

**Contributions to the knowledge of the Quediina (Coleoptera:
Staphylinidae: Staphylinini) of China. Part 47.
Genus *Indoquedius* Blackwelder, 1952. Section 1.**

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Abstract. Six new species of the genus *Indoquedius* Blackwelder, 1952 are described based on specimens from The People's Republic of China: *I. metallescens* (Yunnan), *I. jendeki* (Yunnan), *I. klapperichi* (Fujian), *I. arcus* (Yunnan), *I. yunthaiensis* (Yunnan, Thailand) and *I. bicoloris* (Yunnan) spp. nov. Each species is described, illustrated and all available distributional and bionomic data are given. New records and comments on already described species are presented. *Indoquedius bicornutus* Zhao et Zhou, 2010 is recorded for the first time from Shaanxi. *Indoquedius filicornis* (Eppelsheim, 1895) is recorded for the first time from mainland China, from Yunnan. The occurrence of *Indoquedius formosae* (Cameron, 1949) and *Indoquedius praeditus* (Sharp, 1889) in mainland China is not confirmed and the two species are removed from the list of species of mainland China.

INTRODUCTION

Three papers dealing with the Chinese species of the genus *Indoquedius* Blackwelder, 1952 were published recently (Zheng & Wang, 2007; Zhao & Zhou, 2010 and Liu, Hu, Tian & Li, 2010). In these papers several new species were described and several additional species were recorded for the first time or confirmed from mainland China. Records of some of the latter species were based on misidentifications, as it is discussed in the systematic portion of this paper.

MATERIAL AND METHODS

The institutions and individuals who loaned specimens for this study are listed below together with the acronyms used in the text when referring to the material studied. The assistance of the individuals responsible for the loans of the specimens is gratefully acknowledged

Abbreviations:

APC private collection of Andreas Pütz, Eisenhüttenstadt, Germany;
ASC private collection of Aleš Smetana, Ottawa, Canada;
CNC Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Canada;
GRC private collection of Guillaume de Rougemont, London, England;

- IZAS Institute of Zoology, Academia Sinica, Beijing, P. R. of China (H.- Z. Zhou and T.-H. Luo);
- MSC private collection of Michael Schülke, Berlin, Germany;
- NHMB Naturhistorisches Museum, Basel, Switzerland (the late M. Brancucci);
- NMPC Národní Museum Kunratice, Praha, Czech Republic (J. Hájek);
- NMW Naturhistorisches Museum, Wien, Austria (H. Schillhammer);
- NSMT National Museum of Nature and Science, Tokyo, Japan (Shun-Ichi Uéno);
- SNUC Shanghai Normal University, Shanghai, Peoples Republic of China (J. Hu and L. Tang);
- YSC private collection of Yoshihiko Shibata, Tokyo, Japan;
- YWC private collection of Yasuaki Watanabe, Tokyo, Japan.

SYSTEMATICS

Indoquedius baliyo Smetana, 1988

(Figs 1-2)

baliyo Smetana, 1988:304 (*Indoquedius*; description; habitat); Smetana, 2004: 656 (*Indoquedius*; catalogue).

New records. CHINA: Sichuan: 70 km W Chengdu, Dayi-Yulonggou, 223-27.vi.1993, M. Trýzna leg., 1 spec., (ASC); Daxue Shan, Gongga Shan Mt., Hailuoguo glacier park, way from Camp II to Camp I, 2620 m, 31.v.1997, A. Pütz, 1 spec., (APC); Yunnan: Dehong Dai Aut.Pref., mountain range 31km E Luxi, 2228 m, 24°29'31"N 98°52'58"E, 3.vi.2007, A. Pütz, 1 spec., (ASC); Dali Zhou, Weishan County, Weibaoshan, 2700-3000 m, 30.vi.- 17.vii.1994, leg. Holzschuh, 1 spec., (NMW); Gaoligong Mts., 2200-2500 m, 24.57N 98.45E, 8-16.v.1995, O. Semela leg., 1 spec., (YSC); Goshan County, Qiqi, 1900 m, 2.vii.2010, Liang Tang leg., 2 spec., (SNUC).

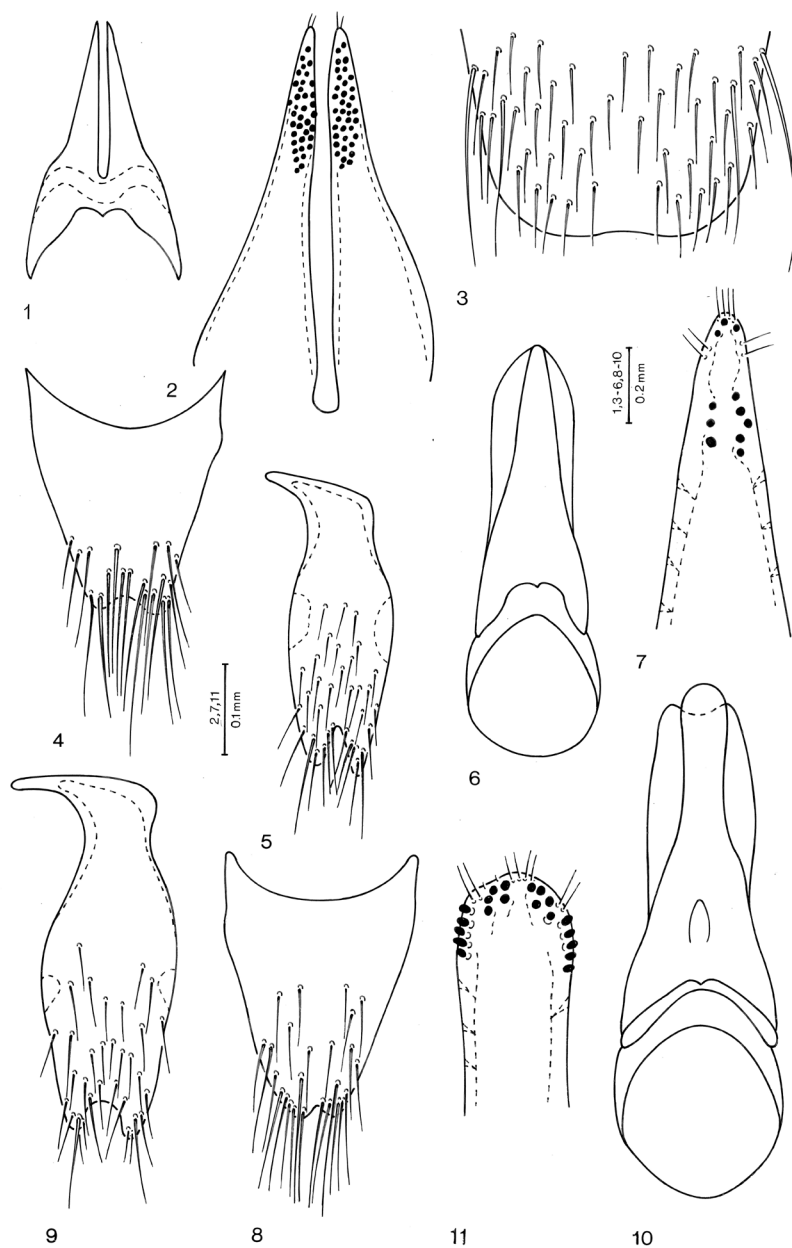
Comments. These are the first verified records of *I. baliyo* from mainland China. It was previously recorded from China by Zheng & Wang (2007: 79) from Sichuan and by Zhao & Zhou (2010: 28) from Yunnan and Xizang. The species is at present known from Nepal, India (Darjeeling District), and in mainland China from Sichuan, Xizang and Yunnan.

Indoquedius bicornutus Zhao et Zhou, 2010

(Figs 3-8)

bicornutus Zhao et Zhou, 2010: 33 (*Indoquedius*; description).

New records. CHINA: Shaanxi: Qinling Shan near pass on rd. Zhouzhi-Foping, 105 km SW Xi'an, 1700-1990 m, north slope, 2.-4.vii.2001, D. Wrase, 1 spec., (MSC); Sichuan: Xichang, monastery, 1800-1900 m, 17.-20.vi.2004, R. Fabbri, 4 spec., (ASC, MSC); Yunnan: Dali Bai Nat. Aut. Pref., Diancang Shan, 3 km W Dali old town, pine forest at "Cloud Road", right upper chairlift station, 25°41.1'N 100°06.8'E, 2650-2750 m, 1.ix.2003, D. Wrase, 1 spec., (MSC); same, but 30.viii.2003, M. Schülke, 2 spec., (ASC, MSC); Dali Bai Nat. Aut. Pref., Wuliang Shan, 9 km SW Weishan, 25°10'15.5"N100°14'21.8"E, 2480 m, 14.ix.2009, M. Schülke, 2 spec., (ASC, MSC); same, but 25°10'14"N 100°14'22"E, 2450-2500 m, north slope, 13.vi.2007, A. Pütz, 3 spec., (APC, ASC); Lincang Pref., Bangma Shan, 33 km SSW Lincang, 23°35'41"N 100°00'27"E, 2150 m, north slope, 11.ix.2009, D. Wrase, 1 spec., (MSC); same, but M. Schülke, 11 spec., (ASC, MSC); Lincang Pref., Xue Shan 48 km N Lincang, 24°19'03"N 100°07'13"E, 2070 m, north slope, 12.ix.2009, M. Schülke, 3 spec., (ASC, MSC); Pu'er Pref., Ailao Shan 37 km NW Jingdong, 24°45'12"N 100°41'24.5"E, 2300 m, 13.ix.2009, M. Schülke, 2 spec., (ASC, MSC); Dehong Dai Aut. Pref., mountain range 31 km E Luxi, 24°39'31"N 98°52'58"E, 2280 m, 3.vi.2007, M. Schülke, 1 spec., (MSC); Shanzhi env., Jizu Shan, 27°57.7-8'N 100°22.1-23.6'E, 2180-2580 m, 22.-24.vi.2007, J. Hájek & J. Růžička, 1 spec., (NMPC); Xiaguan env., 2400 m, 29.vii.2002, S. Murzin & I. Shokhin, 1 spec., (YSC); Huanxipo,



Figs 1-11. *Indoquedius baliyo*: 1- paramere of aedeagus, ventral view; 2- apical portion of underside of paramere with sensory peg setae. *Indoquedius bicornutus*: 3- apical portion of male sternite VIII; 4- tergite X of male genital segment; 5- sternite IX of male genital segment; 6- aedeagus, ventral view; 7- apical portion of underside of paramere with sensory peg setae; 8- tergite X of female genital segment. *Indoquedius leigongshanus*: 9- sternite IX of male genital segment; 10- aedeagus, ventral view; 11- apical portion of underside of paramere with sensory peg setae.

Guyong Xiang, Tengchong Xian, 14.ix.1996, S. Uéno, 1 spec., (NSMT); E slope N Gaoligongshan, 27°45.032'N 98°36.923'E, 1800 m, 13.vi.2009, V. Grebennikov, 1 spec., (ASC).

Comments. The species was described from five male specimens from Sichuan and Yunnan. I was able to study the male holotype. The detailed information about the holotype data and a redescription are included in the review of the subtribe Quediina of mainland China, which is scheduled to be finished by the end of next year. Specimens of this species were collected in habitats at lower mountain elevations, always below 3000 m (altitude range 1700-2750 m). They were taken in broadleaved, mixed and pine forests by sifting forest floor litter, dead wood, mushrooms and moss. The coloration of the elytra varies considerably. In most specimens the elytra are reddish with a common rectangular, black basal spot that rarely narrows posteriorly becoming triangular, or the elytra are black with narrow posterior margin reddish testaceous, or, rarely, the elytra are entirely reddish. Two of the species described as new in this paper (*I. yunthaiensis* sp. nov. and *I. bicoloris* sp. nov.) are in all characters similar to *I. bicornutus*, but they differ particularly by male sexual characters (see under the respective species). The diagnostic sexual character states of *I. bicornutus* are presented in Figs 3-8. The Shaanxi record is the first one from that province. The species is at present known from Shaanxi, Sichuan and Yunnan.

***Indoquedius leigongshanus* Li, Tang et Zhu, 2007**
(Figs 9-11)

leigongshanus Li, Tang et Zhu, 2007: 263 (*Indoquedius*; description).

Comments. The species was described from eight specimens from Leigongshan in Guizhou province. I was able to study the male holotype and one female paratype. The detailed information about the holotype data and a redescription are included in the review of the subtribe Quediina of mainland China, which is scheduled to be finished by the end of next year. Two species described as new here (*I. yunthaiensis* and *I. bicoloris*), as well as *I. bicornutus*, are similar to *I. leigongshanus*, but *I. leigongshanus* differs from all of them by the apex of median lobe of aedeagus truncate with wide medial emargination, combined with the shape of the paramere and with the wide, almost semicircular apical emargination of abdominal sternite IX of the male genital segment (Figs 9-11). Externally, *I. leigongshanus* is characterized by the coarsely punctate, uniformly bright red elytra, by the sparsely punctate abdominal tergites, and by the uniformly pale testaceous appendages.

***Indoquedius filicornis* (Eppelsheim, 1895)**

filicornis Eppelsheim, 1895: 55 (*Quedius*; description); Smetana, 1988: 309 (*Indoquedius*; redescription; illustrations; habitat; 433, Figs 259-262).

New record. CHINA: Yunnan: Tenchong Xian, Daying Shan, Huangcaoba, 1990 m, 12.x.1996, S. Uéno leg., 2 spec., (ASC, NSMT).

Comments. This is the first record of this species from mainland China. The species is at

present known from Nepal, India (Sikkim and Uttarakhand [Uttar Pradesh]), and in mainland China from Yunnan.

***Indoquedius formosae* (Cameron, 1949)**

formosae Cameron, 1949: 176 (*Quedius*; description); Smetana, 1995: 114 (*Indoquedius*; redescription); Smetana, 2004: 656 (*Indoquedius*; catalogue); Zheng & Wang, 2007: 76,79 (*Indoquedius*; characters in key; doubtful faunal record: Sichuan); Zhao & Zhou, 2010: 29 (*Indoquedius*; faunal records: Sichuan [repeated doubtful record], Taiwan).

Comments. The species was recorded from mainland China by one female from Sichuan (Mabian County, Dafending Nature Reserve) by Zheng & Wang (2007) and this Sichuan record was repeated by Zhao & Zhou (2010). *Indoquedius formosae* is at present known only from Taiwan. The record of this species from China (Sichuan) by Zheng & Wang (2007) is highly suspicious, since only female holotype of this species, and possibly another female reported by Zhao & Zhou (2010) are known from Taiwan and the species is difficult to interpret based on females (male not known). Zhao & Zhou (2010) apparently have seen the holotype, but said nothing about it and basically just referred to Zheng & Wang's, 2007 record. The presence of this species in mainland China cannot be confirmed at present.

***Indoquedius praeditus* (Sharp, 1889)**

praeditus Sharp, 1889: 29 (*Quedius*; description); Smetana, 1988: 300 (*Indoquedius*); Smetana, 2004: 656 (*Indoquedius*; catalogue).

Comments. *Indoquedius praeditus* was first recorded from mainland China by Li (1993), who listed the species from Jilin and Liaoning. Subsequently, Cho (1996), while recording the species from South Korea, gave China (without any details) in the distributional range of the species (for previous listings of *I. praeditus* from South Korea, see Cho, l.c.). More recently, Zheng & Wang (2007) record *I. praeditus* from China (again without any details) and they include the species in their key to Chinese species of *Indoquedius*. In the most recent treatment of the Chinese species of *Indoquedius* by Zhao & Zhou (2010) *I. praeditus* is not included and on the distributional map of the *Indoquedius* species *I. praeditus* is shown only for Japan and South Korea. In the Chinese material of *Indoquedius* I was able to study so far, I never found any specimens that could be assigned to *I. praeditus*. Based on these facts, the occurrence of *I. praeditus* in China cannot be confirmed at present.

***Indoquedius sikkimensis* Cameron, 1932**

sikkimensis Cameron, 1932: 294 (*Quedius*; subgenus *Raphirus*; description); Smetana, 1988 : 302 (*Indoquedius*; redescription; faunal records: Arunachal Pradesh, Sikkim, Bhutan); Liu, Hu, Tian & Li, 2010: 536 (*Indoquedius*; redescription; faunal record: Yunnan).

Comments. The species was recorded from China (Yunnan) based on two specimens collected in Yunnan in Gongshan County, Dulongjiang, 2750 m, 25.iv.2008 by Liang Tang and

housed in SNUC. I was able to study one of the specimens (a male) and confirm the determination. The species is at present known from India (Arunachal Pradesh, Sikkim), Bhutan and in mainland China from Yunnan.

***Indoquedius metallescens* sp. nov.**

(Figs 12-18)

Type locality. China: Yunnan: E slope N Gaoligongshan, 27°45.446'N 98°35.359'E, 2944 m.

Type material. Holotype (♂) and allotype (♀): CHINA: "P.R. CHINA, Yunnan, E slope N Gaoligongshan, 27°45.446'N 98°35.359'E, 15.vi.2009, 2944 m, sifting 06, V. Grebennikov", (CNC). Paratypes: (1 ♂): same data as holotype, (ASC); (1 ♀): W slope N Gaoligongshan, 27°53.626'N 98.24.168'E, 8.vi.2009, 2500 m, sifting 01, V. Grebennikov, (ASC); (1 ♀): E slope N Gaoligongshan, 27°45.032'N 98°36.923'E, 13.vi.2009, 1800 m, sifting 03, V. Grebennikov, (CNC); (1 ♀): E slope N Gaoligongshan, 27°45'27.1"N 98°35'34.5"E, 2.vi.2010, 2600 m, sifting 26, V. Grebennikov, (CNC); (1 ♂, 1 ♀): Gongshan County, Qiqi, 1900 m, 2.vii.2010, Liang Tang leg., (SNUC).

Description. In all characters similar to *I. baliyo* but different as follows: maxillary and labial palpi rufotestaceous, antennae rufotestaceous, becoming gradually paler toward apex, legs rufobrunneous, all femora piceous-black; elytra with distinct metallic lustre, varying from greenish, bluish to purplish. Head and pronotum wider, latter less distinctly narrowed anteriorly, punctuation of abdominal tergites sparser.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with tenent setae ventrally; segment II considerably wider than apex of tibia (ratio 1.66), segment IV markedly narrower than preceding segments. Abdominal sternite VII with apical margin vaguely sinuate in middle, sternite VIII with inconspicuous arcuate emargination, small triangular area before emargination flattened and smooth (Fig. 12). Genital segment with tergite X with apex subacutely emarginate, setose as in Fig. 13; sternite IX of characteristic shape, large and wide, asetose basal portion markedly delimited from much narrower, setose apical portion with deeply emarginate apex (Fig. 14). Aedeagus (Figs 15-17) similar to that of *I. baliyo*, but with two branches of paramere markedly longer; sensory peg setae on underside less numerous, arranged in longer and narrower groups (Figs 1, 2, 15, 16); evaginated portion of internal sac different from that of *I. balliyo* (Fig. 17 and Fig. 249 in Smetana, 1988: 431).

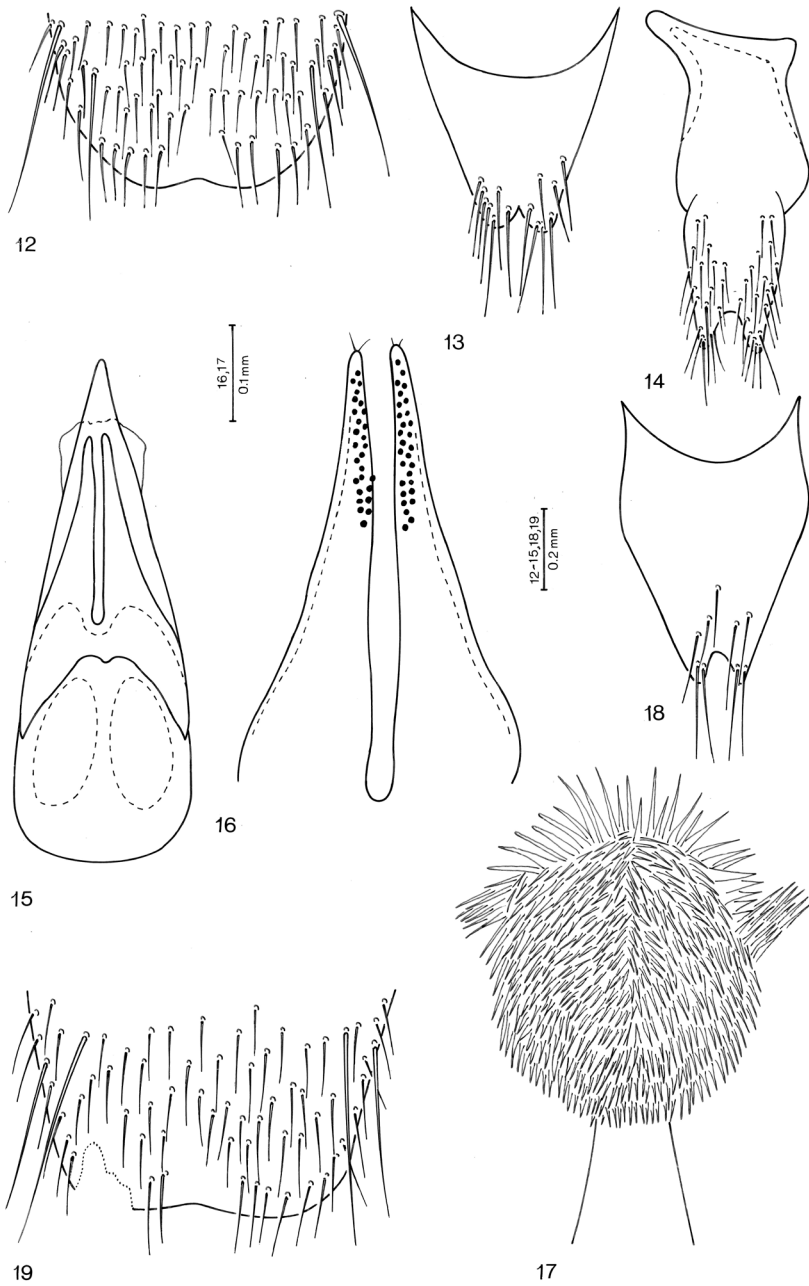
Female. First four segments of front tarsus similar to those of male, but slightly less dilated; segment II still markedly wider than apex of tibia (ratio 1.45). Genital segment with tergite X deeply emarginate apically, sparingly setose (Fig. 18).

Length 9.5-10.5 mm.

Geographical distribution. *Indoquedius metallescens* is at present known from several localities within Gaoligongshan in northwestern Yunnan.

Bionomics. Little is known about the collection circumstances of the specimens of the original series. The specimens collected by Grebennikov were taken by sifting various forest floor litter, but no details are known.

Recognition and comments. *Indoquedius metallescens* may only be confused with *I. baliyo*, but it is easily distinguished by the characters given in the description.



Figs 12-19. *Indoquedius metallescens*: 12- apical portion of male sternite 8; 13- tergite X of male genital segment; 14- sternite IX of male genital segment; 15- aedeagus, ventral view; 16- apical portion of underside of paramere with sensory peg setae; 17- evaginated portion of internal sac of aedeagus; 18- tergite X of female genital segment. *Indoquedius jendeki*: 19- apical portion of male sternite 8 (showing damage).

Etymology. The specific epithet is the Latin adjective *metallescens* (metallic). It refers to the metallic character of the surface of the elytra of the species.

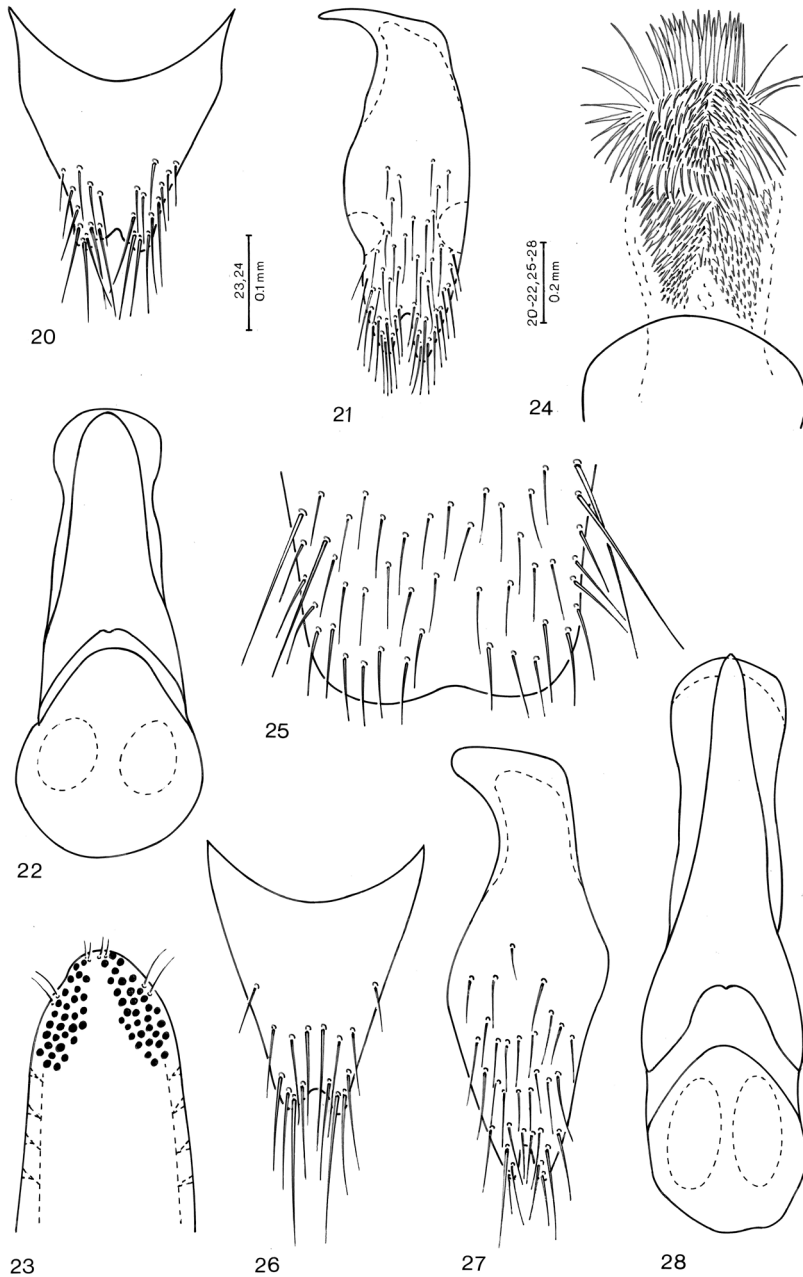
***Indoquedius jendeki* sp. nov.**
(Figs 19-24)

Type locality. China: Yunnan: 100 km W Baoshan, Gaoligongshan Nature Reserve.

Type material. Holotype (♂): CHINA. Yunnan 14.-21.vi.1993, 100 km W Baoshan, Gaoligongshan Nat. Res. E. Jendek & O. Sausa leg.", (NMW).

Description. Head black, pronotum piceous-black, elytra rusty red, first two visible abdominal tergites piceous, following tergites gradually becoming paler, with apex of abdomen rusty red; maxillary and labial palpi testaceous, antennae with segments I-VII piceous with paler bases, becoming gradually somewhat paler, segments VIII-XI milky yellow; legs reddish brown with front and middle femora slightly darker and with all tarsi slightly paler. Head rounded, slightly wider than long (ratio 1.19); eyes very large and convex, tempora half as long as eyes seen from above (ratio 0.50); two punctures along medial margin of eye between anterior and posterior frontal punctures; posterior frontal puncture situated close to posteriomedial margin of eye, separated from it by distance about equal to diameter of puncture; one puncture between it and posterior margin of head; temporal puncture situated close to posterior margin of eye, separated from it by distance about equal to diameter of puncture, one or two very fine punctures posteriomedial of it, tempora impunctate; surface of head without microsculpture. Antenna long, hardly thickened toward apex, segment III markedly longer than segment II (ratio 1.33), following segments distinctly longer than wide but becoming gradually shorter toward antennal apex, last segment slightly asymmetrically acuminate, about as long as preceding segment. Pronotum feebly wider than long (ratio 1.06), broadly rounded at base, slightly narrowed anteriorly, markedly transversely convex, lateral pronotal groove smooth, shiny, without microsculpture; dorsal rows each with two punctures, sublateral rows absent; large lateral puncture separated from lateral pronotal groove by distance about equal to diameter of puncture; anterior angles of pronotum impunctate, surface of pronotum without microsculpture. Scutellum large, coarsely and densely punctate. Elytra moderately long, at base slightly narrower than pronotum at widest point, at suture about as long as, at sides somewhat longer (ratio 1.16) than pronotum at midline; punctuation coarse and dense, transverse interspaces between punctures shorter than diameters of punctures, surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite VII (fifth visible) with distinct whitish apical seam of palisade fringe; tergite II (in front of first fully visible tergite) impunctate; punctuation of abdominal tergites considerably finer than that on elytra, moderately dense, about evenly covering each tergite, but becoming gradually sparser toward apex of abdomen; pubescence piceous; surface between punctures with excessively fine microsculpture of transverse striae.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with tenent setae ventrally; segment II wider than apex of tibia (ratio 1.26), segment IV slightly narrower than preceding segments. Sternite 8 with inconspicuous, shallow, arcuate medioapical emargination, small triangular area before emargination flattened and smooth



Figs 20-28. *Indoquedius jendeki*: 20- tergite X of male genital segment; 21- sternite IX of male genital segment; 22- aedeagus, ventral view; 23- apical portion of underside of paramere with sensory peg setae; 24- evaginated portion of internal sac of aedeagus. *Indoquedius klapperichi*: 25- apical portion of male sternite VIII; 26- tergite X of male genital segment; 27- sternite IX of male genital segment; 28- aedeagus, ventral view.

(Fig. 19). Genital segment with tergite X markedly narrowed toward emarginate apex, setose as in Fig. 20; sternite IX with narrow basal portion, apical portion deeply emarginate apically, with a transparent “mirror” at each lateral margin, setose as in Fig. 21. Aedeagus (Figs 22-24) short, stout, median lobe anteriorly dilated into wide apical portion broadly rounded apically; paramere robust, wide, gradually narrowed toward arcuate apex, apex about reaching apex of median lobe; four minute setae at apex of paramere and two much larger setae at each lateral margin below apex; sensory peg setae on underside of paramere quite numerous, forming densely set, large group at each lateral margin below apex (Fig. 23); everted portion of internal sac as in Fig. 24, different of that of *I. baliyo* (see Fig. 249 in Smetana, 1988: 431).

Female. Unknown.

Length 13.5 mm (abdomen somewhat extended).

Geographical distribution. *Indoquedius jendeki* is at present known only from the type locality in Gaoligongshan Nature Reserve in northwestern Yunnan.

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

Recognition and comments. *Indoquedius jendeki* is a conspicuous species due to the size and coloration. It is similar in external characters to *I. nonparallelus* Zhao et Zhou, 2010, but it may be easily separated by the different coloration of the antennae (segments VIII-XI milky yellow in *I. jendeki*, segments VI-XI milky yellow in *I. nonparallelus*), and by the differently shaped aedeagi (Figs 19-20 and Figs 6 F-H in Zhao & Zhou, 2010: 35).

The holotype is missing four segments of both left front and middle tarsus.

Etymology. Patronymic. The species was named in honor of one of the collectors of the holotype, my good friend Eduard Jendek, Ottawa, Canada.

***Indoquedius klapperichi* sp. nov.**

(Figs 25-29)

Type locality. China: Fujian: Kuatun. Note: the type locality “Kuatun” is now known as Guadun Village, Wuyi Shan.

Type material. Holotype (♂): CHINA: “KUATUN, FUKIEN China 2.4.46 (TSCHUNG SEN.)”, (NMW).

Description. Uniformly piceous, apical margins of abdominal tergites vaguely paler; maxillary and labial palpi brownish-testaceous, antennae rufotestaceous, becoming gradually inconspicuously paler toward antennal apex; legs reddish brown with hind femora inconspicuously darker and with all tarsi slightly paler. Head rounded, markedly wider than long (ratio 1.33); eyes very large and convex, tempora considerably shorter than eyes seen from above (ratio 0.23); two punctures along medial margin of eye between anterior and posterior frontal punctures; posterior frontal puncture almost touching posteriomedial margin of eye; one puncture between it and posterior margin of head; temporal puncture touching posterior margin of eye; several fine punctures posteriomedial of it, tempora impunctate; surface of head without microsculpture. Antenna long, hardly thickened toward apex, segment III markedly longer than segment II (ratio 1.33), following segments distinctly longer than wide but becoming gradually shorter toward antennal apex, last segment slightly asymmetrically acumi-

nate, longer than preceding segment. Pronotum feebly wider than long (ratio 1.09), broadly rounded at base, almost parallelsided, markedly transversely convex, lateral pronotal groove smooth, shiny, without microsculpture; dorsal rows each with two punctures, sublateral rows each with two punctures, posterior puncture situated before level of large lateral puncture; large lateral puncture touching lateral pronotal groove; anterior angles of pronotum impunctate, surface of pronotum without microsculpture. Scutellum large, coarsely and densely punctate. Elytra moderately long, at base slightly narrower than pronotum at widest point, at suture about as long as, at sides somewhat longer (ratio 1.15) than pronotum at midline; punctuation coarse and dense, transverse interspaces between punctures shorter than diameters of punctures, surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite VII (fifth visible) with distinct whitish apical seam of palisade fringe; tergite II (in front of first fully visible tergite) impunctate; punctuation of abdominal tergites considerably finer than that on elytra and rather sparse, becoming even sparser toward apical margin of each tergite and in general toward apex of abdomen; pubescence piceous; surface between punctures with excessively fine microsculpture of transverse striae.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with tenent setae ventrally; segment II about as wide as apex of tibia, segment IV slightly narrower than preceding segments. Sternite VIII with inconspicuous, shallow arcuate medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 25). Genital segment with tergite X markedly narrowed toward emarginated apex, setose as in Fig. 26; sternite IX with short basal portion, apical portion emarginate apically, setose as in Fig. 27. Aedeagus (Figs 28-29) robust, median lobe anteriorly dilated into wide apical portion broadly rounded apically; paramere robust, long, almost evenly narrowed toward subacute apex, apex about reaching apex of median lobe; four minute setae at apex of paramere, two somewhat longer setae at each lateral margin below apex; sensory peg setae on underside of paramere forming elongate group below apex (Fig. 29).

Female. Unknown.

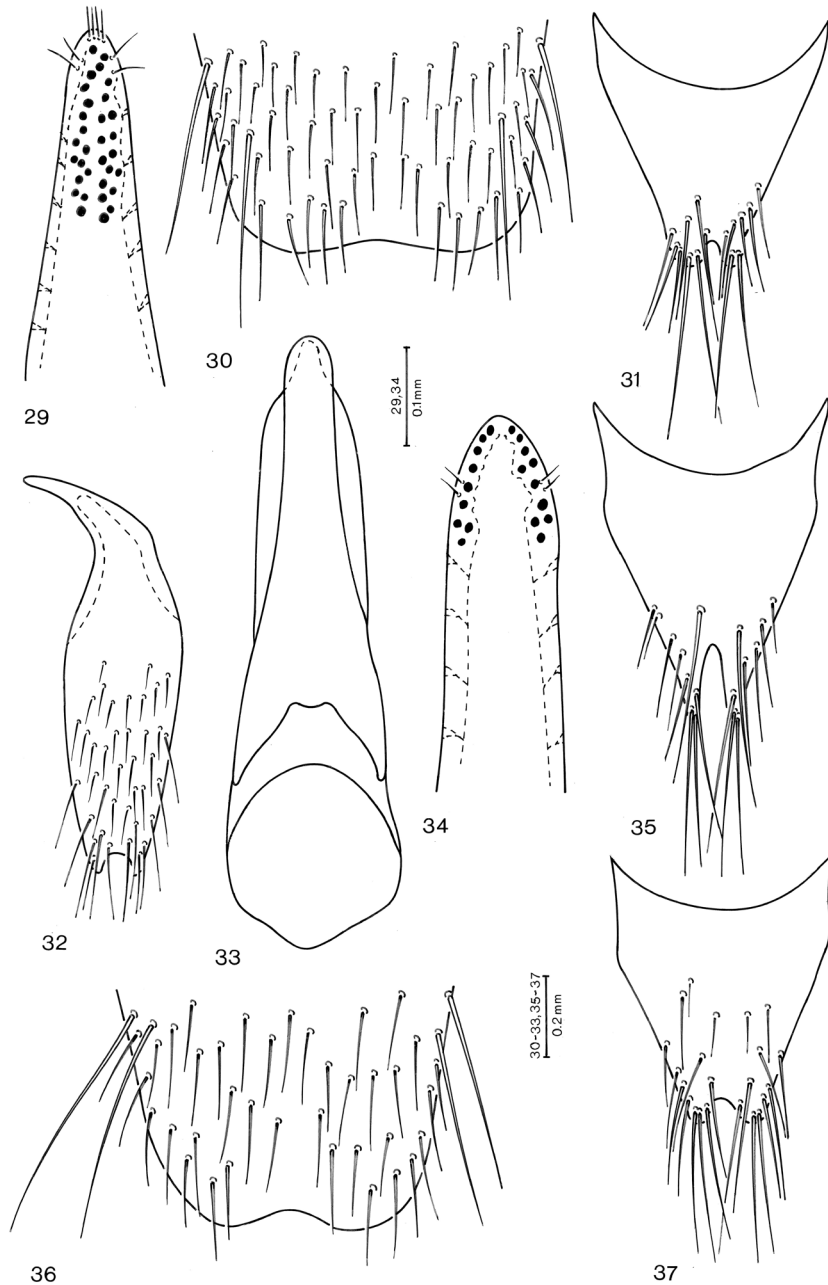
Length 8.2 mm.

Geographical distribution. *Indoquedius klapperichi* is at present known only from the type locality in northern Fujian.

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

Recognition and comments. *Indoquedius klapperichi* is similar in external characters to the Taiwanese *Indoquedius shibatai* Smetana, 1995, but it differs, in addition to the different aedeagus, by the more robust body form, the darker coloration, as well as by the longer and more densely punctate elytra, and by the denser punctuation of the abdominal tergites.

Etymology. Patronymic, the species was named in honor of Mr. J. Klapperich, the German coleopterist and insect collector, who became famous by his successful collecting expeditions to many areas of Asia and elsewhere.



Figs 29-37. *Indoquedius klapperichi*: 29- apical portion of underside of paramere with sensory peg setae. *Indoquedius arcus*: 30- apical portion of male sternite VIII; 31- tergite X of male genital segment; 32- sternite IX of male genital segment; 33- aedeagus, ventral view; 34- apical portion of underside of paramere with sensory peg setae; 35- tergite X of female genital segment. *Indoquedius yunthaiensis*: 36- apical portion of male sternite VIII; 37- tergite X of male genital segment.

***Indoquedius arcus* sp. nov.**

(Figs 30-35)

Type locality. China: Yunnan: Ruili.

Type material. Holotype (♂) and allotype (♀): CHINA: "CHINA Yunnan Ruili 4.ii.1993, G. de Rougemont". Holotype in GRC, allotype in ASC. Paratypes: (4 spe.): same data as holotype, (ASC, GRC).

Description. Rusty reddish brown with slightly darker abdomen to dark reddish brown or almost piceous, sometimes with darker head, elytra sometimes vaguely darkened around scutellum; maxillary and labial palpi, antennae and legs testaceous, antennae becoming gradually paler before apex. Head rounded, wider than long (ratio 1.22); eyes very large and convex, tempora quite short, considerably shorter than eyes seen from above (ratio 0.12); two punctures along medial margin of eye between anterior and posterior frontal punctures; posterior frontal puncture touching posteriomedial margin of eye, one puncture between it and posterior margin of head; temporal puncture touching posterior margin of eye, several very fine punctures posteriomedial of it, tempora impunctate; surface of head without microsculpture. Antenna long, hardly thickened toward apex, segment III markedly longer than segment II (ratio 1.35), following segments distinctly longer than wide but becoming gradually shorter toward antennal apex, last segment slightly asymmetrically acuminate, longer than preceding segment. Pronotum about as long as wide, broadly rounded at base, almost parallelsided, markedly transversely convex, lateral pronotal groove smooth, shiny, without microsculpture; dorsal rows each with two punctures, sublateral rows absent; large lateral puncture touching lateral pronotal groove; anterior angles of pronotum impunctate, surface of pronotum without microsculpture. Scutellum large, coarsely and densely punctate. Elytra rather short, at base slightly narrower than pronotum at widest point, at suture slightly shorter (ratio 1.13), at sides about as long as pronotum at midline; punctation coarse and dense, transverse interspaces between punctures shorter than diameters of punctures, surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite VII (fifth visible) with distinct whitish apical seam of palisade fringe; tergite II (in front of first fully visible tergite) impunctate; punctation of abdominal tergites considerably finer than that on elytra, moderately dense, becoming somewhat finer and sparser toward apex of each tergite and in general toward apex of abdomen; pubescence piceous; surface between punctures with excessively fine microsculpture of transverse striae.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with tenent setae ventrally; segment II wider than apex of tibia (ratio 1.22), segment IV narrower than preceding segments. Sternite VIII with inconspicuous, shallow arcuate medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 30). Genital segment with tergite X markedly narrowed toward emarginated apex, setose as in Fig. 31; sternite IX with narrow, long basal portion, apical portion markedly, almost arcuately emarginate apically, setose as in Fig. 32. Aedeagus (Figs 33-34) elongate, median lobe anteriorly suddenly attenuated into narrow apical portion with narrowly arcuate apex; paramere elongate, almost evenly narrowed anteriorly into arcuate apex, apex almost reaching apex of median lobe; apical setae absent, two minute setae at each lateral margin below apex; underside of paramere with sensory peg setae situated along margins of apical portion, forming continuous arc (Fig. 34).

Female. First four segments of front tarsus similar to those of male, but slightly less dilated. Genital segment with tergite X deeply, narrowly emarginate apically, sparingly setose as in Fig. 35.

Length 7.5-8.0 mm.

Geographical distribution. *Indoquedius arcus* is at present known only from the type locality in southern Yunnan.

Bionomics. Nothing is known about the collecting circumstances of the specimens of the original series.

Recognition and comments. *Indoquedius arcus* is similar to *I. klapperichi*, but it differs easily by the characteristic shape of the aedeagus and by the more slender body form with paler appendages.

Etymology. The specific epithet is the Latin noun in apposition *arcus*, -us, m (arc). It refers to the arrangement of the sensory peg setae on underside of paramere.

***Indoquedius yunthaiensis* sp. nov.**

(Figs 36-40)

Type locality. Thailand, Mae Hong Son province, Soppong, 19°27'N 98°20'E, 1500 m.

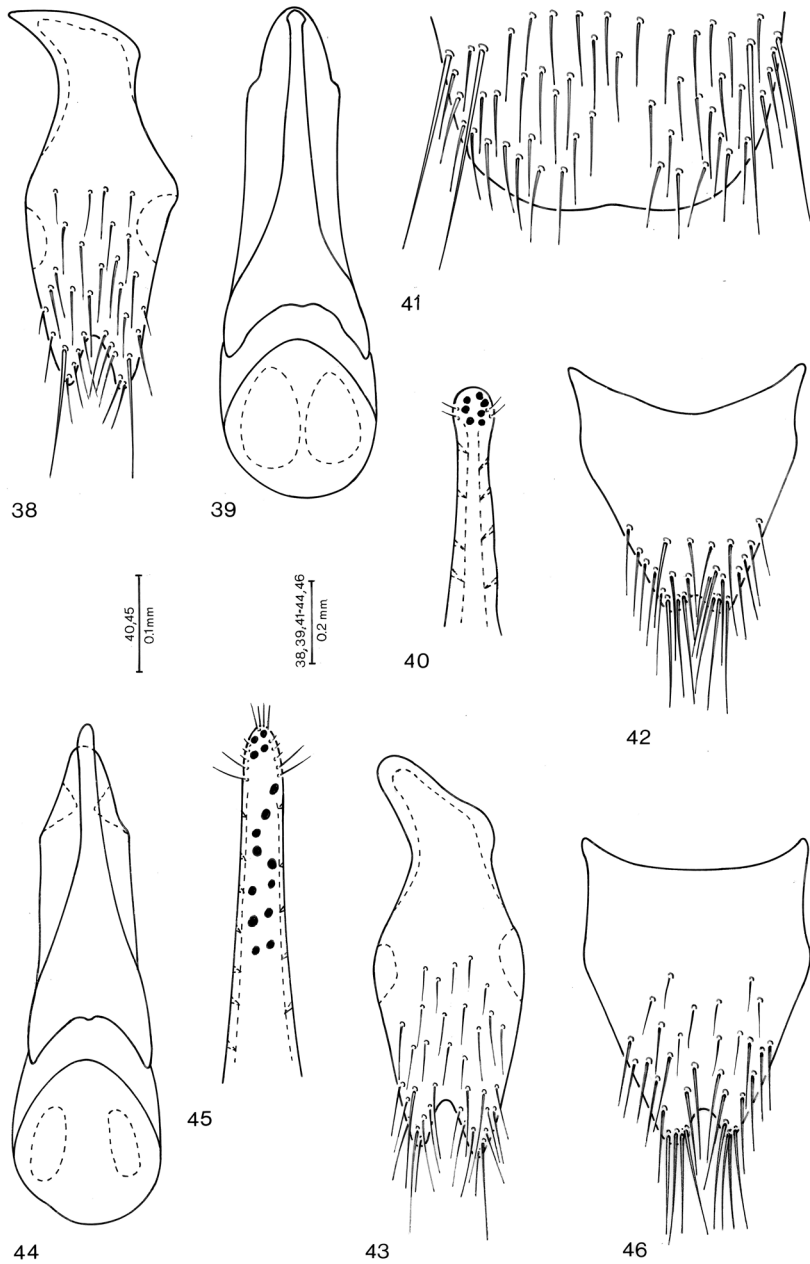
Type material. Holotype (♂): "THAILAND: 7.-12.v. 1996, Mae Hong Son prov. Soppong, 19°27'N 98°20'E 1500 m, leg. S. Bečvář", (NMW). Paratypes: (1 ♂): Thailand: NW Thailand, Soppong Pai 1800 m 25.iv.-5.v.1992, leg. P. Pacholátko, (ASC); (1 ♂): China: Yunnan: Mengla Zirabanbaochuqu, Xishuangbanna, Sept. 13th 1993, Coll. Y. Watanabe, (YWC).

Description. In all characters quite similar to specimens of *I. bicornutus* with dark reddish elytra with a common basal blackish spot, and different mainly by the male sexual characters, particularly by the differently shaped aedeagus with quite characteristic parameres (Figs 6, 7, 39, 40).

Male. First four segments of front tarsus markedly dilated, more so than those of *I. bicornutus*, sub-bilobed, each densely covered with tenent setae ventrally; segment II slightly wider than apex of tibia (ratio 1.12), segment IV narrower than preceding segments. Sternite VIII with shallow arcuate medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 36). Genital segment with tergite X rather wide, markedly narrowed toward emarginate apex, setose as in Fig. 37; sternite IX with short, acute basal portion, apical portion markedly, deeply emarginate apically, with a transparent "mirror" at each lateral margin, setose as in Fig. 38. Aedeagus (Figs 39-40) elongate, median lobe subangulately narrowed into highly arcuate apical portion; paramere slim, very long, with apical portion quite narrow, almost parallelsided, with slightly, spoonlike enlarged apical portion, apex about reaching apex of median lobe; apical setae absent, two minute setae at each lateral margin below apex; sensory peg setae on underside forming a tiny group below apex of paramere (Fig. 40).

Female unknown.

Length 7.5-8.0 mm.



Figs 38-46. *Indoquedius yunthaiensis*: 38- sternite IX of male genital segment; 39- aedeagus, ventral view; 40- apical portion of underside of paramere. *Indoquedius bicoloris*: 41- apical portion of male sternite VIII; 42- tergite X of male genital segment; 43- sternite IX of male genital segment; 44- aedeagus, ventral view; 45- apical portion of underside of paramere with sensory peg setae; 46- tergite X of female genital segment.

Geographical distribution. *Indoquedius yunthaiensis* is at present known from northeastern Thailand and southernmost Yunnan.

Bionomics. Nothing is known about the collecting circumstances of the specimens of the original series.

Recognition and comments. *Indoquedius yunthaiensis* is also similar to specimens of *I. bicoloris* with red elytra, but the latter differ, in addition to the differently shaped aedeagus (Figs . 44-45), by the uniformly red elytra (without common basal blackish spot), and by the partially darkened legs.

Etymology. The specific epithet is the Latinized combination of the first three letters of the two countries the species occurs in and the suffix *-ensis* (denoting place).

***Indoquedius bicoloris* sp. nov.**

(Figs 41-46)

Type locality. China, Yunnan, Pu'er Prefecture, Ailao Shan, 37 km NW Jingdong, 24°45'12"N 100°41'24.5"E, 2300 m.

Type material. Holotype (♂) and allotype (♀): "CHINA (Yunnan) Pu'er Pref., Ailao Shan, 37 km NW Jingdong 24°45'12"N/100°41'24.5"E 2300 m (devastated forest remnant, litter/moss/grass roots sifted), 13.ix.2009, D.W. Wrase [48]." Holotype in MSC, allotype in ASC. Paratypes: (1 ♂, 7 ♀♀): Yunnan: same data as holotype, (ASC, MSC); (1 ♀): Baoshan Pref., Gaoligong Shan E pass, 36 km SE Tengchong, 2200 m, 24°49'32"N 98°46'06"E, 28.viii.2009, D. W. Wrase, (MSC); (1 ♀): Dali Bai Nat.Aut.Pref., 1 km W Dali old town, creek valley at foothill of Diancang Shan, 2170 m, 25°41'9"N 100°08'4"E, 28.viii./3.ix.2003. Wrase, (ASC); (1 ♀): same, but 28.viii.2003, leg. M. Schülke, (MSC); (1 ♀): E slope Gaoligong Shan, 27°45'27.1"N 98°35'34.5"E, 2600 m, 2.vi.2010, V. Grebennikov, (CNC); (1 ♂, 1 ♀): Kunming, x.1986, G. de Rougemont, (GRC); (1 ♀): Lijiang, 30.vi.-2.vii.1990, 2600 m, L. & M. Bocák, (NHMB); (1 ♀): Weibaoshan mts., W slope, 25.11N 100.24E, 2000-2800 m, 25.-28.vi.1992, V. Kubán, (NHMB).

Description. In all characters quite similar to specimens of *I. bicornutus* but different in a few external characters and mainly by the both male and female sexual characters, particularly by the differently shaped aedeagus (Figs 3-8; 38-43). Coloration of legs darker, front and middle femora more or less piceous, hind tibiae and femora distinctly darkened to black; elytra either uniformly paler red (darker red and usually with more or less distinct common basal blackish spot in *I. bicornutus*) or entirely black (missing narrow pale margin present in *I. bicornutus*); punctuation of elytra on average finer and less dense; abdominal tergites uniformly black (with paler apical margins in *I. bicornutus*).

Male. First four segments of front tarsus markedly dilated, more so than those of *I. bicornutus*, sub-bilobed, each densely covered with tenent setae ventrally; segment II wider than apex of tibia (ratio 1.25), segment IV narrower than preceding segments. Sternite VIII with inconspicuous, slight sinuation in middle of apical margin, narrow, small area before emargination flattened and smooth (Fig. 41). Genital segment with tergite X wide, markedly narrowed toward emarginate apex, setose as in Fig. 42; sternite IX with short, wide basal portion, apical portion deeply emarginate apically, with a transparent "mirror" at each lateral margin, setose as in Fig. 43. Aedeagus (Figs 44-45) elongate, median lobe largely parallelsided, anteriorly subangulately narrowed into highly arcuate apical portion; paramere very long, with apical portion quite narrow, parallelsided, with narrowly arcuate apex markedly

exceeding apex of median lobe; four minute apical setae and two markedly longer setae at each lateral margin below apex; sensory peg setae on underside forming a long, irregular group (Fig. 45).

Female. First four segments of front tarsus not appreciably different from those of male. Genital segment with tergite 10 of pentagonal shape, narrowly, arcuately emarginate apically, setose as in Fig. 46.

Length 6.5-8.0 mm.

Geographical distribution. *Indoquedius bicoloris* is the present known from several localities in Yunnan.

Bionomics. Most specimens were collected in devastated forest remnant, by sifting forest floor litter, moss and grass roots. Some other specimens were taken by sifting plant debris in a ruderal place.

Recognition and comments. The aedeagus of *I. bicoloris* is remarkably similar to that of *I. yunthaiensis*, but they both differ in the correlation of the tips of the median lobe and the paramere, and in the shape and development of the sensory peg setae on the underside of paramere (Figs 39, 40, 44, 45).

Etymology. The specific epithet is the combination of Latin adverb *bis* (twice) and the genitive of the noun *color*, *-oris*, m (meaning of two colors). To be treated as noun in apposition. It refers to the coloration of the body of the species.

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