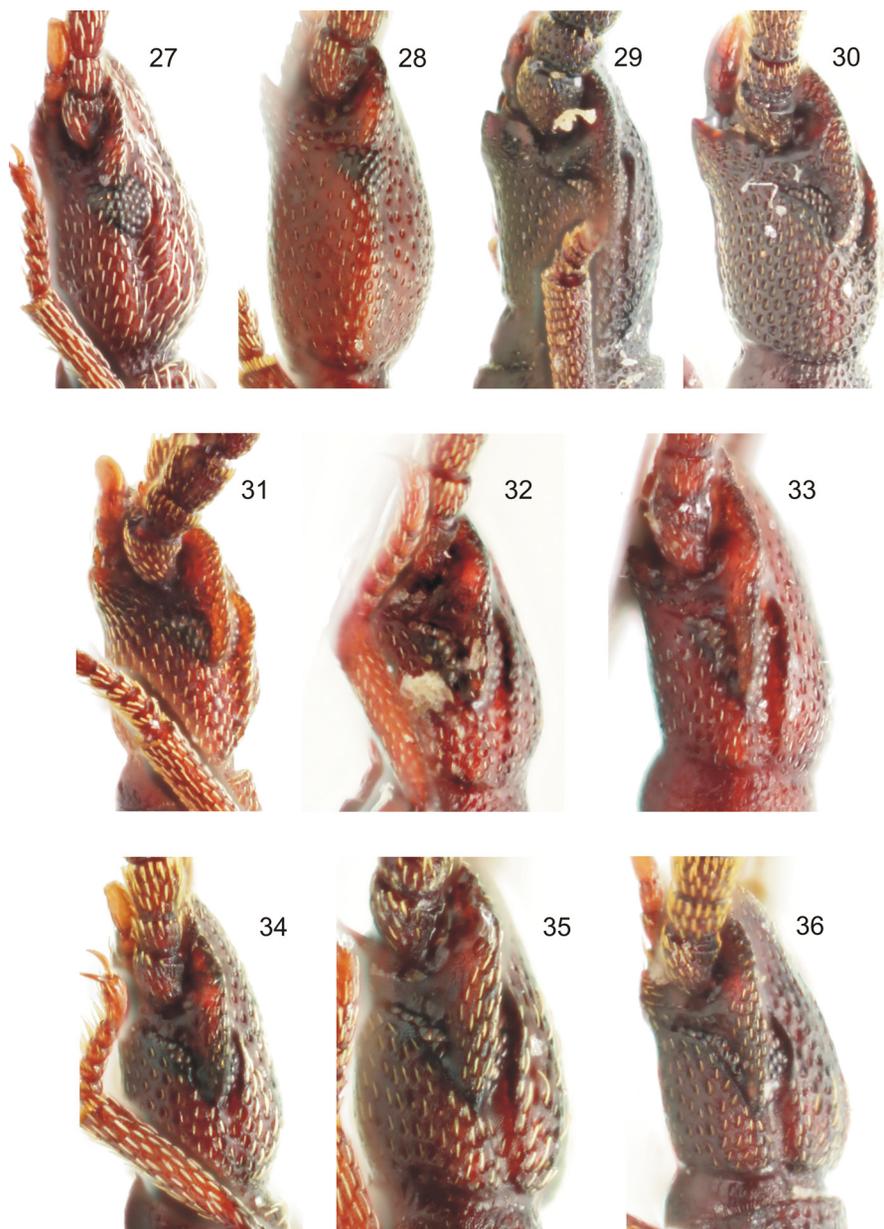
**Etymology.** The name refers to Greek ‘*mikros*’ = small and the genus name *Pseudochillus*; gender masculine.



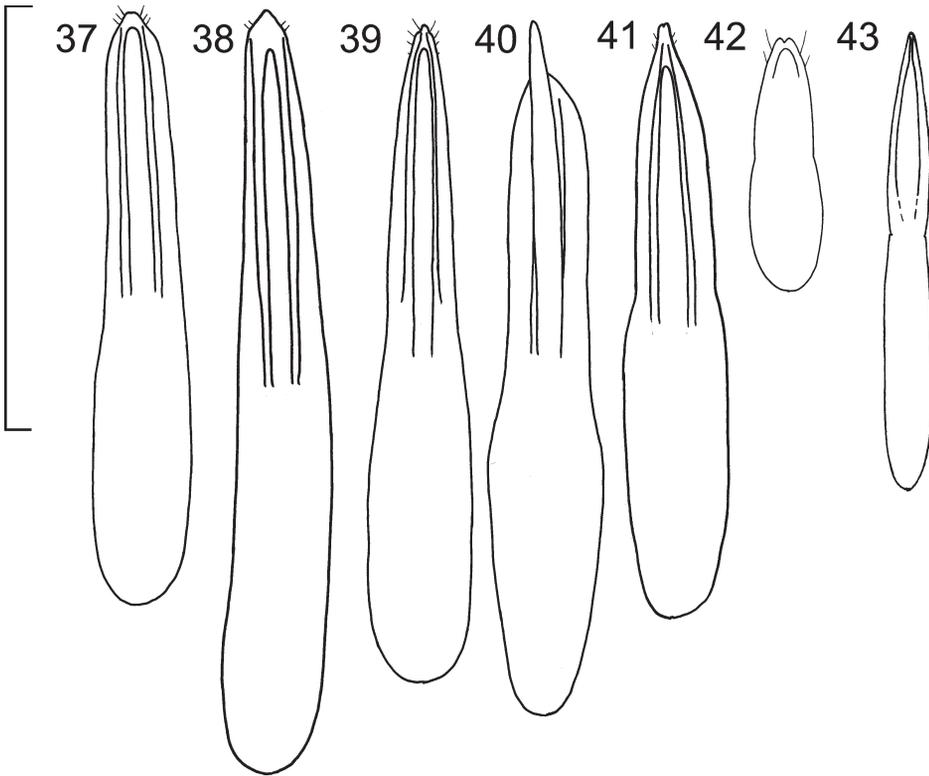
Figs 10–16. 10–12 – dorsal view: 10 – *Pseudochillus (Micropseudochillus) palawanus* sp. nov., holotype ♂, Philippines (Palawan); 11 – *P. (M.) thailandicus* sp. nov., holotype ♂, Thailand.; 12 – *P. (M.) indochinensis* sp. nov., paratype ♀, Vietnam. 13 – *P. (M.) indochinensis* sp. nov., tooth on clypeus; 14–15 – humeral corner: 14 – *P. (Kaszabochillus) helferi* sp. nov.; 15 – *P. (Pseudochillus) bangaloreanus* (Kaszab, 1981). 16 – *P. (P.) bangaloreanus* (Kaszab, 1981), punctures on epipleura. Scale bar = 4 mm (Figs 10–12).



Figs 17–26. Antenna. 17 – *Indochillus cristatus* Koch, 1941. 18 – *Pseudochillus (Pseudochillus) bangaloreanus* (Kaszab, 1981). 19 – *P. (P.) aalbui* sp. nov. 20 – *P. (Kaszabochillus) andamanus* (Kaszab, 1981). 21 – *P. (K.) helferi* sp. nov. 22 – *Indostola kaengkrachanensis* sp. nov. 23 – *I. pulchella* Medvedev, 1991. 24 – *Pseudochillus (Micropseudochillus) palawanus* sp. nov. 25 – *P. (M.) thailandicus* sp. nov. 26 – *P. (M.) indochinensis* sp. nov. Scale bar = 1 mm.



Figs 27–36. Lateral view of head with eyes. 27 – *Indostola pulchella* Medvedev, 1991. 28 – *I. kaengkrachanensis* sp. nov. 29 – *Indochillus cristatus* Koch, 1941. 30 – *Pseudochillus (Pseudochillus) bangaloreanus* (Kaszab, 1981). 31 – *P. (P.) aalbui* sp. nov. 32 – *P. (Kaszabochillus) andamanus* (Kaszab, 1981). 33 – *P. (K.) helferi* sp. nov. 34 – *Pseudochillus (Micropseudochillus) palawanus* sp. nov. 35 – *P. (M.) thailandicus* sp. nov. 36 – *P. (M.) indochinensis* sp. nov.



Figs 37–43. Aedeagus. 37 – *Indostola kaengkrahanensis* sp. nov. 38 – *I. pulchella* Medvedev, 1991. 39 – *Pseudochillus (Pseudochillus) bangaloreanus* (Kaszab, 1981). 40 – *Pseudochillus (P.) aalbui* sp. nov. 41 – *Pseudochillus (Micropseudochillus) palawanus* sp. nov. 42 – *P. (M.) thailandicus* sp. nov. 43 – *P. (M.) indochinensis* sp. nov. Scale bars: 0.5 mm (Figs 37, 38, 40–42), 1 mm (Fig. 39, 43).

***Pseudochillus (Micropseudochillus) palawanus* sp. nov.**

(Figs 10, 24, 34, 41)

**Type locality.** Philippines, central Palawan, above San Rafael, ca. 300 m a.s.l.

**Type material:** HOLOTYPE ♂, 'PHILIPPINES, PALAWAN centr. / above San Rafael, ca 300 m / degraded forest on slope / 4.XII.1995, J. Kodada leg.' (MHNG). PARATYPES: same data as holotype (4 spec. MHNG, 1 spec. RFCL); 'PHILIPPINES / PALAWAN, above / St. Rafael, forest / edge, 4.xii.1996 / I. Löbl, leaf litter #13' (3 spec. MHNG, 1 spec. RFCL); 'PHILIPPINES, PALAWAN central / Conception, large logs across / Conception river, NE San Rafael, ca 20 m, 8.xii.1995 / J. Kodada & B. Rigová lgt.' (1 spec. MHNG).

**Description.** Body length 3.4 mm (3.1–3.8 mm), body width 1.0 mm (1.0–1.2 mm). Body black or rusty brown, legs and antennae dark brown.

Head length/width ratio 1.13, head widest at anterior margin of eyes. Tempora widest at posterior margin of eyes, from there slowly narrowed at distance equal to eye length, then rounded to cervix. Genae arched from posterior margin of eyes to the widest place, there

arched and directly narrowed to clypeus, margins behind clypeus finely serrulate. Clypeus concave with small tooth situated slightly to the right. Left half of clypeus slightly more concave than right one. Suborbital keel flat, indistinct. Eye groove stretches from posterior margin of eye and falls down before cervical constriction. The latter at the same level as anterior margin of eyes and slightly concave, vertex convex, occiput without impression. Frons with two distinct impressions. Ratio of head/cervix widths 1.81. Eyes (Fig. 34) completely divided by genae, dorsal part with 14 facets in 2 rows, ventral part with 8 facets arranged in elongated triangle. Punctuation teardrop-like, largest on vertex, smaller towards clypeus. Interspaces between punctures as large as half their diameter, finely wrinkled. Punctures with thick, yellow, forward-oriented setae. Setae twice as long as puncture diameter. Antennae (Fig. 24) with golden setae oriented forwards. Setae cut and flattened on top and there widest, on middle antennomeres as long as 0.7 length of these antennomeres. Antennomeres 2–11 together twice longer than pronotal width; antennomeres 2, 3, 10 and 11 trapezoidal, antennomeres 4–9 elliptical, last antennomere cut latero-apically; antennomere 3 longest, 1.3 times longer than antennomere 4, antennomere 10 widest; length ratio of antennomeres 2–11 100 : 148 : 117 : 96 : 96 : 96 : 87 : 100 : 117 : 74, width ratio 109 : 130 : 130 : 130 : 130 : 135 : 143 : 143 : 157 : 126.

Pronotum longer than wide (1.26), widest in anterior third; width ratio of head / anterior edges of pronotum / widest point of pronotum / posterior edges of pronotum 100 : 72 : 83 : 64. Anterior corners obtusely rounded, not protruding. Posterior corners almost rectangular. Pronotal base and anterior margin very finely convex. Lateral margin cordiform with very fine teeth. Pronotum laterally arched in middle, in anterior third slightly flattened. Punctuation dense and larger than on head, rounded. Punctures almost touching each other, interspaces very finely wrinkled. Punctures with yellow setae oriented forwards. Setae situated close to lateral margin as long as puncture diameter and fine; in middle and on anterior margin of pronotum distinct, thick and two times longer than puncture diameter.

Elytra oval, 2.8 times longer and 1.9 times wider than pronotum, elytra length/width ratio 1.85. Base of elytra V-shaped, narrower than pronotal base (0.87). Each elytron with 10 rows of punctures, 8 on dorsal side, 2 on deflexed part. Intervals 3, 5, 7, and 9 finely keeled, on top with teeth with yellow erected setae. Interval 7 flattened in basal quarter. Setae cut on top and there widest, twice longer than puncture diameter. Remaining intervals slightly convex. Keels disappearing on the elytral declivity. Intervals not forming humeral corners. Punctures deep, rounded and larger than those on pronotum, with fine setae as long as  $\frac{3}{4}$  puncture diameter. Distance between punctures in row smaller than puncture diameter. Interspaces gently wrinkled. Epipleura with one row of punctures, its punctures two times smaller than in row 10; punctures apically joining in deep groove. Humeral calli not developed, apterous.

Legs finely covered with light adherent hairs. Tibiae in males with small inner subapical tooth. Ratio of posterior tibia width / length as 0.13.

Abdomen on all ventrites with uniformly rounded punctures of the same diameter. Interspaces between punctures decrease backwards, equal to puncture diameter on anal ventrite. Last three ventrites with very fine setae which are twice longer than puncture diameter.

Aedeagus (Fig. 41) approximately 0.7 mm long; tip of apicale with a few pairs of fine setae and with very fine V-shaped excision.

**Differential diagnosis.** *Pseudochillus (M.) palawanus* sp. nov. can be distinguished from *P. (M.) thailandicus* sp. nov. and *P. (M.) indochinensis* sp. nov. by thick, erected and on the top cut setae; deep punctures on elytra; and by distance between punctures in a row smaller than their diameters. *Pseudochillus (M.) thailandicus* has thin, erected setae; punctures of rows on elytra are shallower and the distance between punctures in a row is larger than puncture diameters. *Pseudochillus (M.) indochinensis* has very short and close-fitting setae; punctures are shallow and distance between punctures on elytra in row larger than puncture diameters.

**Etymology.** This species is named after the Palawan Island where the type series was collected.

**Distribution.** Philippines: Palawan.

***Pseudochillus (Micropseudochillus) thailandicus* sp. nov.**

(Figs 11, 25, 35, 42)

**Type locality.** Thailand, Doi Suthep, Monthathan, 650 m a.s.l.

**Type material.** HOLOTYPE: ♂, 'THAILAND / Doi Suthep, 650 m / Monthathan, 14.XII.96- / 10.I.97, Schwendinger' (MHNG).

**Description.** Body length 3.9 mm, body width 1.2 mm. Body and antennae dark brown, legs rusty brown.

Head length/width ratio 1.04, widest at anterior margin of eyes. Tempora widest at posterior margin of eyes, from there slowly narrowed at distance equal to 0.75 eye length, then rounded and sharply narrowed to cervix. Genae arched from posterior margin of eyes to the widest place, there arched and directly narrowed to clypeus, margins behind clypeus very finely serrulate. Clypeus concave, with small tooth situated slightly to the right. Left half of clypeus slightly more concave than right one. Suborbital keel flat, indistinct. Eye groove stretches from posterior margin of eye to cervical constriction. The latter prominent, narrower than distance between inner margin of eyes and concave, vertex convex, occiput with mid-longitudinal impression which starts on top of vertex. Frons with two distinct impressions. Ratio of head/cervix widths 1.86. Eyes (Fig. 35) completely divided by genae, dorsal part with 15 facets in 3 rows, ventral part with 6 facets arranged in an elongated triangle. Punctuation rounded, larger on vertex sideways of impression, towards clypeus almost disappearing. Punctures on vertex almost touching each other. Punctures on vertex and on genae with thick, yellow, forward-oriented setae as long as puncture diameter, clypeus also covered with prominent setae oriented towards middle of clypeus, setae of the same length as those on vertex. Space between punctures finely wrinkled, on frons glossy. Antennae (Fig. 25) with golden setae oriented forwards, cut and flattened on top and there also widest. Setae on middle antennomeres as long as  $\frac{1}{2}$  length of antennomeres; antennomeres 2–11 combined twice longer than pronotal width; antennomeres 2 and 4–9 elliptical, antennomere 3 club-shaped, antennomere 10 trapezoidal, terminal antennomere cut latero-apically; antennomere 10 longest and widest, all antennomeres wider than long, antennomere 3 only 1.1 times longer than antennomere 4; length ratio of antennomeres 2–11 100 : 175 : 163 : 144 : 144 : 144 : 144 : 194 : 106, width ratio 181 : 200 : 231 : 231 : 231 : 225 : 225 : 231 : 263 : 181.

Pronotum longer than wide (1.09), widest in anterior third; width ratio of head/anterior edges of pronotum / widest point of pronotum / posterior edges of pronotum 100 : 74 : 87 : 69. Anterior corners obtusely rounded, not protruding and with small teeth. Posterior corners

almost rectangular. Pronotal base convex. Anterior margin very finely convex, in middle very finely concave. Lateral margin cordiform, with fine teeth. Pronotum laterally arched, with mid-longitudinal impression, latter slightly widened backwards. Punctuation dense and large as on head, rounded. Punctures almost touching each other, in impression joined, interspace wrinkled. Punctures with yellow, forward-oriented setae. Setae as long as puncture diameter and fine. Around impression, on anterior margin and on lateral margins setae distinct and two times longer than puncture diameter.

Elytra oval; 3.0 times longer and 1.8 times wider than pronotum, elytra length/width ratio 1.83. Base of elytra concave, narrower than pronotal base (0.84). Each elytron with 10 rows of punctures, 8 on dorsal side, 2 on deflexed part. Intervals 3, 5, 7 and 9 keeled, interval 7 flattened in first quarter, keels on top with teeth with yellow erected setae. Setae thin and sharp, twice longer than puncture diameter. Remaining intervals flat. Keels disappearing on the elytral declivity. Intervals not forming humeral corners, only basal tooth on keel is slightly bigger. Punctures deep, rounded and as large as those on pronotum, with fine setae as long as  $\frac{3}{4}$  puncture diameter. Distance between punctures in row 1.5–2.0 wider than puncture diameters. Interspaces gently wrinkled. Epipleura with one row of punctures in its whole length, its punctures somewhat smaller than in row 10, smaller towards apex. Humeral calli not developed, apterous.

Legs finely covered with light adherent hairs. Tibiae in males with small inner subapical tooth (female tibiae unknown). Ratio of posterior tibia width/length 0.15.

Abdomen on all ventrites with small rounded punctures of the same diameter. Interspaces between punctures decrease backwards, equal to puncture diameter on anal ventrite. Ventrites with very fine setae twice longer than puncture diameter.

Aedeagus (Fig. 42) length approximately 0.3 mm.

**Diagnosis.** *Pseudochillus (M.) thailandicus* sp. nov. can be distinguished from *P. (M.) palawanus* sp. nov. and *P. (M.) indochinensis* sp. nov. by thin, erected, long and sharp setae; punctures on elytra deep and distance between punctures in row 1.5–2.0 wider than puncture diameters; and occiput with mid-longitudinal impression. While *P. (M.) palawanus* has thick, erected setae; punctures on elytra more shallow and distance between punctures in row smaller than puncture diameters; occiput without impression. *Pseudochillus (M.) indochinensis* has very short and adherent setae on elytra; punctures on elytra shallow and indistinct; occiput without impression.

**Etymology.** Named after Thailand where the type species was collected.

**Distribution.** Thailand: Chiang Mai Province.

### *Pseudochillus (Micropseudochillus) indochinensis* sp. nov.

(Figs 12, 13, 26, 36)

**Type locality.** South Laos, Saravan Province, 40 km SW Saravan, Tad Lo Lodge.

**Type material.** HOLOTYPE: ♂, 'S-LAOS: Prov. Saravan / ca. 40 km SW Saravan / Tad Lo Lodge, at light/ 28.-29.v.1996, 300 m / leg. Schillhammer (13).' (NHMW). PARATYPE: 'VIETNAM mer. / Vung Tao / 14.-26.4.1989 / lgt. Snižek.' (1 ♀ NMPC).

**Description.** Body length 4.2 mm (3.9–4.2 mm), body width 1.1 mm. Body dark brown, legs and antennae slightly paler.

Head length/width ratio 1.12, head widest at anterior margin of eyes. Tempora widest at posterior margin of eyes, from there slowly narrowed at distance equal to  $\frac{2}{3}$  eye length, then rounded and sharply narrowed to cervix. Genae arched from posterior margin of eyes to widest place, there arched and directly narrowed to clypeus. Clypeus concave with small tooth situated slightly to the right (Fig. 13). Suborbital keel flat, indistinct. Eye groove starting from posterior margin of eye and reaching the cervical constriction. The latter prominent, situated before level of interior margin of eyes and slightly concave. Occiput without impression. Frons with two distinct impressions. Ratio of head/cervix widths 1.70. Eyes (Fig. 36) completely divided by genae, dorsal part with 21 facets in 3 rows, ventral part with 8 facets arranged in arched row. Punctuation slightly elongate, larger than that on vertex, almost disappearing towards clypeus and surrounding impressions. Punctures on vertex almost touching each other. Punctures on vertex and on genae with thick, yellow, forward-oriented setae 1.5–2.0 times longer than puncture diameter. Clypeus also with prominent setae oriented to the middle of clypeus and of same length as those on vertex. Interspaces between punctures strongly wrinkled. Antennae (Fig. 26) with rusty yellow setae oriented forwards. Setae cut and flattened on top and there also widest, setae on middle antennomeres as long as 0.4 length of these antennomeres. Antennomeres 2–11 combined twice as long as pronotum width; antennomeres 4–9 elliptical, antennomere 3 club-shaped, antennomeres 2 and 10 trapezoidal, last antennomere cut latero-apically; antennomere 10 longest and widest, all antennomeres wider than long, antennomere 3 only 1.1 times longer than antennomere 4; length ratio of antennomeres 2–11 100 : 123 : 114 : 114 : 105 : 114 : 100 : 100 : 127 : 73, width ratio 141 : 164 : 164 : 173 : 173 : 173 : 173 : 173 : 182 : 127.

Pronotum longer than wide (1.11), widest at the end of second fifth; width of head / anterior edges of pronotum / widest point of pronotum / posterior edges of pronotum ratio 100 : 75 : 88 : 65. Anterior corners obtusely rounded, not protruding. Posterior corners almost rectangular. Pronotal base straight. Anterior margin very finely convex. Lateral margin markedly cordiform. Pronotum laterally arched, with mid-longitudinal impression in posterior third. Punctuation dense and large as on the vertex, rounded. Punctures almost touching each other, interspaces strongly wrinkled. Punctures with pale setae oriented forwards. Setae on entire pronotum as long as  $\frac{3}{4}$  puncture diameter and very fine.

Elytra oval, widest behind middle; 3.2 times longer and 1.8 times wider than pronotum, elytra length/width ratio 1.95. Base of elytra concave, narrower than pronotal base (0.79). Each elytron with 10 rows of punctures, 8 on dorsal side, 2 on deflexed part. Intervals 3, 5, 7 and 9 keeled, interval 7 starts after first (anterior) quarter, interval 5 ends in last (posterior) fifth, keels on top with very fine teeth and with yellow close-fitting setae. Setae thin and sharp, as long as puncture diameter. Remaining intervals flat. Intervals not forming humeral corners. Punctures shallow and indistinct, rounded and as large as those on pronotum, with very fine setae as long as  $\frac{1}{2}$  puncture diameter. Distance between punctures in row 1.5–2.0 wider than puncture diameters. Interspaces gently wrinkled. Epipleura with one row of punctures throughout its whole length, its punctures somewhat smaller than in row 10, smaller towards apex. Humeral calli absent, apterous.

Legs finely covered with light adherent hairs. Middle and hind tibiae in males with 4–5 inner small teeth, all tibiae in females without small inner teeth. Posterior tibia width/length ratio 0.17.

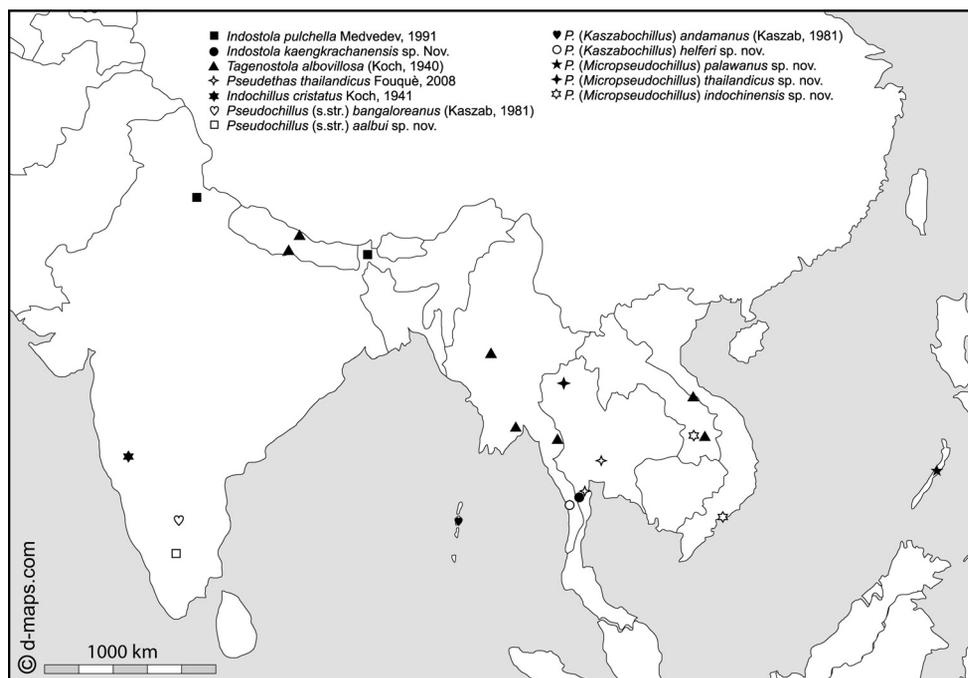


Fig 44. Distribution of species of the genera *Indostola*, *Tagenostola*, *Indochillus*, *Pseudethas*, and *Pseudochillus* in South and South East Asia.

Abdomen with very small rounded punctures, posteriorly smaller, only last two ventrites with larger punctures. Interspaces finely wrinkled. Distance between punctures on first three ventrites twice longer than puncture diameter, on last two ventrites equal to puncture diameter. Ventrites with very fine setae as long as two puncture diameters.

Aedeagus (Fig. 43) length approximately 1.1 mm.

**Diagnosis.** *Pseudochillus* (*M.*) *indochinensis* sp. nov. can be distinguished from *P. (M.) palawanus* sp. nov. and *P. (M.) thailandicus* sp. nov. by very short and adherent setae on elytra, punctures on elytra shallow and indistinct, distance between punctures in row on elytra equal to 1.5–2.0 diameter of the punctures, while both remaining species have longer erected setae on elytra. *Pseudochillus* (*M.*) *palawanus* also has deep punctures on elytra and distance between punctures in row on elytra is smaller than diameter of these punctures. *Pseudochillus* (*M.*) *thailandicus* also has deep punctures on elytra and mid-longitudinal impression on occiput.

**Etymology.** Named after Indochina, old name of the region in SE Asia where the type species was collected.

**Distribution.** Laos: Saravan Province and Vietnam: Bà Rịa-Vũng Tàu Province.

### Key to *Pseudochillus* species and allied genera of the subtribe Dichillina

- 1 Tempora concave. Occiput with sharply bordered triangular impression with mid-longitudinal keel. Body length 6.1 mm. – Figs 5, 17, 29. .... *Indochillus* Koch, 1941
- Tempora convex. Occiput without sharply bordered triangular impression and mid-longitudinal keel. .... 2
- 2 Epipleura without punctures. Elytral intervals usually flat, interval 7 may form low carina, each elytron very rarely with 3 carinae but in this case humeral corners absent. .... *Dichillus* Jacquelin du Val, 1861
- Epipleura with rows of punctures which sometimes join at the end in groove. Elytra usually with keeled intervals 3, 5, 7 and 9, sometimes all intervals only slightly convex, or rarely flat and only lateral intervals slightly convex. .... 3
- 3 With suborbital keel on inner side of eye, sometimes slightly reduced. .... 4
- Suborbital keel completely absent. .... 12
- 4 Clypeus concave with small tooth. .... 5
- Clypeus convex or straight, without tooth. .... 9
- 5 Suborbital keel prominent. Tempora 1.5–2.0 times longer than eye length. Junction of elytral intervals 7 and 9 forming a small obliquely directed humeral corner. *Pseudochillus* (**s. str.**). .... 6
- Suborbital keel reduced. Tempora at most as long as eye length. Elytra without humeral corners. *Pseudochillus* (*Micropseudochillus*). .... 7
- 6 Body black. Pronotum without mid-longitudinal impression. Punctures on epipleura very fine and hardly visible. Body length 6.2 mm. – Figs 6, 15, 16, 18, 30, 39. .... *P.* (**s. str.**) *bangaloreanus* (Kaszab, 1981)
- Body brown. Pronotum with mid-longitudinal impression. Punctures on epipleura somewhat smaller than in row 10. Body length 4.0–4.5 mm. – Figs 7, 19, 31, 40. .... *P.* (**s. str.**) *aalbui* **sp. nov.**
- 7 Elytral intervals 3, 5, 7 and 9 serrate. Setae on intervals long and erected. .... 8
- Elytral intervals smooth. Setae on intervals short and close-fitting. Body length 3.9 mm. – Figs 12, 13, 26, 36, 43. .... *P.* (**M.**) *indochinensis* **sp. nov.**
- 8 Setae on elytral intervals thin and pointed. Punctures of elytral rows shallow with distances between punctures in row equal to puncture diameter. Occiput with mid-longitudinal impression. Body length 3.9 mm. – Figs 11, 25, 35, 42. ... *P.* (**M.**) *thailandicus* **sp. nov.**
- Setae on elytral intervals thick, widest at truncate top. Punctures of elytral rows deep, with distances between punctures in row less than half of puncture diameter. Occiput without impression. Body length 3.1–3.8 mm. – Figs 10, 24, 34, 41. .... *P.* (**M.**) *palawanus* **sp. nov.**
- 9 Elytral base narrower than pronotal base. *Pseudochillus* (*Kaszabochillus*). .... 10
- Elytral base wider than pronotal base. .... 11
- 10 Pronotum with mid-longitudinal impression, lateral margins without punctures. Body length 3.9 mm. – Figs 9, 14, 21, 33. .... *P.* (**K.**) *helferi* **sp. nov.**
- Pronotum without mid-longitudinal impression, pronotum also laterally punctate. Body length 4.0–5.0 mm. – Figs 8, 20, 32. .... *P.* (**K.**) *andamanus* (Kaszab, 1981)

- 11 Pronotum with mid-longitudinal impression (sometimes only slightly developed). Elytral base considerably wider than pronotal base. Elytra parallel-sided. Middle and posterior tibiae in males with apical tooth on inner side. .... *Pseudethas* Fairmaire, 1896
- Pronotum without mid-longitudinal impression. Elytral base slightly wider than pronotal base. Elytra oval. Tibiae in both sexes without apical tooth on inner side .....  
..... *Herbertfranzia* Kaszab, 1973
- 12 Base of elytra wider than base of pronotum (sometimes only slightly); elytral interval 9 forming humeral corner. .... *Herbertfranziella* Kaszab, 1973
- Base of elytra as wide as base of pronotum; elytral interval 9 not forming humeral corner. .... *Nepalofranziella* Fouquè, 2013

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