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## Six new species of *Pseudcolenis* Reitter, 1884 from China (Coleoptera: Leiodidae: Leiodinae)

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#### Taxonomy, descriptions, faunistics, Coleoptera, Leiodidae, Leiodinae, Pseudcolenis, China

Abstract. P. antennata, P. appendiculata, P. similis, P. curvipes, P. parva and P. torta spp. nov. from China (Yunnan), are described and distinguished from similar species. Pseudcolenis schuelkei Švec, 2002 is recorded from Yunnan for the first time with some notes on its variability.

### INTRODUCTION

The species of the genus *Pseudcolenis* Reitter, 1884 are known to occur in the Asian Palaearctic, Oriental Region and Australian Region (Daffner 1988). Altogether 44 species of the genus has been described up to now, among them 24 species from China. The Chinese and Nepalese species of the genus were reviewed by Švec (2009) recently.

In the present paper, six species new to science are described from China. Therefore, the present number of the *Pseudcolenis* species is 50, among them 30 species from continental China and Taiwan. Some new data concerning *P. schuelkei* Švec, 2002 are added.

### MATERIAL AND METHODS

Abbreviations:

JRPC Jan Růžička, private collection, Praha, Czech Republic;

MSBC Michael Schülke, private collection, Berlin, Germany;

ZSPC Zdeněk Švec, private collection, Praha, Czech Republic.

The present work is based on the material recently collected by Michael Schülke (Berlin), Jan Růžička and Jiří Hájek (Prague) in China.

Collecting data cited in quotation marks are taken from the locality labels accompanying the examined specimens. The individual lines from the original locality labels are separated by a slash; the individual labels are separated by double slash in this work. Each holotype or paratype is provided with a red label bearing the status of the specimen (holotypus or paratypus respectively) name of the species, the name of the author, year 2013 and attached to the same pin as the relevant specimen.

The type material is preserved in MSBC, JRPC and in ZSPC.

The specimens were first relaxed in 4% acetic acid, then rinsed in water and dissected in a drop of water.

The genitalia of the holotypes and some paratypes were dehydrated in ethyl alcohol, then put in a drop of clove oil to make them transparent enough for observing the internal structures, rinsed in Euparal solvent and finely mounted in Euparal mountant on a transparent label added to the same pin as the dissected specimen. The genitalia of some paratypes were mounted in Arabic gum on the same label as the relevant specimen or on a transparent label added to the same pin as the dissected specimen.

Two types of the mesoventral structures indicated by the letters A and B in this paper are known at present in the genus *Pseudcolenis*. The structure A is represented by a longitudinal wide bump flatly rounded or narrow longitudinal bump narrowly rounded in oblique view resembling wide roundly angled ridge, flatly or more obliquely falling anteriorly in the lateral view. The bump type of mesoventral structure was indicated as A or B depending on its width, height and its steepness in Švec (2009). This classification does not seem to be much practical due to transition of the state; therefore, both types sensu Švec (2009) are unified in one status indicated by the letter A in this paper. As the mesoventral structure B there is indicated in the present work longitudinal carina, corresponding with the type C in Švec (2009). The classification of the density of the eytral strigosity follows to the citied work. If present, there are usually nine punctured striae on elytra. The sutural stria is considered as 1<sup>st</sup> stria. Except 1<sup>st</sup> stria, no one is impressed. The sutural stria is impressed usually from apex to anterior part of elytra. The length of the impressed part of the sutural stria is specified in individual descriptions. The sutural stria continues as a not impressed row of punctures, similarly as the other striae. The punctures present in intervals are usually seriate, sometimes similar to strial punctures, therefore the primary striae are difficult to recognize.

The measurements of the total body length were taken from all specimens examined. Specific measurements of the individual body parts were taken from the holotypes only except of the data about the variability. The measurements were measured to the first decimal place of millimetre except the distance between elytral strigosities that are rounded-off to the hundredth of the millimetre.

Abbreviations of body parts and measurements:

AII-AXI antennomeres II-XI.

AIII/AII The ratio of the length or width of the antennomeres III:II, analogously for ratios of others antennomeres.

L Length.

W Width.

L/W, W/L Ratio between measurements

The descriptions are based on the holotypes. The variability is mentioned in the paragraph "Variation" if necessary and includes features exhibited by paratypes. Important characters of the sexual dimorphism are also included in the mentioned paragraph.

### DESCRIPTIONS

The most useful characters for the identification of the individual species seem to be the absence or presence of the elytral strigosity, its density, the structure of the male antennae and the structure of the mesosventrite. The best way of the reliable identification is the comparing

of the shape of males and females genitalia including the shape of endophallic structures, even if similar shapes of aedeagus and mainly spermatheca occur in habitually similar species. Nevertheless it is possible to detect the belonging of the species to the informal species groups and the subgroups using the external characters mentioned above. The groups and the subgroups have been defined by Švec (2009).

Common or variable external characters in *Pseudcolenis* are not mentioned in the descriptions. They are the presence of coarse punctures and depressions on head, the type of the pronotal puncturation consisting from very scarcely arranged fine superficial punctures with several irregularly distributed large punctures. Also usual presence of membranous wings is not mentioned in the descriptions. Thus the descriptive data about head and pronotal puncturation are minimized in this paper.

If it is not stated otherwise (in case of a diversion from the usual state), some other characters commonly occurring in the species of the genus are not mentioned in the descriptions (see also Švec 2009).

species	distribution *	type of meso- ventral structure	absence (A) or presence and density** of elytral strigosities	<ul> <li>♂ 7<sup>th</sup> ante- nnomere strikingly enlarged (L) or normal (N)</li> </ul>	species group and subgroup (I or II)
P. laticornis Angelini et Švec, 2000	CH (Hubei, Shaanxi, Yunnan)	А	А	N	P. bouvieri I
P. neglecta Angelini et Švec, 2000	CH (Hubei, Sichuan, Yunnan)	А	А	N	P. bouvieri I
Pseudcolenis antennata sp. nov.	CH (Yunan)	А	А	L	P. bouvieri II
P. appendiculata sp. nov.	CH (Yunnan)	А	VS	Ν	P. grandis I
P. curvipes sp. nov.	CH (Yunnan)	А	VS	Ν	P. grandis I.
P. fortepunctata Švec, 2009	CH (Yunnan)	А	VS	Ν	P. grandis I
P. michaeli Švec, 2009	CH (Yunnan)	А	VS	Ν	P. grandis I
P. picea Hisamatsu, 1964	TA, JA	А	VS	Ν	P. grandis I
P. similis sp. nov.	CH (Yunnan)	А	VS	Ν	P. grandis I
P. sinica Angelini et Švec, 1995	CH (Yunnan)	А	VS	N	P. grandis I
P. strigicollis Švec, 2009	CH (Yunnan)	А	VS	Ν	P. grandis I
P. torta sp. nov.	CH (Yunan)	А	VS	Ν	P. grandis I
P. yunnanica Švec, 2009	CH (Yunnan)	А	VS	Ν	P. grandis I
P. lenka Švec, 2002	CH (Hubei)	А	VS	L	P. grandis II
P. shannae Angelini et Švec, 2000	CH (Shaanxi, Hubei)	А	VS	L	P. grandis II
<i>P. parva</i> sp. nov.	China (Yunnan)	А	S	Ν	strigosa I
P. strigosa (Portevin, 1905)	CH (Shaanxi, Sichuan, Yunnan), IN, NE, TH	А	S	Ν	<i>strigosa</i> I
P. disparilis (Champion, 1924)	CH(Yunnan), IN, NE	А	S	L	strigosa II
P. schuelkei Švec, 2002	CH (Sichuan, Yunnan)	А	S	L	strigosa II

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P. annulata Švec, 2009	CH (Yunnan)	А	D	N	hilleri I
P. hilleri Reitter, 1884	CH (Fujian, Jilin, Shaanxi, Yunnan), JA (Shikoku), KO, FE	А	D	N	hilleri I
P. interposita Švec, 2009	CH (Yunnan)	А	D	N	hilleri I
P. klapperichi Daffner, 1988	TA	А	D	Ν	hilleri I
P. acuminata Švec, 2009	CH (Yunnan), IN, NE	А	D	L	hilleri II
P. major Švec, 2009	CH (Yunnan)	А	ED	Ν	rastrata I
P. rastrata (Champion, 1923)	CH (Yunnan), IN	А	ED	Ν	rastrata I
P. dilatata Angelini et Švec, 2000	CH (Shaanxi, Sichuan, Hubei, Yunnan)	А	ED	L	rastrata II
P. forticornis Daffner, 1988	TA	А	ED	L	rastrata II
P. carinata Švec, 2009	CH (Yunnan)	В	D	L	sedlaceki
P. crassicornis Švec, 2009	CH (Yunnan)	В	D	L	sedlaceki

### Remark:

\* CH= continental China, TA= Taiwan, IN= India, NE= Nepal, KO = Korea, FE = Far East of Asia, JA = Japan, TH = Thailand

\*\* (VS) - very sparse: interval between strigosities (i):  $i \ge 0.03$  mm; (S) - sparse:  $0.01 < i \le 0.02$  mm; (D) - dense: i=0.01 mm; (ED) very or extremely dense (elytra sometimes opalescent): i < 0.01 mm

The relevant paragraph of the key to species groups and subgroups of the genus *Pseudcolenis* (Švec 2009) should be modified as follows:

a. Antennomere VII approximately as large as antennomeres IX and X in both genders. ......subgroup I (*Pseudcolenis laevipennis* (Portevin, 1922); *P. bouvieri* (Portevin, 1903); *P. neglecta* Angelini et Švec, 2000; *P. laticornis* Angelini et Švec, 2000; *P. schawalleri* Švec, 2009)

b. Antennomere VII strikingly enlarged in male, as wide as antennomeres IX, X in female. ..... subgroup II (*P. antennata* sp. nov.)

### Pseudcolenis antennata sp. nov.

(Figs 1, 2, 11)

**Type material.** Holotype ( $\mathcal{E}$ ): "CHINA: Yunnan, Dali Bai Aut. Pref./ Mao Jiao Shan, E pass, 58 km NE/ Dali, 25°56'41" N, 100°40'05"E/2525 m, second. mixed forest, litter/ moss & mushroom sifted, 4.ix. 2009/ leg M. Schülke [CH09-26]", (MSBC). Paratypes ( $\mathcal{E}$ ,  $\mathcal{Q}$ ): the same locality data as in holotype, (MSBC, ZSPC).

**Description.** Total length 2.4-2.8 mm, in holotype 2.5 mm, head 0.4 mm, pronotum 0.6 mm, elytra 1.5 mm, antenna 0.8 mm, aedeagus 0.7 mm. Maximum width of head 0.7 mm, pronotum 1.4 mm at base, elytra 1.5 mm at anterior third of elytral length.

Shape of body as in Fig. 11; dorsum light chest-nut, clypeus, lateral margins of pronotum and elytra, scutellum a little lighter, legs yellow-reddish, antennomeres I-VI yellow, AVII brown, AVIII-AX red-brown, AXI red-brown with apex lighter. Dorsal surface microsculptured by



Figs 1-5. 1, 4, 5: aedeagus dorsally, 2, 3: spermatheca. 1, 2- *Pseudcolenis antennata* sp. nov.; 3, 4- *P. appendiculata* sp. nov.; 5- *P. similis* sp. nov. Scale = 0.1 mm.

transverse strigosity on head, pronotum and scutellum.

Head. With distinct punctures irregularly distributed, spaced by about 3 or more times their own diameter. Distinctly, finely densely strigose. Antennal club 5-segmented. Relative length of AII-AXI (AII = 1.0): 1.0 - 1.1 - 0.6 - 0.5 - 0.7 - 1.1 - 0.5 - 0.7 - 0.7 - 1.3. Relative width of AII-AXI (AII = 1.0): 1.0 - 1.0 - 1.0 - 1.2 - 1.6 - 2.6 - 2.2 - 2.4 - 2.4 - 2.4. AVII distinctly wider than AIX and AX. W/L of AII-AXI = 0.4 - 0.4 - 0.7 - 1.0 - 1.0 - 1.8 - 1.5 - 1.5 - 0.8.

Pronotum. With unobtrusive puncturation, punctures much finer and smaller than those on head, minute very sparsely scattered. Extremely finely and densely strigose. Posterior angles acute closely rounded on tip in dorsal view, obtuse with closely rounded tip in lateral view.

Scutellum. With transverse dense strigosities similar to those on head.

Elytra. Without strigosity. Well developed punctures arranged in nine distinct striae. Strial punctures separated by about 1-2 times, predominantly 2 times their diameter longitudinally. Intervals with seriate punctures arranged in longitudinal rows. Sutural stria impressed approximately up to elytral basal third.

Mesoventrite. Type A, mesoventral bump narrow, distinct, obliquely falling anteriorly.

Legs. Anterior tarsomeres I-IV a little widened, tarsomere I protracted. Tibiae straight.

Genitalia. Aedeagus with median lobe very feebly bent with dorsally deflexed terminal third in lateral view, dorsal view as in Fig. 1. Spermatheca C-shaped (Fig. 2).

**Variation.** Female protarsi slender. Dorsum of the female paratype yellow-brown. AIII/AII varies between 1.1-1.2 in the type series. Antennomere VII approximately as wide as AVIII, narrower than antennomeres IX and X in female.

**Differential diagnosis.** *Pseudcolenis antennata* sp. nov. differs from all the members of the species group *P. bouvieri* (see above) in the enlarged antennomere VII, in the specific shape of median lobe of aedeagus and in the shape of the spermatheca.

**Name derivation.** The Latin name of the new species reminds of the enlarged antennomere VII in male.

## Pseudcolenis appendiculata sp. nov.

(Figs 3, 4, 12)

**Type material.** Holotype ( $\mathcal{C}$ ): "CHINA: Yunnan, Lincang Dali Pref./ Wuliang Shan, old pass road, N pass/ 24°45′16.4″ N, 100°29′50.3″E, 2350/ m forest remnant & tea plantation/ litter, mushrooms, grass sifted, 16. ix. 2009, leg. M. Schülke [CH09-55], (MSBC). Paratypes: ( $6 \mathcal{C} \mathcal{C}$ ,  $7 \mathcal{Q} \mathcal{Q}$ ): the same locality data as in holotype, (MSBC, ZSPC).

**Description.** Total length 2.2-2.7 mm, in holotype 2.3 mm, head 0.2 mm, pronotum 0.7 mm, elytra 1.4 mm, antenna 0.9 mm, aedeagus 0.5 mm. Maximum width of head 0.6 mm, pronotum 0.8 mm at base, elytra 0.9 mm at anterior third of elytral length.

Shape of body as in Fig. 12; dorsum light chest-nut with clypeus, pronotal and elytral margins lighter. Legs lightly red-brown, antennomeres I-IV yellow, AV partly infuscate, AVI-AXI brown. Pronotum feebly opalescent. Dorsal surface entirely microsculptured by transverse strigosity.

Head. With punctures irregularly distributed, spaced by about 2-4 or more times their own diameter. Very finely densely strigose. Antennal club 5-segmented. Relative length of AII-AXI (AII = 1.0): 1.0 - 1.4 - 0.9 - 0.8 - 0.9 - 0.7 - 0.7 - 0.9 - 1.0 - 1.7. Relative width of AII-AXI (AII = 1.0): 1.0 - 0.8 - 0.8 - 0.8 - 1.7 - 1.5 - 1.8 - 1.8 - 1.7. AVII a little narrower than AIX and AX. W/L of AII-AXI = 0.5 - 0.3 - 0.5 - 0.6 - 0.6 - 1.3 - 1.1 - 1.1 - 1.0 - 0.5.

Pronotum. With unobtrusive puncturation, punctures much finer and smaller than those on head, minute, very sparsely scattered. Very finely and densely strigose, a little finer and denser than on head. Posterior angles obtuse closely rounded on tip in dorsal view, rectangular with closely rounded tip in lateral view. Base obliquely tapered to posterior angles a little emarginate laterally.

Scutellum. With transverse dense strigosities sparser than those on head.

Elytra. With very sparse strigosity; strigosities separated by about 0.03-0.04 mm. Punctured striae unobtrusive, feeble. Strial punctures separated by about 10 or more times their diameter longitudinally. Intervals with seriate punctures even smaller and less obtrusive than strial punctures. Sutural stria impressed approximately up to elytral basal sixth.

Mesoventrite. Type A, mesoventral bump wide, obliquely falling anteriorly.

Legs. Anterior tarsomeres I-IV a little widened, tarsomere I protracted. Tibiae straight.

Genitalia. Aedeagus with median lobe very flatly bent, dorsally deflexed on terminal half, ventrally deflexed in apical fifth in lateral view; dorsal view as in Fig. 3. Parameres bisetose, with long appendix on their apex. Spermatheca S-shaped (Fig. 4).



Figs 6-10. 6, 9, 10: aedeagus dorsally, 7, 8: spermatheca. 6, 7- *Pseudcolenis curvipes* sp. nov.; 8, 9- *P. parva* sp. nov.; 10- *P. torta* sp. nov. Scale = 0.1 mm.

**Variation.** Female protarsi slender. AIII/AII varies between 1.0-1.4 in the type series. AVII approximately as wide as AVIII, narrower than AIX and X in females. Apex or even entire AXI lighter than previous antennomere in some of the paratypes.

**Differential diagnosis.** *Pseudcolenis appendiculata* sp. nov. is similar to the remaining species of the species group *P. grandis*, subgroup I in the density of the elytral strigosities and in the shape of the antennae. It differs by wide median lobe of aedeagus with lateral sides roundly narrowed to broadly rounded apex and by the internal sac formed by narrow straight siphon-shaped structure and also by the S-shaped spermatheca.

**Name derivation.** The name of the new species reminds of the apical appendix attached to the apex of parametes.

# Pseudcolenis similis sp. nov. (Figs 5, 13)

**Type material.** Holotype (♂): "CHINA: Yunnan, Lincang Pref., Xue/ Shan, 11 km ENE Lincang, 2510 m/ 23°55′01″N 100°11′17.5″ E, second./ pine forest with Rhodod., small cleft with/ water, litter & mushrooms sifted/ 10.ix.2009, leg. M. Schülke [CH09-39]", (MSBC). Paratype (♂): the same locality data, (ZSPC).

**Description.** Total length 2.3-2.5 mm, in holotype 2.3 mm, head 0.3 mm, pronotum 0.6 mm, elytra 1.4 mm, antenna 0.8 mm, aedeagus 0.7 mm. Maximum width of head 0.7 mm, pronotum 1.3 mm at base, elytra 1.4 mm at anterior fifth of elytral length.

Shape of body as in Fig. 13; dorsum and legs yellow-brown, with clypeus and lateral margins of pronotum and elytra lighter, antennomeres I-V yellow, AVI-AX brown, AXI brown with apex lighter. Pronotum opalescent. Dorsal surface entirely microsculptured by transverse strigosity.

Head. With punctures irregularly distributed, spaced by about 3 or more times their own diameter. Distinctly, finely densely strigose. Antennal club 5-segmented. Relative length of AII-AXI (AII = 1.0): 1.0 - 1.3 - 0.7 - 0.7 - 0.7 - 0.8 - 0.7 - 0.8 - 0.8 - 1.5 Relative width of AII-AXI (AII = 1.0): 1.0 - 0.9 - 0.7 - 0.8 - 1.0 - 1.5 - 1.5 - 1.8 - 1.8 - 1.7. AVII of similar size as AVIII, narrower than AIX and AX. W/L of AII-AXI = 0.5 - 0.3 - 0.5 - 0.6 - 0.8 - 0.9 - 1.1 - 1.1 - 0.6.

Pronotum. With unobtrusive puncturation, punctures much finer and smaller than those on head, minute very sparsely scattered. Extremely finely and densely strigose. Posterior angles acute closely rounded on tip in dorsal view, obtuse with closely rounded tip in lateral view.

Scutellum. With transverse strigosities, sparser than those on head, denser than on elytra.

Elytra. Very sparsely strigose; strigosity spaced approximately by 0.03 mm. Very fine punctures arranged in unobtrusive stria; separated by about 4-5 times their diameters longitudinally. Intervals with seriate punctures similar to those in striae. Sutural stria impressed approximately up to elytral basal sixth.

Mesoventrite. Type A, mesoventral bump flatly falling anteriorly.

Legs. Anterior tarsomeres I-IV a little widened, tarsomere I protracted. Tibiae straight.

Genitalia. Aedeagus with median lobe feebly simply bent with dorsally deflexed terminal quarter in lateral view, dorsal view as in Fig. 5. Female unknown.

**Differential diagnosis.** *Pseudcolenis similis* sp. nov. is most closely similar to *Pseudcolenis sinica* Angelini et Švec, 1995; having similar type of antennae in male, ventral and dorsal sculptures and approximately similar size of body. *P. similis* sp. nov. can be distinguished by the characteristic shape of the median lobe laterally slightly emarginate before apex.

Name derivation. The name of the new species is derived from the similarity to *P. sinica*.

## Pseudcolenis curvipes sp. nov. (Figs 6, 7, 14)

**Type material.** Holotype ( $\Im$ ): "China: Yunnan, Baoshan Pref., Gao-/ ligong Shan, 32 km SE Tengchong/ 2150 m, 24°51'22"N, 98°45'36"E/ devast. primary deciduous forest/ litter, wood, mushrooms sifted, 26.viii./ 2009, leg. M. Schülke [CH09-08]", (MSBC). Paratypes: ( $4 \Im \Im, 9 \heartsuit \heartsuit$ ), the same locality data as in the holotype (MSBC, ZSPC); ( $7 \Im \Im$ , 10  $\heartsuit \heartsuit$ ), "China: Yunnan, Baoshan Pref., Gao-/ ligong Shan, 32 km SE Tengchong/ 2150-2250 m, 24°51-53' N, 98°45'E/ devast. prim. and second. forest, litter,/ dead wood, mushrooms sifted, 26.viii./ 2009, leg. M. Schülke [CH09-08/09]", (MSBC, ZSPC).



Figs 11-16: Dorsal view of body (holotypes). 11- *Pseudcolenis antennata* sp. nov.; 12- *P. appendiculata* sp. nov.; 13- *P. similis* sp. nov.; 14- *P. curvipes* sp. nov.; 15- *P. parva* sp. nov.; 16- *P. torta* sp. nov.

**Description.** Total length 2.2-2.8 mm, in holotype 2.7 mm, head 0.2 mm, pronotum 1.2 mm, elytra 1.3 mm, antenna 0.9 mm, aedeagus 1.1 mm. Maximum width of head 0.6 mm, pronotum 1.4 mm at base, elytra 1.5 mm at anterior fourth of elytral length.

Shape of body as in Fig. 14; dorsum light red-brown with clypeus and anterior part of front lighter, tarsi yellow-brown, antennomeres I-IV yellow-red, AV infuscate, AVI-AX brown, AXI brown gradually lighter toward apex. Pronotum feebly opalescent. Dorsal surface entirely microsculptured by transverse strigosity.

Head. With punctures irregularly distributed, spaced by about 3-4 or more times their own diameter. Finely densely strigose. Antennal club 5-segmented. Relative length of AII-AXI (AII = 1.0): 1.0 - 1.2 - 0.8 - 0.8 - 0.8 - 1.0 - 0.7 - 0.9 - 0.8 - 1.7. Relative width of AII-AXI

(AII = 1.0): 1.0 - 0.8 - 1.0 - 0.8 - 1.0 - 1.8 - 1.6 - 2.2 - 2.4 - 2.0. AVII narrower than AIX and AX. W/L of AII-AXI = 0.4 - 0.3 - 0.5 - 0.4 - 0.5 - 0.8 - 1.0 - 1.0 - 1.2 - 0.5.

Pronotum. With unobtrusive puncturation, punctures much finer and smaller than those on head, minute, very sparsely scattered. Very finely and densely strigose, a little finer and denser than on head. Posterior angles obtuse closely rounded on tip in dorsal view; slightly obtuse with closely rounded tip in lateral view. Base obliquely tapered to posterior angles.

Scutellum. With transverse dense strigosities sparser than those on head and pronotum, denser than on elytra.

Elytra. With very sparse strigosity; strigosities separated by about 0.03 mm. Punctured striae except of well distinct 1<sup>st</sup> and 2<sup>nd</sup> stria unobtrusive, feeble. Strial punctures separated by about 2-3 times their diameter longitudinally. Intervals with seriate punctures smaller and less obtrusive than strial punctures, in some places rare larger punctures interposed. Sutural stria impressed approximately up to elytral basal fifth.

Mesoventrite. Type A, mesoventral bump wide, obliquely falling anteriorly.

Legs. Anterior tarsomeres I-IV a little widened, tarsomere I protracted. Hind tibiae simply bent.

Genitalia. Aedeagus with median lobe long, strongly simply arcuate, dorso-ventrally deflexed at apex in lateral view; bifurcate apically in dorsal view (Fig. 6). Spermatheca J-shaped (Fig.7).

**Variation.** Female protarsi slender. Hind tibiae almost straight or entirely straight in small males and in the majority of females. AIII/AII varies between 1.2-1.4 in the type series. AVII a little broader than AVIII, narrower than AIX and AX in females. Base of pronotum a little emarginate before hind pronotal angles in some of the paratypes.

**Differential diagnosis.** *Pseudcolenis curvipes* sp. nov. is mostly similar to *P.michaeli* Švec, 2009 in the external characters and also by the shape of the aedeagus and spermatheca. It differs mainly by the apex of the median lobe that is bifurcate in the dorsal view while the same is simply pointed in *P. michaeli*.

**Name derivation.** The name of the new species is derived from Latin curvus = bent and pes = leg.

### Pseudcolenis parva sp. nov.

(Figs 8, 9, 15)

**Type material.** Holotype ( $\mathcal{J}$ ): "CHINA: Yunnan, Dali Bai Aut. Pref./ Mao Jiao Shan, E pass, 58 km NE/ Dali, 25°56'41" N, 100°40'05"E/2525 m, second. mixed forest, litter/ moss & mushroom sifted, 4.ix. 2009/ leg M. Schülke [CH09-26]", (MSBC). Paratypes: ( $2 \mathcal{J} \mathcal{J}$ ,  $2 \mathcal{Q} \mathcal{Q}$ ): the same locality data as in holotype, (MSBC, ZSPC).

**Description.** Total length 1.7-2.0 mm, in holotype 1.7 mm, head 0.2 mm, pronotum 0.5 mm, elytra 1.0 mm, antenna 0.6 mm, aedeagus 0.5 mm. Maximum width of head 0.5 mm, pronotum 1.0 mm at base, elytra 1.1 mm at anterior third of elytral length.

Shape of body as in Fig. 15, dorsum yellow-red, head darker with clypeus and central part of front yellowish, legs lightly yellow-red, antennomeres I-VI yellow, AVII-AXI brown, apex of AXI lighter. Dorsal surface entirely microsculptured by transverse strigosity.

Head. With punctures irregularly distributed, spaced by about 3-6 or more times their own diameter. Distinctly, finely densely strigose. Antennal club 5-segmented. Relative length of AII-AXI (AII = 1.0): 1.0 - 0.6 - 0.6 - 0.3 - 0.8 - 0.6 - 0.8 - 0.9 - 1.8. Relative width of AII-AXI (AII = 1.0): 1.0 - 0.8 - 0.8 - 0.8 - 1.0 - 2.0 - 2.0 - 2.3 - 2.3 - 2.3. AVII narrower than AIX and AX. W/L of AII-AXI = 0.4 - 0.3 - 0.6 - 0.6 - 1.3 - 1.1 - 1.6 - 1.3 - 1.1 - 0.6.

Pronotum. With unobtrusive puncturation, punctures much finer and smaller than those on head, minute very sparsely scattered. Extremely finely and densely strigose. Posterior angles obtuse closely rounded on tip in dorsal view, acute with closely rounded tip in lateral view. Base obliquely tapered to posterior angles.

Scutellum. With transverse dense strigosities similar to those on head.

Elytra. With sparse strigosity; strigosities separated by about 0.01-0.02 mm. Punctured striae unobtrusive, feeble. Strial punctures separated by about 6-8 times their diameter longitudinally. Intervals with seriate punctures smaller and less obtrusive than strial punctures. Sutural stria impressed approximately up to elytral basal sixth.

Mesoventrite. Type A, mesoventral bump wide, very flatly falling anteriorly.

Legs. Anterior tarsomeres I-IV a little widened, tarsomere I protracted. Tibiae straight.

Genitalia. Aedeagus with median lobe very flatly bent, dorsally deflexed on terminal third in lateral view; dorsal view as in Fig. 9. Spermatheca bulbose basally with moderately stout process (Fig. 8)

Variation. Female protarsi slender. AIII/AII varies between 1.0-1.1 in the type series.

**Differential diagnosis.** *Pseudcolenis parva* sp. nov. is similar to *P. flavicollis* Daffner, 1988 in the size of body, in colouring of the antennae, the size of AVII and also in the shape of the internal sac of the aedeagus. It differs in the shape of the median lobe of the aedeagus evenly narrowed to the small bump on tip while the same is convex laterally before acute tip in *P. flavicollis*.

**Name derivation.** The name of the new species reminds of the small size of the species (from Latin parvus = small).

## *Pseudcolenis torta* sp. nov. (Figs 10, 16)

**Type material.** Holotype ( $\mathcal{S}$ ): "China: Yunnan, Baoshan Pref., Gaoligong Shan, W pass 32 km SE/ Tengchong, 1600 m, 24°51'11'' N/, 98°44'27'' E, cleft with devast. primary/ forest, litter & mushrooms sifted, 28.viii. 2009, leg. M. Schülke [CH09-14]", (MSBC). Paratypes: ( $4 \mathcal{S} \mathcal{S}$ ): the same locality data as in the holotype., (MSBC, ZSPC).

**Description.** Total length 1.7-2.3 mm, in holotype 1.7 mm, head 0.2 mm, pronotum 0.6 mm, elytra 0.9 mm, antenna 0.8 mm, aedeagus 0.7 mm. Maximum width of head 0.9 mm, pronotum 1.2 mm at base, elytra 1.3 mm at anterior fourth of elytral length.

Shape of body as in Fig. 16, head and pronotum lightly brown, pronotal margins, clypeus, elytra, femora and tibia yellow-brown, tarsi and antennomeres I-V yellow, AVI light yellow-brown, AVII-X gradually darkened from yellow-brown to brown, AXI lighter than AX. Dorsal surface partly microsculptured by transverse strigosity.

Head. With punctures irregularly distributed, spaced by about 3-6 or more times their own diameter. Transverse strigosity developed only on clypeus. Antennal club 6-segmented.

Relative length of AII-AXI (AII = 1.0): 1.0 - 1.2 - 0.5 - 0.6 - 0.8 - 0.8 - 0.7 - 0.9 - 0.9 - 1.6. Relative width of AII-AXI (AII = 1.0): 1.0 - 0.8 - 0.8 - 1.0 - 2.0 - 2.0 - 1.5 - 2.0 - 2.0 - 1.8. AVI and AVII as broad as AIX and AX. W/L of AII-AXI = 0.5 - 0.4 - 0.5 - 0.9 - 1.3 - 1.3 - 1.1 - 1.2 - 1.2 - 0.6.

Pronotum. With unobtrusive puncturation, punctures much finer and smaller than those on head, minute very sparsely scattered. Without any strigosity. Posterior angles slightly obtuse closely rounded on tip in dorsal view; very slightly obtuse with closely rounded tip in lateral view. Base obliquely tapered to posterior angles, a little emarginate laterally.

Scutellum. Smooth.

Elytra. With very sparse strigosity; strigosities separated by about 0.03-0.04 mm. Punctured striae distinct. Strial punctures separated by about 1-2 times their diameter longitudinally. Intervals with sparse, seriate punctures smaller than strial punctures. Sutural stria impressed nearly all along its length up to the level of scutellar apex.

Mesoventrite. Type A, mesoventral bump wide, flatly falling anteriorly.

Legs. Anterior tarsomeres I-IV a little widened, tarsomere I protracted. Tibiae straight.

Genitalia. Aedeagus with median lobe very flatly sinusoid in lateral view; dorsal view as in Fig. 10. Internal sac tube-shaped, twisted medially and ring-like apically. Female unknown.

Variation. AIII/AII varies between 1.2-1.3 in the type series.

**Differential diagnosis.** *Pseudcolenis torta* sp. nov. is similar to the remaining species of the group *P. grandis*, subgroup I in the density of the elytral strigosities and in the shape of the antennae. It differs by 6-segmented antennal club and also by the twisted internal sac.

**Name derivation.** The name of the new species is taken from Latin (Latin torta=twisted), remembering the shape of the internal sac of the aedeagus.

### FAUNISTIC RECORD

# Pseudcolenis schuelkei Švec, 2002

**Material examined:** (2 うう), "CHINA: Yunnan, Dali Bai Aut. Pref./ Diancang Shan E pass, 43 km NW/ Dali, 25°59′50″ N, 100°00′30″ E, 2700 m, secondary pine forest, litter/ moss and mushrooms sifted, 23.viii./ 2009, leg. M. Schülke [CH09-02]", (MSBC, ZSPC); (う), "CHINA: Yunnan province/ 1 km W of Haba, 19.6.2007/ Haba Xueshan Mts./ 27°22.3′ N, 100°07.7′ E, 2750 m/ J. Hájek & J. Růžička leg. [Ch36]// sifted wet detritus and leaves/ under rocks, margin of mixed forest (with dominant *Pinus, Aesculus*) near small stream, close to village", (JRPC).

Distribution. China (Sichuan, Yunnan). New for Yunnan.

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### REFERENCES

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