

## Studies on the genus *Intybia* PASCOE (Coleoptera: Malachiidae)

### III. On *Intybia rubrithorax* (PIC) and related taxa

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#### Abstract

The *Intybia rubrithorax* group of species is defined. A new species, *Intybia pacholatko* sp.n. from Laos, is described and illustrated. *Intybia krali* (WITTMER, 1996) is redescribed. *Intybia rubrithorax* (PIC, 1907) is recognised as its adelphotaxon and a differential diagnosis is given.

Key words: Coleoptera, Cleroidea, Melyridae s.l., Malachiidae, *Intybia*, taxonomy, new species, Laos, China.

#### Zusammenfassung

Die *Intybia rubrithorax*-Artengruppe wird definiert. Eine Art, *Intybia pacholatko* sp.n. aus Laos, wird neu beschrieben und abgebildet. *Intybia krali* (WITTMER, 1996) wird wiederbeschrieben. *Intybia rubrithorax* (PIC, 1907) wird als Schwesterart von *I. krali* erkannt, und es wird eine Differenzialdiagnose gegeben.

#### Introduction

The present study is the third part of an ongoing project of revising the genus *Intybia* PASCOE, 1866. For the preceding parts see PLONSKI (2013, 2014). *Intybia* is a species-rich genus of Oriental Malachiidae (tribe Apalochrini), closely related to *Laius* GUÉRIN-MÉNEVILLE, 1830. Most of its species have never been cited since their original descriptions, and several are still placed in *Laius*, with which *Intybia* was formerly synonymised. *Intybia*, as well as *Laius*, are currently in need of revision. Recently collected material found in museum collections included a small number of interesting specimens from Indochina and southwestern China, similar to *Intybia krali* (WITTMER, 1996). This led us to a closer examination of *I. krali* and its closest relatives, including the re-discovery of *I. rubrithorax* (PIC, 1907), which has never been treated again after its description: WITTMER (1996) seems to have overlooked *I. rubrithorax*; and WITTMER (1999) even lumped *I. rubrithorax* and *I. krali* together. Therefore these taxa had to be critically examined and re-diagnosed. Furthermore, a new species of the same species group was found among material collected by Petr Pacholátka in northern Laos. The species mentioned above could not be accommodated into any of Wittmer's proposed species groups within *Intybia* (WITTMER 1997). Nevertheless they are closely related to each other and seem to form a monophyletic clade. Therefore, a new species group is established here. The aims of this study are (I) to define the new species group within the genus *Intybia*, (II) to describe the new species

from Laos, and (III) to add new information on the morphology and distribution of these taxa after careful re-examination of the previously known type material.

### Material and methods

A total of 18 dry-mounted specimens were examined for this study. Their label data and depositories are detailed below. The terminalia of one male specimen (the holotype of the new species described below) were dissected by the senior author. Two male specimens had apparently already been dissected by Karel Majer, who mounted the body parts in DMHF (dimethylhydantoin formaldehyde) on rectangular cards. These were re-mounted by the senior author on transparent plastic boards for microscopic examination.

The methodology of generic assignment is the same as in the first study (PLONSKI 2013). Species groups in the genus *Intybia* are based mainly on their chromatic features (WITTMER 1997). The methods of label data citation, observation, dissection and preparation are the same as in the previous study (PLONSKI 2014). Measurements were conducted using a Leica Wild M3C stereomicroscope at 40× magnification. Digital imaging of habitus and antennal segments was conducted with a Leica imaging system (Leica DFC450 camera; Leica Z16 APO optic carrier; Objective 2.0x Apo; Z6/Z16, f = 39 mm), and images were stacked with Leica Application Suite v3.8 and edited with GIMP v2.8. The line drawings of the median lobe were made by hand, using a drawing tube mounted on an Olympus BX 40 microscope.

#### Acronyms:

Collections: MHNP – Muséum national d’Histoire naturelle, Paris; NHMB – Naturhistorisches Museum, Basel; NMW – Naturhistorisches Museum, Wien.

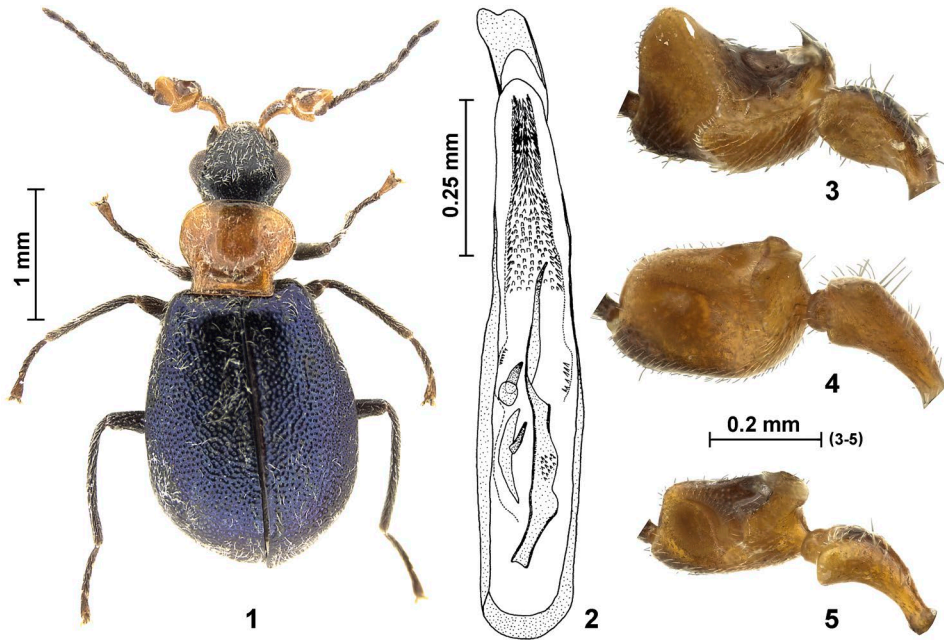
Label data: hwr – handwritten information; MS – handwriting of a person; p – printed (or typed in older labels); pb – pastel blue; r – red; w – white.

Specimens: diss. – dissected (male terminalia); IP – (dissected) by Isidor Plonski; KM – (dissected) by Karel Majer.

### Results

#### *Intybia rubrithorax* group of species

**Diagnosis:** Colouration: Head, antennomeres IV–XI, scutellum and most legs black (forelegs sometimes and tarsomeres V usually lighter); antennomeres I–III orange red to chestnut brown; thorax orange red; elytra black with dark blue metallic tinge. Pubescence whitish. Structure: Head, including eyes, narrower than pronotum. Forehead either with a distinct middle line or with a row composed of some punctures standing very close together. Frons slightly dropping off towards cheeks. Antennae nearly one third shorter than elytra. Pronotum broader than long, constricted shortly before basis; with subarcuate apex, arcuate sides, and straight base; disc polished in the middle, remaining areas with punctures; apex, sides and basal margin finely bordered throughout. Elytra about three times as long as pronotum, broadened towards their apex, densely and deeply punctured, except at base and next to basal suture, where the punctures are finer and interspaces wider. Endophallus of median lobe with species group specific configuration of sclerites (comp. WITTMER 1999: figs. 124, 126; and Fig. 2).



Figs. 1–5: (1–3) *Intybia pacholatkoii* sp.n., holotype: (1) habitus; (2) median lobe; (3) basal part of left antenna. (4–5) Basal part of left antenna of (4) *I. krali*, holotype, and (5) *I. rubrithorax*, specimen from Lugu Lake.

**Recognition:** The new species group is well characterised by its characteristic body shape and colouration.

**Member species:** So far, three taxa belong in this species group: *Intybia krali* (WITTMER, 1996), *I. pacholatkoii* sp.n., and *I. rubrithorax* (PIC, 1907).

**Distribution:** Southwestern China, northern Thailand and northern Laos.

**Systematics:** The relationship of this species group with others is currently unresolved. However, two authors have suggested an affinity to the *I. nodifrons* group of species (cf. WITTMER 1989): PIC (1911) compares *I. testaceipes* (PIC, 1911) with *I. rubrithorax*, and WITTMER (1996) places *I. krali* in proximity to *I. brancuccii* (WITTMER, 1989).

### *Intybia pacholatkoii* sp.n. (Figs. 1–3)

**Type locality:** Environment of Phongsaly City, Phongsaly District, Phongsaly Province, Laos.

**Type material:** Holotype (♂, diss. IP, NHMB): “LAOS, Phongsaly prov., \ PHONGSALY env., \ 6.-17.V.2004, ~1500m, \ 21°41'N 102°66'E, \ P. Pacholátko leg.” [w, p], “*Intybia* \ n.sp. near *krali* [both lines hwr, MS Geiser] \ det. M. Geiser 2009 [p]” [w], “HOLOTYPUS \ *Intybia* \ *pacholatkoii* \ spec.nov. \ det. I. Plonski 2013” [r, p].

**Description of male:** Measurements in mm (n = 1): Body length: 3.65. Head length: 0.70, width: 0.82; interocular width: 0.50. Pronotal length: 0.75, width: 0.92. Elytral length: 2.20, width: 1.67.

Colouration (Fig. 1): Body bicolorous, with lustre. Pubescence composed of white hair-like setae. Head capsule completely black, shiny. Compound eyes black in dried specimen. Mouthparts completely black. Antenna bicolorous; antennomere I–III in part orange red to chestnut brown; antennomeres IV–XI completely black. Prothorax including pronotum orange red, shiny. Scutellum, meso-, metathorax and abdomen completely black. Elytra black with a blue metallic tinge. Legs almost completely black, except tarsomeres V of front legs, which are dark chestnut brown.

Structure: Head capsule elongate, narrower than pronotum; moderately punctate and pubescent; cranial puncturation composed of rather fine dots with indistinct margin (or halo around them), whose strongly microsculptured (extremely finely punctate or granulose) interspaces are 1 to 1.5 (2) times wider than their diameter; cranial pubescence composed of fine short recumbent hair-like setae; vertex rather flat, with a median row of punctures, which are standing very close together, just between eyes; frontal part conically elongate; frons dropping off towards cheeks. Eyes large and oblong, slightly prominent laterally. Antenna rather long; antennomere I strongly broadened towards apex, and curved in side view, 1.7 times longer than maximally broad; antennomere II very short, rather globular; antennomere III (Fig. 3) strongly concave on inner side, ventro-laterally excavated towards the apex, with an curved basal apodeme, 1.5 times longer than broad; antennomeres IV–XI filiform; antennomeres IV–V subconical, broadest in last third of their length; antennomeres VI–VII more parallel, broadest in their half; antennomeres VIII–X subparallel, broadest in their half; antennomere XI ellipsoid with pointed tip, broadest in its middle. Maxillary palpi with rather broad, apically truncated terminal palpomeres. Pronotum transverse, 1.2 times broader than long, pear-shaped; apex subarcuate, sides arcuate in apical two thirds, then suddenly constricted and subparallel towards the base, basis straight; disc convex in the apical two thirds, transversely impressed at posterior sixth of pronotal length; impression medially deepest. Pronotal punctures similar to those on vertex of head; center of disc smooth, the remaining areas punctate, with smooth shiny interspaces; the latter becoming concentrically narrower and narrower towards sides. Pronotal pubescence as on vertex of head. Elytra oblong, 1.3 times longer than broad; sides almost straight on basal half of elytral length, divergent posteriorly, then convergent apically; shoulders well developed; elytral tips conjointly rounded; suture elevated and as broad as the adjoining smaller punctures. Elytral puncturation mostly composed of medium sized dots with sharp margins and elevated smooth interspaces, thus appearing almost punctate-reticulate; punctures next to the shoulders and elytral basis shallower than on the rest of elytra; with an area without punctures next to suture. Elytral pubescence as on pronotum, but composed of slightly longer recumbent hair-like setae. Legs stout, covered with short fine hair-like setae throughout; femora and tibiae simple. Abdomen with each sternite weakly sclerotised in middle portion.

Aedeagus (Fig. 2): Median lobe elongate, broadest at the base, sides convergent towards apex, 5.7 times longer than maximally broad; apex elongate, broadest at tip, 1.1 times longer than maximally broad, tip sinuate.

Differential diagnosis: The new species is well characterised by the form of antennomere III. In addition, the adelphotaxa *I. krali* and *I. rubrithorax* differ in having a distinct middle line on frons and vertex, and smooth interspaces between the cranial punctures. Furthermore, *I. pacholatkoi* sp.n. differs in having the median lobe slightly curved in lateral view and in the shape of its apex.

Distribution: So far, only known from its type locality.

**Etymology:** The species epithet is a patronym: We name the new taxon after its collector, Petr Pacholátko, who is a specialist on the taxonomy of Scarabaeidae and the collector of many new taxa from southeastern Asia.

***Intybia krali* (WITTMER, 1996) (Fig. 4)**

*Laius krali* WITTMER, 1996: 321.

*Intybia krali*: WITTMER 1999: 204 (partim).

**Type material examined:** Holotype (♂, NHMB): “Thai 9-14.5.1991 \ CHIANG DAO 350m \ 19°22'N 98°57'E \ David Král lgt.” [w, p], “892” [w, hwr], “HOLOTYPUS” [r, p], “L. \ krali \ Wittm. [all lines hwr, MS Wittmer] \ det. W. Wittmer [p]” [w], “Naturhistorisches \ Museum Basel \ Coll. W. Wittmer” [pb, p], “MALACHIIDAE \ [code] \ MALAC00004786” [w, p]. – Paratypes (4 ♂♂, 2 ♀♀): 2 ♂♂, 2 ♀♀ (NHMB): “THAI 28-31/5 1995 \ 19.27N 98.20E \ SOPPONG 1500m \ Vit Kubán leg.” [w, p], “PARATYPUS” [r, p], “Naturhistorisches \ Museum Basel \ Coll. W. Wittmer” [pb, p], “MALACHIIDAE \ [code] \ MALAC0000[last four digits respectively: males = 4597 & 4671; females = 4499 & 4758]” [w, p]; 1 ♂ (diss. KM, NHMB): “THAI 28-31/5 1995 \ 19.27N 98.20E \ SOPPONG 1500m \ Vit Kubán leg.” [w, p], “krali” [w, hwr], “Naturhistorisches \ Museum Basel \ Coll. W. Wittmer” [pb, p], “PARATYPUS \ *Laius krali* \ Wittmer, 1996 \ rev. I. Plonski 2013”; 1 ♂ (NHMB): “NW-THAILAND, 7.-12.5. \ Mae Hong Son distr. 1996 \ Soppong-pai; 19°27'[N], 98°20'[E] \ J. Horál lgt.; 1500m” [w, p], “PARATYPUS” [r, p], “Naturhistorisches \ Museum Basel \ Coll. W. Wittmer” [pb, p], “MALACHIIDAE \ [code] \ MALAC00003611” [w, p].

**Notes:** This taxon was described rather recently. The original description is illustrated with a figure of the first three antennomeres viewed from a dorso-lateral position (WITTMER 1996: fig. 244). WITTMER (1999) provides illustrations of the male sternite VIII (op. cit.: fig. 125) and of the median lobe (op. cit.: fig. 126). The specimen from which the terminalia were studied is a paratype, not the holotype as stated by WITTMER (1999).

**Redescription of male:** Measurements in mm (n = 5): Body length: 3.47–3.79 (holotype: 3.67; mean: 3.65). Head length: 0.60–0.65 (holotype: 0.60; mean: 0.62), width: 0.82–0.87 (holotype: 0.82; mean: 0.85); interocular width: 0.52–0.55 (holotype: 0.52; mean: 0.53). Pronotal length: 0.75–0.82 (holotype: 0.82; mean: 0.79), width: 0.97–1.05 (holotype: 1.02; mean: 1.02). Elytral length: 2.12–2.32 (holotype: 2.25; mean: 2.25), width: 1.70–1.82 (holotype: 1.75; mean: 1.76).

**Colouration:** Body bicolorous, with lustre. Pubescence composed of white hair-like setae. Head capsule totally black, shiny. Compound eyes beige, grey or whitish in dried specimens. Mouthparts totally black. Antennae bicolorous; antennomeres I–II completely orange red; antennomere III almost of the same colour as preceding ones, but underside apically blackish darkened; antennomeres IV–XI completely black. Prothorax including pronotum orange red, shiny. Scutellum, meso-, metathorax and abdomen completely black. Elytra black with a blue metallic tinge, and in some specimens with a violaceous or greenish hue. Front legs with profemora, protibiae and protarsomeres I–IV chestnut brown to saffron coloured, and protarsomere V of same colour as pronotum. Middle legs either with mesofemora, mesotibiae and mesotarsomeres I–IV completely black, and mesotarsomere V chestnut brown, or with almost same colouration as forelegs. Hind legs either completely black, or of same colouration as middle legs.

**Structure:** Males: Head capsule elongate, slender than pronotum; moderately punctate and pubescent; cranial puncturation composed of rather fine dots with distinct margin, whose smooth interspaces are 1 to 1.5 (2) times wider than their diameter; cranial pubescence composed of fine short recumbent hair-like setae; vertex rather flat, with a median

line between eyes, which reaches the back of head; frontal part conically elongate; frons dropping off towards cheeks. Eyes large and oblong, slightly prominent laterally. Antenna stout; antennomere I conically broadened towards apex, and slightly curved in side view, 1.7 times longer than maximally broad; antennomere II very short, rather globular; antennomere III (Fig. 4) rather elongate-oval in outline, around 1.4 times longer than broad, at base shortly extended dorsally, beneath this extension on the inner side with a broad impression, which starts shortly after base and is extending towards the apex, losing depth, a second smaller impression lies next to the dorsal extension on the upper side; antennomeres IV–XI filiform; antennomeres IV–V subconical, broadest in the last third of their length; antennomeres VI–X subparallel, broadest in their half; antennomere XI ellipsoid with pointed tip, broadest in its middle. Maxillary palpi with rather broad, apically truncated terminal palpomeres. Pronotum transverse, 1.2 times broader than long, pear-shaped; apex subarcuate, sides arcuate in apical two thirds, then suddenly constricted and subparallel towards the base, basal edge straight; disc convex in the apical two thirds, transversely impressed at posterior sixth of pronotal length; impression medially deepest. Pronotal punctures similar to those on vertex of head; center of disc impunctate, the remaining areas punctate with smooth shiny interspaces; the later becoming concentrically narrower and narrower towards the sides. Pronotal pubescence as on vertex of head. Elytra oblong, 1.3 times longer than broad; sides almost straight on basal half of elytral length, divergent posteriorly, then convergent apically; shoulders well developed; elytral tips conjointly rounded; suture elevated and as broad as the adjoining smaller punctures. Elytral puncturation mostly composed of medium sized dots with sharp margins and elevated smooth interspaces, thus appearing almost punctate-reticulate; punctures next to shoulders and elytral basis shallower than on rest of elytra; with an smooth area next to suture. Elytral pubescence as on pronotum, but composed of slightly longer recumbent hair-like setae. Legs stout, covered with short fine hair-like setae throughout; femora and tibiae simple. Abdomen with each sternite weakly sclerotised in the middle portion.

Aedeagus: Median lobe elongate, broadest in the middle, sides very weakly bisinuate, 6.73 times longer than maximally broad; apex elongate, and subparallel, 1.39 times longer than maximally broad, tip weakly sinuate.

Redescription of female: Measurements in mm (n = 2): Body length: 3.72–3.89. Head length: 0.57–0.62, width: 0.90–0.95; interocular width: 0.59–0.62. Pronotal length: 0.85, width: 1.05–1.12. Elytral length: 2.30–2.42, width: 2.00–2.10.

Body and legs of the same colour as in male, except the antennae, where antennomeres I–IV(V) are orange red in colour.

Structure similar to male, except elytra, which are sometimes more widened in the middle, and antennomere III, which is not distinctly widened, but several times longer than the subsequent segments, twice as long as broad and subparallel in outline. The terminalia were not examined.

Distribution: Northern Thailand. So far, only known from the type locality, the area of Chiang Dao National Park (Chiang Dao District, Chiang Mai Province), and from the environs of Sopping village (Pang Mapha District, Mae Hong Son Province).

### ***Intybia rubrithorax* (Pic, 1907) (Fig. 5)**

*Laius rubrithorax* Pic, 1907: 190.

*Laius rubithorax* [incorr. subs. spell.]: GREINER 1937: 154. – MAYOR 2007: 418.

*Intybia rubrithorax*: PLONSKI 2014: 319.

*Intybia krali* [misidentification]: WITTMER 1999: 204 (partim).

Type material examined: Holotype (♂, MHNP): “Yunnan” [w, p], “type” [w, hwr], “Type” [r, p], “Laius \ rubrithorax \ Pic” [w, hwr, MS Pic], “HOLOTYPUS \ Laius \ rubrithorax \ Pic, 1907 \ rev. I. Plonski 2013” [r, p], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p].

Additional material examined: 1 ♂ (MHNP): “Yunnan \ ... [illegible word, ca. 3 letters]” [w, hwr, MS Pic], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p]; 1 ♂ (MHNP): “Yunnan \ ... [illegible word, ca. 3 letters]” [w, hwr, MS Pic], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p]; 1 ♀ (MHNP): “Yunnan \ ... [illegible word, ca. 5 letters]” [w, hwr, MS Pic], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p]; 1 ♀ (MHNP): “Yunnan” [w, hwr, MS Pic], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p]; 1 ♀ (MHNP): “Yunnan \ ... [illegible word in brackets, ca. 4-5 letters]” [w, hwr, MS Pic], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p]; 1 ♀ (NHMB): “CHINA, Yunnan prov. \ KUNMING (200) \ 2.VII.1990 1900m \ Vit Kubán leg.” [w, p], “Naturhistorisches \ Museum Basel \ Coll. W. Wittmer” [pb, p], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p]; 1 ♀ (NHMB): “CHINA, Yunnan prov. \ 60km SSE Kunming \ SHILIN (Stone Forest) \ 3.-4.VII.1990 \ Vit Kubán leg.” [w, p], “prope \ krali” [w, hwr, MS Wittmer], “Naturhistorisches \ Museum Basel \ Coll. W. Wittmer” [pb, p], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p]; 1 ♂ (NMW): “CHINA-Yunnan 8.-9.7 \ Lugu Lake - Luo Shui \ 27°46'N 100°45'E \ leg.E. Jendek 1992” [w, p], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p]; 1 ♂ [diss., KM] (NHMB): “China - Yunnan, 24 July 1995 \ Wuding env. \ 90km NW of Kunming \ Zd. Jindra lgt.” [w, p], “425” [w, hwr], “Naturhistorisches \ Museum Basel \ Coll. W. Wittmer” [pb, p], “Intybia \ rubrithorax \ (Pic, 1907) \ comb. n. \ det. I. Plonski 2013” [w, p].

Remark: It may be possible, that the illegible words, which are composed of three letters, on the patria labels of the material from MHNP could mean “Yunnan-Fou”, which is an older name for Kunming, used up to the 1920s.

Notes: PIC (1907) gives a short description, of the chromatic features and a circumscription of the third antennomere seen from a ventro-lateral position (due to a preparation artefact). WITTMER (1999; sub *Intybia krali*) gives illustrations of the first four male antennomeres viewed from a dorso-lateral position and of the first antennomere viewed from a lateral position (op. cit.: fig. 122), as well as of the male sternite VIII (op. cit.: fig. 123), and of the median lobe (op. cit.: fig. 124).

Redescription of male: Measurements in mm (n = 2): Body length: 3.40–3.59. Head length: 0.50–0.57, width: 0.77–0.87; interocular width: 0.50–0.55. Pronotal length: 0.75–0.77, width: 0.90–1.00. Elytral length: 2.15–2.25, width: 1.50–1.65.

Colouration: As in *I. krali*, except that the forelegs are as dark as middle and hind legs in all more recently collected specimens.

Structure: Head as in *I. krali*. Antennae similar to *I. krali*, but antennomere I more broadly conically broadened, and antennomere III (Fig. 5) rather rectangular in outline, with larger dorsal extension and larger dorsal impression, and the impression on the inner side evenly deep. Pronotum, elytra and legs as in *I. krali*. Abdomen as in *I. krali*. Aedeagus: Median lobe elongate, broadest at base, sides convergent towards apex, 4.9 times longer than maximally broad; apex subtrapezoidal, 1.1 times broader than maximally long, tip sinuate.

Redescription of females: Measurements in mm (n = 2): Body length 3.90–3.92. Head length: 0.60–0.62, width: 0.82–0.87; interocular width: 0.57. Pronotal length: 0.80, width: 0.97–1.00; elytral length: 2.50; elytral width: 1.62–1.82.

Colour pattern as in males, except antennae, where antennomere IV is sometimes darkened and antennomere V is always black.

Structure similar to male, except for antennomere III, which is not distinctly widened, but several times longer than the following segments, 2 times longer than wide and sub-parallel in outline.

Differential diagnosis: *Intybia rubrithorax* is the adelphotaxon of *I. krali*, and well characterised by the form of antennomere III and the shape and size of aedeagus. See the description above for the differentiation from *I. krali*, and see differential diagnosis of *I. pacholatkoii* sp.n. for further characteristic features.

Distribution: Southwestern China. So far, only known from Yunnan province.

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