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A new *Clinidium* species from Panama (Coleoptera: Carabidae: Rhysodini)

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Abstract. *Clinidium* (*Clinidium*) *cizeki* sp. nov. from Panama (Sherman Forest Reserve) is described, illustrated and compared with related congeners.

INTRODUCTION

The nominotypical subgenus of the widely distributed genus *Clinidium* (known from Neotropical, Holarctic and Oriental Regions) was revised by R.T. Bell & J. R. Bell (1985). R. T. Bell & J. R. Bell (2009) subsequently published a new key to species of the nominotypical subgenus *Clinidium* (*Clinidium*), together with a new discussion about phylogeny of the subgenus and some changes in arrangement of species-groups. Recently, 58 species (including one fossil species) are known to belong to the subgenus *Clinidium* (s. str.) (R.T. Bell & J. R. Bell 1985, 2000, 2009; Hovorka 1997, 2017). The purpose of the present paper is to describe additional species from Panama belonging to the mentioned nominotypical subgenus - *Clinidium* (s. str.), more precisely to *C*. (s. str.) *integrum*-group of species as defined by R.T. Bell & J. R. Bell (2009).

MATERIAL AND METHODS

The present paper is based on the study of type material of the new species described below and of available congeners from the author´s collection and from the collection of National Museum (Prague). The specimens included in the study are deposited in the following institutional and private collections:
NMPC National Museum, Praha, Czech Republic (J. Hájek);
OHPC Oldřich Hovorka private collection, Praha, Czech Republic.

Measurements were made with a MBS-10 stereoscopic microscope, at magnifications of 8x, 16x and 32x. Measurements of body parts and corresponding abbreviations used in the text are as follows:
EL = elytral length - length of left elytron measured from humerus to apex;
EW = elytral width - maximal width of both elytra combined;
HL = length of head - measured from apex of clypeus to posterior margin of temporal lobe;
HW = width of head - maximal width of head (including eyes);

PL = pronotal length - length of pronotum measured along mid-line;
PW = pronotal width - maximal width of pronotum;
TL = total length - length measured from the apex of left mandible (mandibles closed) to the apex of left elytron.

The morphological terms used in this study are adopted from Bell & Bell (1978, 1985).

All type specimens of newly described species are provided with one red printed label: "*Clinidium* (*Clinidium*) *cizeki* sp. nov., HOLOTYPE (or ALLOTYPE or PARATYPE), det. O. Hovorka, 2018".

DESCRIPTION

Clinidium (*Clinidium*) *cizeki* sp. nov.

(Figs. 1-3)

Type material. Holotype (♂) labelled: "Panama, Colón Prov., 130 m a.s.l.; Sherman Forest Reserve; 79°58'W 9°17'N, 6.vi.-10.vii. 2002; Čížek & Hauck lgt." (OHPC); Allotype (♀) and paratypes (2 ♂♂, 2 ♀♀) bears the same data as holotype (NMPC, OHPC).

Description. Habitus (Fig. 1) - the new species is relatively small, habitually similar to its congeners. Body colour (including antennae) is brown-black, legs are brown, with femora darker than tibiae and tarsi. Palpomeres yellow-brown. Body elongate, narrow. TL 4.8-5.5 mm. Head distinctly longer than wide, HL:HW 1.18-1.24. Pronotum 1.33-1.44 times wider than head, distinctly longer than wide (PL:PW 1.42-1.53). Elytra elongate, EL:EW 2.26-2.39, widest posteriad to midlength.

Head (Fig. 1) slightly elongate, with large median lobe; the median lobe tringular with acute, sharp apex and slightly posterior to midlength on each side with lateral projection going towards antennal lobe, but separated from this lobe by shallow pollinose postclypeal groove. Antennal lobes separated from temporal lobe by narrow pollinose antennal groove; temporal lobe narrow, elongate, with convex medial margin; three to four temporal setae present. Each eye very narrow, crescentic, small, 0.4 of length of temporal lobe; orbital groove complete, very narrow, pollinose. Antennae with tufts of minor setae on antennomeres V-X; last antennomere with indistinct, reduced, hardly visible, acute apical stylet. Scapus dorsally widely pollinose, pedicellus with narrow transverse pollinose strip, flagellomere I with not continuous apical transverse strip of pollinosity, other flagellomeres with only pollinose spots on setigerous punctures bearing large apical setae. Basal setae present on antennomere X only. Mentum and submentum with lateral pollinose band, central area of postmentum without distinct pollinosity, but dull due to a strong microsculpture. Mentum not punctured, anteriorly with transverse, narrow, pollinose groove and in the midline with series of three to four short, transverse, pollinose impressions. Two to three pairs of prelabial and one pair of postlabial setae present.

Pronotum elongate, approximately one and half times longer than wide. Pronotal base and apex strongly narrowed, apex truncate with very narrow pollinose stripe, base rounded. Lateral pronotal sides are not clearly parallel, but there is very shallow and only poorly distinct concavity slightly anteriad to pronotal midlength, so that lateral margin is somewhat

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2

3

Figs. 1-2: *Clinidium* (*Clinidium*) *cizeki* sp. nov.: 1- habitus of male holotype, dorsal view; 2- habitus of female allotype, ventral view. Without scale.

Fig. 3: *Clinidium* (*Clinidium*) *cizeki* sp. nov., median lobe of aedeagus and left paramere, left lateral view. Without scale.

wavy; variable, clearly visible to indistinct incision is present before pronotal hind angles. Median groove narrow, not widened across anterior (or posterior) median pit; width of median groove about 0.06-0.08 of greatest width of pronotum, its sides almost parallel, the groove reduced to narrow and relatively shallow but distinct linear impression in terminal part just behind posterior pit; this impression ends in flat, triangular, pollinose area on posterior pronotal margin. Paramedian groove of pronotum (basal impression and discal striole) relatively long, discal striole ends in anterior 0.40-0.45 of pronotal length. Angular seta present, five to six marginal setae along whole length of lateral margin and one pair of anterior discal setae, inserted very near to median groove at 0.10-0.15 of pronotal length. Prosternite and proepisternite unpunctured; precoxal carina not developed, precoxal setae absent; prosternal process margined by narrow, pollinose groove.

Elytral base with transverse strip of strong pollinosity, in which one seta at the level of base of parasutural stria, one seta at the level of third interval, and one seta both at the level of base of intercalary stria or fourth interval are inserted. Elytral striae deep, punctured; in sutural and parasutural stria only punctures pollinose, intercalary and marginal stria completely covered by pollinosity, intratubercular stria pollinose in apical part only. Elytral intervals wide, convex. Sutural stria with 5-6 setae along whole length, parasutural stria without setae. Intercalary (III) stria with row of 7-8 setae along whole length, intratubercular (IV) stria with 2-3 setae in apical pollinose part. Marginal (V) stria deep, reaching elytral suture, with 10-13 setae along whole length. Subapical tubercle without setae, apical tubercle with 2-3 setae. Metasternum with distinct, deep, not pollinose median sulcus. Abdominal sternum III-V with transverse pollinose sulcus interrupted in middle, sternum VI with widely interrupted anterior transverse sulcus and widely U-shaped posterior (submarginal) sulcus. Sternum IV with large lateral not pollinose pits in female (Fig. 2), and only slightly indicated, shallow pits in male.

Metatibial calcar triangular, similar to this of *C. jolyi*, but dorsally more distinctly convex, arcuate, not angulate; mesotibial calcar shorter, less deep, dorsal margin not arcuate.

Aedeagus (Fig. 3) is in left lateral view basally strongly curved, distal part straight, apex strongly bent down in right angle, its tip sharp (similar to those depicted for *C. erwini* - see R. T. Bell & J. R. Bell 2009, p. 64, Fig. 14F).

Differential diagnosis. *Clinidium* (s. str.) *cizeki* sp. nov. belongs to *integrum*-group (as defined by R. T. Bell & J. R. Bell 2009: 58), which is characterised by: presence of tufts of minor setae on antennomeres V-X; median groove of pronotum linear or nearly so; intercalary and intratubercular striae both complete to apex; eye narrow, crescentic; male anterior leg not modified and sutural setae outnumbering parasutural setae. The species of *integrum*-group are furthermore allotted to three subgroups, based on the state of metasternal median sulcus; *C. cizeki* sp. nov., having shallow, not pollinose sulcus belongs through this character state formally into *C. jolyi*-subgroup, formed by four species - *C. alleni* R. T. Bell & J. R. Bell, 1985 and *C. whiteheadi* R. T. Bell & J. R. Bell, 1985 from Panama, which are evidently close one to another, and by more distant *C. humboldti* R. T. Bell & J. R. Bell, 1985 and *C. jolyi* R. T. Bell & J. R. Bell, 1985 from Colombia and Venezuela, respectively. Both Panamanian species (*alleni* and *whiteheadi*) differ from *C. cizeki* sp. nov. by connected

antennal and median lobe; *C. humboldti* differs by presence of basal setae on antennomeres VI-X and by presence of precoxal setae; finally, *C. jolyi* differs by presence of basal setae on antennomeres IX-X and by absence of posterior transverse furrow on sternum VI.

The new species differs from all related consubgeners by following combination of characters: median groove of pronotum without constrictions, not widest at anterior pit; intercalary and intratubercular striae complete; length of paramedian groove markedly less than 0.9 (between 0.5-0.6) of pronotal length; medial margin of temporal lobe not concave, this lobe not joined with antennal lobes; only one pair of postlabial setae present; basal setae present only on antennomere X; precoxal seta absent; sternum VI with submarginal sulcus; parasutural stria without setae.

Most of characters are shared with *C.* (s. str.) *jolyi* R. T. Bell & J. R. Bell, 1985 from Venezuela, which differs by presence of setae in parasutural stria, by differently shaped median lobe on head, which is only very narrowly separated from temporal lobes, by slightly shorter paramedian groove and by presence of basal setae on antennomeres IX-X, by absence of submarginal sulcus on sternum VI etc., and seems to be at the moment the nearest relative of *C.* (*s. str.*) *cizeki* sp. nov. Both species share many character states like not connected temporal and antennal lobes, relatively long paramedian groove, absence of precoxal setae and reduced number of antennomeres with basal setae.

Name derivation. The species name dedicated to one of the collectors of the type series, Lukáš Čížek (České Budějovice, Czech Republic).

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