A review of the genus *Catapiestus* Perty, 1831
(Coleoptera: Tenebrionidae: Cnodalonini) with descriptions of two new species from China

**J.-T. Lang**, **G.-D. Ren**

**Introduction**

The genus *Catapiestus* Perty, 1831 belongs to the tribe Cnodalonini (Tenebrionidae: Stenochiinae), and has at present 12 species in the Oriental and Palaearctic Regions, including two new species described in this paper.

The genus *Catapiestus* was proposed by Perty [1831] with *C. piceus* Perty, 1831 as type species. Subsequently, one species was described by Guérin-Méneville [1841], four species by Fairmaire [1888, 1893, 1896], three species by Pic [1911, 1912] and one species by Chûjô [1984].

The species of this genus are mainly distributed in the subtropical forests in Southeast Asia. The current boundaries are known in the south by the island of Java, in the west by India, and in the north by the island Okinawa (Japan) and on the continent at about 30° north, in the Himalayas [Löbl et al., 2008] up to about 2000 m altitude (fig. 1).

**Materials and methods**

During our study on tenebrionid collections from Yunnan, Hainan and Taiwan, deposited in the Museum of Hebei University (MHBU) and Zoological Museum, Institute of Zoology, Chinese Academy of Sciences, Beijing (ZMIZCAS) we discovered two new species, *Catapiestus clavipes* sp. n. (Hainan), and *Catapiestus medvedevi* sp. n. (Yunnan). We also ask for pictures of type and identified species from the Museum National d'Histoire Naturelle, Paris (MNHN) and Natural History Museum, London (BMNH), presented herein for comparison. Type localities data in fig. 1 are derived from examined specimens and literature records.

**Taxonomy**

*Genus Catapiestus* Perty, 1831

*Catapiestus* Perty, 1831: xxxvii. Type species *Catapiestus piceus* Perty, 1831.


Body elongate, parallel-sided, strongly depressed. Body dark brown, with dense punctures. Head broad, space between eyes broad, neck slender and nearly cylindrical. Distal 6 segments of antenna dilated, maxillary palpus with apical segment strongly secundiform. The lateral margins of pronotum with serrations, and the middle and/or lateral with depression. Elytra with distinct punctures and striae. Legs slender, femur with tooth or not, tibia spurs extremely undeveloped, tarsi with hairs. There are no external differences, or only indistinct differences, between male and female.

**Key to the species of the genus *Catapiestus* Perty**

1. Pronotum trapezoid or sub-square, lateral margines arcuate and serrate ................................................................. 2

   – Pronotum inverse-trapezoid, lateral margines with indistinct serrations or nearly smooth ................................................................. 10

2. Profemur with 1 or 3 small denticles on underside .................. 3

   – Profemur with 1 large tooth on front ridge, 1 small tooth on hinder; protibia bent ................................................................. *C. clavipes* sp. n.  

3. Profemur with only 1 tooth on underside, lies in front ridge ...... ................................................................. 4

   – Profemur with 3 denticles on ridge......................... *C. medvedevi* sp. n.  

4. Distal six segments of antenna slightly dilated, indistinctly clavate ................................................................. 5

   – Distal six segments of antenna distinctly dilated, avate ...... 7

5. Pronotum disc convex between lateral depression and the middle longitudinal groove ................................................................. *C. piceus*  

   Pronotum disc not convex between lateral depression and the middle longitudinal groove ................................................................. 6

6. The middle longitudinal groove on pronotum indistinct, with isodiametric, dense punctures ................................................................. *C. indicus*
- The middle longitudinal groove on pronotum distinct, with punctures small or absent..................C. bourgoini

7. Elytra with punctures-striae, with coarse, dense punctures.......... ..................C. rugipennis

8. Pronotum slightly convex, middle with deep depression, lateral with shallow depression, with coarse punctures...........

– Pronotum almost flat, middle with shallow depression, with dense punctures ........................................ C. piceiventris

9. Pronotum lateral margins curved with larger radius, slightly acute serrations, front corner rounded, hinder corner slightly acute

– Pronotum lateral margins curved with small radius, with more acute serrations than upper, front corner acute, hinder corner rounded ........................................................ C. subrufescens

10. Profemur with small tooth or/and indistinct digitate............... 11

– Pronemur with 1 large tooth in the middle, 1 distinct digitation nearly apical C. simillimus

11. Pronotum inverse-trapezoid, lateral margins distinctly rounded, strongly serrate .......................................................... C. tonkinicus

– Pronotum distinctly inverse-trapezoid, lateral margins indistinctly rounded, weakly serrate ........................................ C. medvedevi sp. n.

**Catapiestus bourgoini** Pic, 1912

(Color plate 5: fig. 2)

Pic, 1912: 17.

**Type material.** Holotype (MNHN) with labels: "Environs de MAHE, India (Malabar – Mahe)."

**Description.** Male (fig. 3). Labrum transverse, semicircular, and 2/3, near apex almost straight, near base bent in lateral view; other

– Pronotum distinctly inverse-trapezoid, lateral margins indistinctly rounded, weakly serrate ........................................ C. medvedevi sp. n.

**Catapiestus clavipes** sp. n. (Color plate 5: fig. 3)

**Type material.** Holotype. 2/3, China: Hainan Baisha, Nankai Town, Daoda, 400–500 m, 22–25.05.2008, collected by Yi-Bin Ba and Jun-Tong Lang. Paratypes: 2/3, 2/3, same date as holotype (holotype and all paratypes deposited in MHBU).

**Description.** Male (fig. 3). Labrum transverse, semicircular, anterior margin with dense yellow hairs, dense punctures; anterior margin of clypeus broad, weakly convex, anterior angles rounded; outer margin of gena rounded, gradual constriction from base to apex; basal margin of gena with distinct jut outward, with dense, uniform, and coarse punctures on back surface, with only small elongate punctures rearward of eyes; fronto-clypeal suture indistinct; interocular space 3 times as wide as eye. Antennae not reaching middle of pronotum, 2–5 segments nearly conical, 6–10 segments nearly triangular, apical segment oval, 6 apical segments nearly clavate; relative length of each segment (base to apex): 10:7:12:10:11:10:9:14.

Pronotum transverse (width/length = 1.59/1); anterior margin curved, lateral angles distinctly protruding; lateral margins arc bending, with 7 or 8 distinct serrations; base nearly straight, lateral margins slightly inclined, with indistinct narrow margins; anterior angles nearly triangular, rounded apically; posterior angles nearly right; disc convex at middle, with distinct middle line; lateral depression with dense irregular punctures, more coarse near margins. Scutellum nearly semicircle, with sparse, shallow, small punctures.

Elytra with nearly parallel sides, humeri rounded, slightly convex, apex rounded without depression, with deep puncture striae intervals weakly convex, 7th interval ridged, truncated at apical 1/4. Epipleura reaching apex of elytra, sparsely carven.

Propereura densely puncturated, prosternal process gradually widened rearward, apical jut rounded, irregular puncturated. Mesosternal episterna and epimera with more dense punctuation.

Legs slender, with dense, coarse, deep punctures; profemur clavate, with sudden enlargement at near basal quarter, with distinct indentation near top, with one large dent and on small dent in apical part inside; Protibia bent, slightly wider at top, surface with fine punctures, with shallow yellow hair spot at apex, spurs short; meso- and metatibiae identical; protarsi short and thick, with sparse, light gray, short hairs on sole; metatarsi longer, relative length of each segment (base to apex): 11:6:7:25.

Abdomen with dense, coarse punctures; apical half of anal segment hemicycle. Aedeagus nearly spindle-shaped in dorsal view, ratio of length/width: 5/1, ratio of parameres/phallobase: 2/3, near apex almost straight, near base bent in lateral view; other

– Elytra with punctures-striae, with coarse, dense punctures…………

7. Elytra with punctures-striae, with coarse, dense punctures…………

6. Elytra with punctures-striae, with coarse, dense punctures…………

5. Elytra with punctures-striae, with sparse, small punctures, punctures laterally connected with fine reticel ...........

4. Elytra with punctures-striae, with sparse, small punctures, punctures laterally connected with fine reticel .........

3. Elytra with punctures-striae, with sparse, small punctures, punctures laterally connected with fine reticel ........

2. Elytra with punctures-striae, with sparse, small punctures, punctures laterally connected with fine reticel ..........
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Color plate 5
A review of the genus *Catapiestus* Perty, 1831 with descriptions of two new species from China

**Fig. 8.** *Catapiestus piceiventris* Fairmaire, 1893 (BMNH, identified specimen).

**Fig. 9.** *Catapiestus piceus* Perty, 1831 (BMNH, identified specimen).

**Fig. 10.** *Catapiestus rugipennis* Chûjô, 1984 (photo by Ando [1985]).

**Fig. 11.** *Catapiestus simillimus* Fairmaire, 1893 (BMNH, identified specimen).

**Fig. 12.** *Catapiestus subrufescenus* Pic, 1911.

**Fig. 13.** *Catapiestus tonkineus* Pic, 1912.
structure of aedeagus.

**Etymology.** Clavipes: adj. Latin: clavate-sharp leg.

**Distribution.** China: Hainan.

*Catapiestus crenulicollis* Fairmaire, 1888  
(Figure 5: Color plate 5: fig. 4)


*Distribution.* China: Yunnan, Fujian, Hainan [Ando, Ren, 2007].

*Catapiestus indicus* Fairmaire, 1896  
(Figure 5: Color plate 5: fig. 5)

*Material examined.* None.


*Catapiestus mediocris* Guérin-Méneville, 1841  
(Figure 5: Color plate 5: fig. 6)


*Material examined.* None.

*Distribution.* Borneo; Philippines.

*Catapiestus medvedevi* sp. n.  
(Figure 5: Color plate 5: fig. 7)

*Type material.* Holotype: ♀, China: Yunnan Tengchong, Jietou Town, Datang: 25°45’27’’N / 98.69457E, 2080 m, 16.05.2006, collected by Hong-Bin Li and C.-L. Li (holotype deposited in ZMIZCAS). Paratype: 1♀, same label as holotype (paratype deposited in MHBU).

*Description.* Male. Labrum transverse, semicircular, anterior margin with dense yellow hairs, dense punctures; clypeus with front margin weakly convex, margins slightly declined, gradually narrowed forwards, anterior angles rounded; outer anterior margin of gena rounded, gradual constriction from base to apex; outer basal margin of gena strongly constricted rearward; with dense, coarse punctures in dorsal side, but near eyes become sparse; clypeofrontal suture almost invisible; interocular space is 4 times as wide as eye diameter. Antennae reach middle of pronotum, 1–5 segments nearly conical, 6–10 nearly triangular, apex of 10th segment oval, 6 apical segments nearly clavate; relative length of each segment (base to apex): 13:13:10:10:10:10:11:11:10:14.
Body length of female 18.7 mm, width 6.1 mm.

Dentum, meso- and metafemora without denticles. Margins weakly arched, almost smooth. Profemora with indistinctly bent in lateral view; other characters on fig. 12.


Pronotum distinctly inverse-trapezoid, transverse (width/length = 1.47/1); anterior margin narrow and weakly curved, lateral dents declined, rounded; anterior 1/3 of lateral margins with 4 dense, small serrations, basal 2/3 almost smooth; base shallowly bisinuate, with indistinctly narrowed margin; basal half of disc with dense puncturation; anterior angles rounded; posterior angles acutely angular, about 80°. Scutellum triangular, lateral margins slightly arcuate, with sparse, shallow punctures.

Elytra with nearly parallel sides, apex slightly arcuate, with deep punctures striae, intervals weakly convex, 7th interval ridged, truncated near basal 1/3. Epipleura relatively wide at base and narrow at apex, not reaching to apex of elytra, densely puncturated.

Propleura densely puncturated, prothorax slightly convex, with irregular, sparse punctures and rugae, prosternal process gradually widened rearward, apical part jutting out, straight truncate. Perisetaesthum punctures sparse and small, V-shaped gradually widened rearward, apical part jutting out, straight truncate. Periscalpellum punctures narrow, with shallow yellow group hairs at apex, spurs short; light gray, short hairs on sole; relative length of each segment (base to apex) of metatarsi: 16:7:4:0.

Abdomen with dense punctures and rugae; apical half of anal segment triangular. Aedeagus nearly clavate in dorsal view, ratio of length/width: 9:2; ratio of paramere/phallobase: 4:9. Aedeagus slightly bent in lateral view; other characters on fig. 12.

Female. Pronotum transverse (width/length = 1.51/1), lateral margins weakly arched, almost smooth. Prothorax with indistinct dents, meso- and metafemora without denticles.

Measurements. Body length of male 18 mm, width 5.4 mm; body length of female 18.7 mm, width 6.1 mm.

Diagnosis. The new species is closely related to C. tonkineus Pic, 1912 from Northern Vietnam, and differs from it in the following characters: bigger in size (ca. 121%), pronotum distinctly inverse-trapezoid, anterior 1/3 of lateral margins have 4 dense, small serrations, basal 2/3 almost smooth, profemora with several small denticles, meso- and metafemora without denticles; shape of male aedeagus distinctly different.

Etymology. Species named in honor of Prof. Gleb Sergeevich Medvedev, a famous entomologist.


Catapiestus piceiventris Fairmaire, 1893

(Colour plate 6: fig. 8)

Fairmaire, 1893: 29.

Material examined. None.


Catapiestus piceus Perty, 1831

(Colour plate 6: fig. 9)

Perty, 1831: 287.

Material examined. None.

Distribution. Java.

Catapiestus rugipennis Chûjô, 1984

(Colour plate 6: fig. 10)


Material examined. None.


Catapiestus simillimus Fairmaire, 1893

(Colour plate 6: fig. 11)

Fairmaire, 1893: 28.

Material examined. None.

Distribution. Sumatra.

Catapiestus subrufescenus Pic, 1911

(Colour plate 6: fig. 12)

Pic, 1911: 134.


Distribution. China: Taiwan.

Catapiestus tonkineus Pic, 1912

(Colour plate 6: fig. 13)

Pic, 1912: 17.


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A review of the genus *Catapiestus* Perty, 1831 (Coleoptera: Tenebrionidae: Cnodalonini)
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