

## Three new species of the leaf-rolling weevils (Coleoptera: Rhynchitidae, Attelabidae) from Russia, China and Korea

Andrei A. Legalov

Legalov A.A. 2006. Three new species of the leaf-rolling weevils (Coleoptera: Rhynchitidae, Attelabidae) from Russia, China and Korea. *Baltic J. Coleopterol.* 6 (1): 15 - 22.

In the paper 3 new species (*Auletobius* (s. str.) *egorovi* sp.n. from Primorije terr., *Temnocerus* (s. str.) *sibiricus* sp.n. from Siberia and *Paroplapoderus* (*Gomadaranus*) *nigroflavus* sp.n. from China) are described. The Change of status to *Paroplapoderus* (*Gomadaranus*) *tristoides* (Voss, 1924), stat.n. is made.

Key words: Coleoptera, Curculionoidea, Rhynchitidae, *Auletobius*, *Temnocerus*, *Paroplapoderus*, new species, new status, Russia, Korea, China

Andrei Legalov. Siberian Zoological Museum, Institute of Animal Systematics and Ecology, SB RAS, Frunze street-11, Novosibirsk 630091 Russia; e-mail: legalov@ngs.ru

### INTRODUCTION

During the last years the author actively studied the fauna of the leaf-rolling weevils of Russia, Korea and China. Lists of species are published (Legalov 2003, 2006) and new taxa are described (Legalov 2003, 2004; Legalov & Ning Liu 2005). Recently, the author has found 3 new species of the leaf-rolling weevils. These species are described in the given paper. Moreover, the status of *Hoplapoderus vitticeps* f. *tristoides* Voss, 1924 is changed to the species status.

### MATERIAL AND METHODS

Type specimens are kept in the following collections and museums: HNHM = Hungarian Natural History Museum (Hungary: Budapest); RFSP = Roman Filimonov Collection (Saint-Petersburg); SMTD = Staatliches Museum für Tierkunde (Germany: Dresden); SZMN = Siberian Zoological Museum, Institute of Animal Systematics and Ecology, SB RAS (Novosibirsk); ZMAS = Institute of Zoology, RAS (Saint-Petersburg).

## RESULTS

**Family Rhynchitidae Gistel, 1848**  
**Tribe Auletini Desbrochers des Loges, 1908**  
**Subtribe Auletohiina Legalov, 2001**

*Auletobius* (s. str.) *egorovi* Legalov, sp.n. (Figs. 1-2, 29-31)

**Holotype.** Male (ZMAS), Russia, Primorie terr., 50 km W of Ussuriisk, Nikolo-Lyovovskii, Kazachka riv., 19-20.VII.2003, S. Belokobylskij.

**Paratypes.** 3 males (ZMAS), 1 male (SZMN), 2 females (ZMAS), 1 female (SZMN), idem; 1 male (SZMN), 1 female (RFSP), Primorie terr., Khankaiskii Distr., Novokachalinsk, 10.VII.2003, R. Filimonov; 1 female (HNHM), 1 female (SZMN), N Korea, Prov. North Pyongan, Myohyang-san, Hyangsan, 15.IX.1994, Meszaros, Zombori.

**Description.** Body black or black-brown, with densely light, semierect setae. 1-6th segments of funicle of antennae and procoxa, femora and tibiae yellow. Protarsi brown. Male: Rostrum short, thin, 3.8-4.4 times longer than wide at the basis of antennae, straight lines, weakly toward apex, lacking lustre, sparsely and finely punctate. Antennae attached at the basis of the rostrum. Eyes convex, large. Forehead convex, densely punctate. Temples short. Antennae long, reaching the elytra. Scapus and 1st segment oval. 2-4th segments elongated. 2nd segment longer than 1st segment. 5-7th segments long-oval. Clava narrow. 1st and 2nd claval segments almost equal in length. 3rd segment little shorter than previous segments, weakly pointed. Pronotum almost equal in length and width (length/width = 0.96-1.1). Disk weakly flattened, densely and finely punctate. Greatest width before the middle of the pronotum. Sides weakly rounded. Scutellum triangular. Elytra oval, 1.07-1.3 times longer than wide, densely punctate, lacking lustre. Greatest width on the middle. Humeri weakly smoothed. Intervals convex. Thorax finely punctate and wrinkled, lacking lustre. Metepisternum narrow. Abdomen convex, lacking lustre, sparsely rugoso-punctate. 1st and 2nd

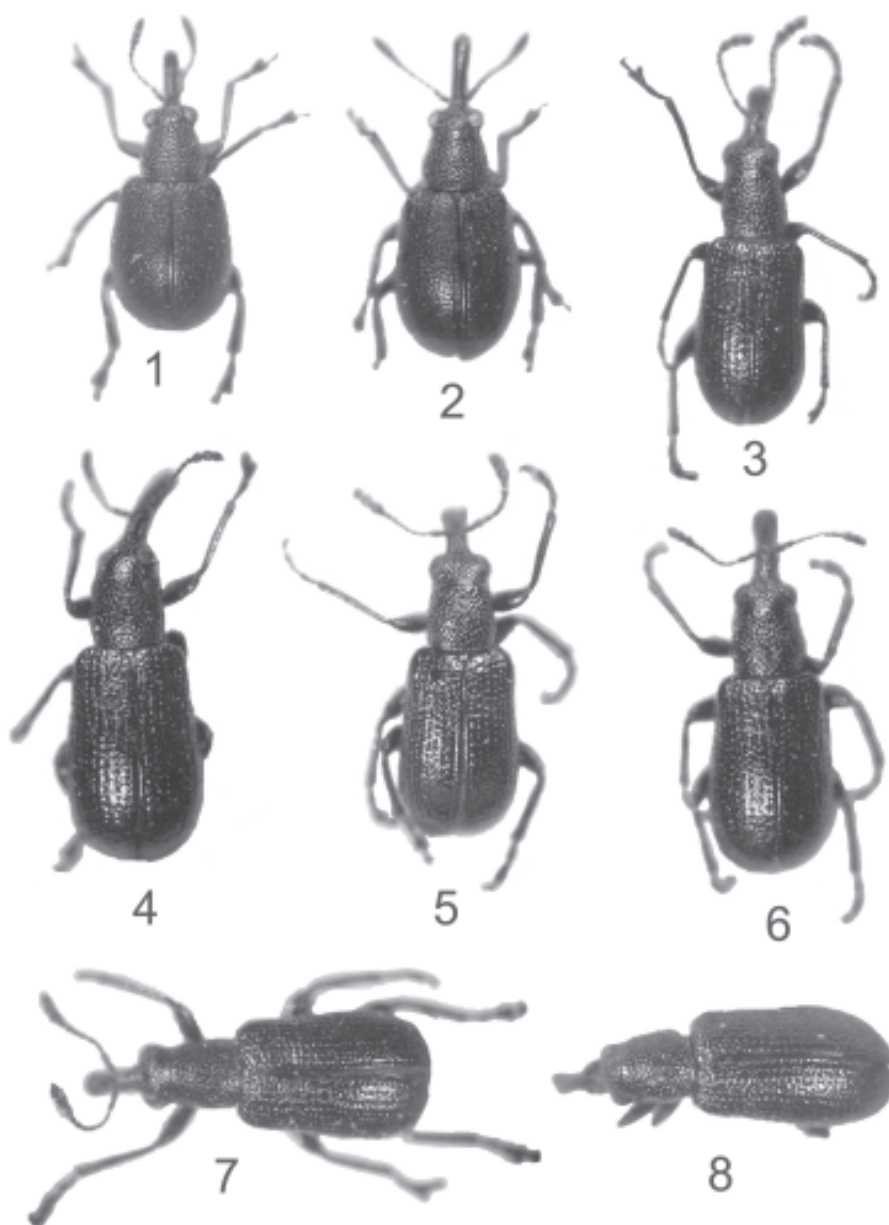
ventrites wide. 3-4th ventrites narrow. 5th ventrite very narrow. Pygidium convex, finely punctate. Femora thick. Tibiae short, narrow, weakly toward apex. Protibiae more thin than the other tibiae. Tarsi long. 1st segment elongated. 2nd segment long-triangular. 3rd segment bilobed. 5th segment elongated. Claws with teeth. Length of body: 1.7-2.1 mm. Female: Rostrum little longer, 4.4-6.0 times longer than wide. Pronotum more elongated, 0.9-1.2 times longer than wide. Eyes smaller. Elytra 1.2-1.3 time longer than wide. Length of body: 1.6-2.1 mm.

**Diagnosis.** This new species is similar to *Auletobius* (s. str.) *fumigatus* (Roelofs, 1874) and can be distinguished by the shorter rostrum, more densely punctate forehead, narrower pronotum, yellow front legs and 1-6th segments of funicle, and also armament of the endophallus. It differs from *Auletobius* (s. str.) *irkutensis* Faust, 1893 by fine sizes of the body, narrower forehead, narrower pronotum, stronger convex eyes, wider elytra, colour of the body and armament of the endophallus.

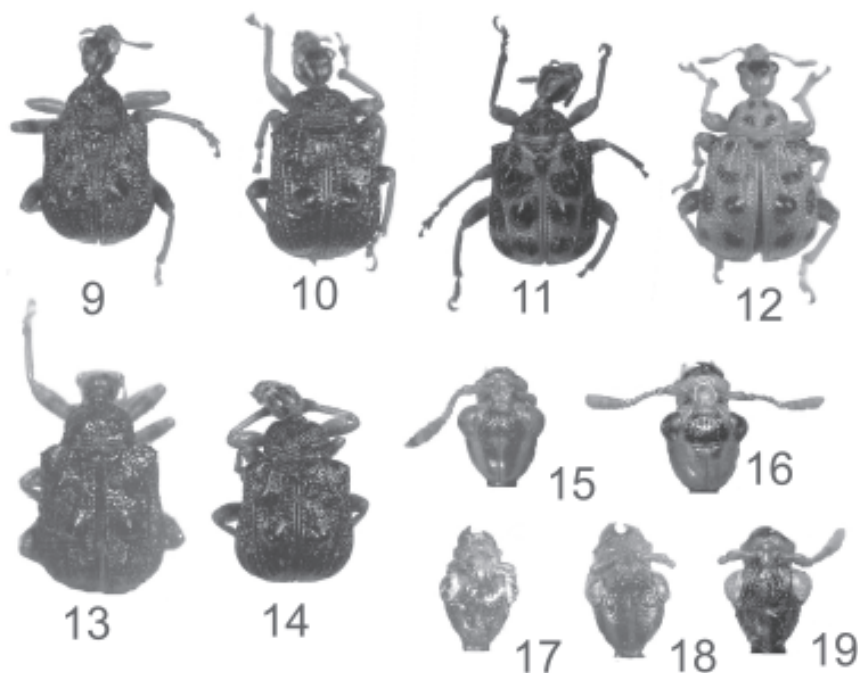
**Etymology.** This new species is named in honour of Andrei Egorov (Vladivostok).

### Key of species of *Auletobius calvus* -group

- 1 (2) Eyes large, strongly convex. Pronotum more elongated, stronger convex. Forehead narrower. ....3  
 2 (1) Eyes finer, weaker convex. Pronotum transversal. Forehead wider.....5
- 3 (4) Rostrum shorter. Forehead more densely punctate. Pronotum narrower. Body dark. Front legs and 1-6th segments of funicle yellow. Armament of the endophallus (Fig. 30). South of the Russian Far East, North-east China, Korea.....  
 ..... *A. egorovi* Legalov, sp.n.
- 4 (3) Rostrum longer. Forehead more sparsely punctate. Pronotum wider. Colour of the body different. Armament of the endophallus (Fig. 31). Japan, China..... *A. fumigatus* (Roelofs, 1874)



Figs. 1-8. Rhynchitidae gen. spp.: 1 – *Auletobius egorivi* (male), 2 – *A. egorivi* (female), 3 – *Temnocerus japonicus* (male), 4 – *T. japonicus* (female), 5 – *T. nanus* (male), 6 – *T. nanus* (female), 7 – *T. sibiricus* (male), 8 – *T. sibiricus* (female)



Figs. 9-19. *Paroplapoderus* spp.: body: 9 – *P. nigroflavus* (male), 10 – *P. nigroflavus* (female), 11 – *P. vitticeps* (male), 12 – *P. vitticeps* (female), 13 – *P. tristoides* (male), 14 – *P. tristoides* (female); head: 15 – *P. vitticeps* (male), 16 – *P. vitticeps* (female), 17 – *P. tristoides* (male), 18 – *P. nigroflavus* (female), 19 – *P. nigroflavus* (male)

5 (6) Rostrum thicker and long. Pronotum weakly transversal, with weakly convex sides. Sides of elytra more rounded. Funicle of antennae more thin and long. Armament of the endophallus (Fig. 32). Mongolia, China, Korea, Siberia, Russian Far East.....*A. irkutensis* Faust, 1893

6 (5) Rostrum more thin and short. Pronotum more transversal, with more strongly convex sides. Sides of elytra more parallel. Funicle of antennae thicker and short. Japan.....*A. calvus* (Sharp, 1889)

**Tribe Rhynchitini Gistel, 1848**  
**Subtribe Temnocerina Legalov, 2003**

*Temnocerus* (s. str.) *sibiricus* Legalov, sp.n.  
 (Figs. 7, 8, 22, 25)

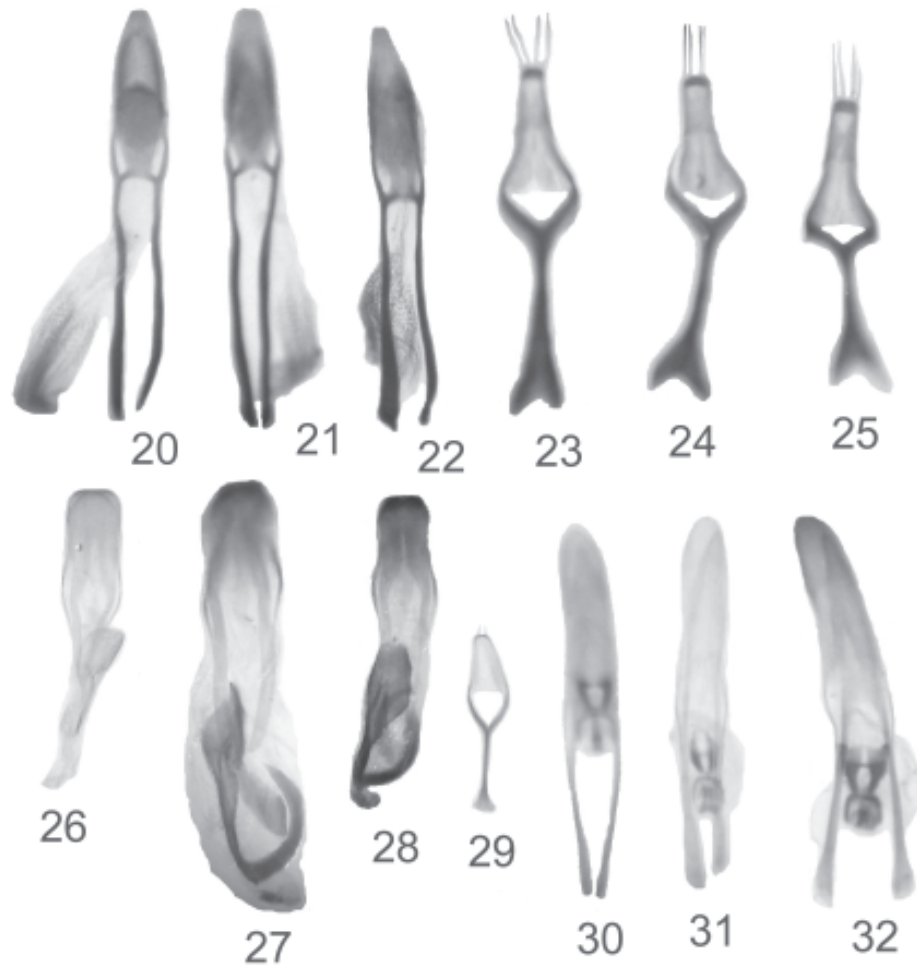
**Holotype.** Male (SZMN), Russia, Tuva, Kyzyl, *Betula* sp., 1.VI.1948, A.I. Cherepanov.

**Paratypes.** 4 females (SZMN), idem; 1 female (SZMN), Tuva, Znamenka, 12.VII.1949, Perevozchikova; 1 male (VSM), 1 male (SZMN), Tuva, Sush, Mezely river, 800-1000 m, 15.VI.2002, S. Vashenko; 1 male (SZMN), 1 female (ZMAS), Tuva, Todzha lake, 8-10.VII.1972, B. Korotyaev; 1 male (ZMAS), Krasnoyarsk terr., Boguchanskii Distr., Sosnovka riv., *Betula* sp., 27.VI.1981, E. Bessolitzyna.

**Description.** Body black, with dark blue lustre, with sparsely, short, semierect setae. Male: Rostrum short, 3.0-4.17 times longer than wide, curved, weakly toward apex, lacking lustre. Top-most third smooth. Other part of the rostrum

sparsely punctate. Antennae located before the middle of the rostrum. Forehead wide, convex, punctate. Eyes large, convex. Temples short, transversal-wrinkled. Antennae long, reaching the middle of the pronotum. Scapus and 1st segment of the funicle oval. 2-4th segments narrow. 2nd segment shorter than 1st segment. 5th segment short-oval. 6th segment longer, trapezoid. 7th segment almost conical. Clava much shorter

than the funicle, thicker. 1st segment a little longer than 2nd segments. 3rd segment weakly pointed. Pronotum weakly transversal, width/length = 0.93-1.05. Sides almost direct. Disk little flattened, finely and densely punctate. Intervals lacking lustre. Scutellum triangular. Elytra elongated, 1.38-1.58 times longer than wide. Greatest width behind the middle. Humeri weakly smoothed. Striae deep with large and dense points. Scutellar



Figs. 20-32. Male genitalia: 20 – *Temnocerus japonicus* (aedeagus), 21 – *T. nanus* (aedeagus), 22 – *T. sibiricus* (aedeagus), 23 – *T. japonicus* (tegmen), 24 – *T. nanus* (tegmen), 25 – *T. sibiricus* (tegmen), 26 – *Paroplapoderus vitticeps* (aedeagus), 27 – *P. tristoides* (aedeagus), 28 – *P. nigroflavus* (aedeagus), 29 – *Auletobius egorivi* (tegmen), 30 – *A. egorivi* (aedeagus), 31 – *A. fumigatus* (aedeagus), 32 – *A. irkutensis* (aedeagus)

stria advanced. Intervals narrow, weakly convex, smooth. Prothorax rugoso-punctate. Mesepisternum and mesothorax densely punctate. Metepisternum narrow, more sparsely punctate. Metathorax sparsely punctate. Abdomen convex, finely and sparsely punctate and weakly wrinkled. 1st and 2nd ventrites wide. 3-5th ventrites narrow. 2-4th ventrites weakly flattened on the middle. Pygidium convex, finely and densely punctate. Legs long. Femora and tibiae thin. Protibiae elongated and narrow. Meso- and metatibiae thicker and short. Tarsi long, a little shorter than tibiae. 1st segment long, longer than 2nd segment. 2nd segment triangular. 3rd segment bilobed. 5th segment elongated. Claws with long teeth. Length of body: 2.5-2.7 mm. Female: Rostrum longer, 4.86-5.67 times longer than wide. Antennae located more close to the basis of the rostrum. Eyes weaker convex. Clava of antennae narrower. Pronotum width/length = 1.04-1.16. Elytra 1.53-1.1.71 times longer than wide, more strongly widened behind the middle. Abdomen is stronger convex. Length of body: 2.7-3.1 mm.

**Diagnosis.** This new species is very similar to *Temnocerus* (s. str.) *nanus* (Paykull, 1792) but can be distinguished by a more sparsely punctate forehead, more strongly narrowed aedeagus and longer macrosetae at apex of the tegmen.

**Etymology.** The name is derived from the name of Siberia – “sibiricus”.

**Key of species close to *Temnocerus sibiricus***

1 (2) Protibiae longer and thin, weakly curved (Figs. 3-4). 1st segment of tarsi longer. Aedeagus longer (Fig. 20). Tegmen (Fig. 23). South of the Far East of Russia, Japan.....  
.....*T. japonicus* (Morimoto, 1958)

2 (1) Protibiae shorter and wide, almost direct (Figs. 5-8). 1st segment of tarsi shorter. Aedeagus shorter. .... 3

3 (4) Forehead more densely punctate. Aedeagus narrower, more narrowed to apex (Fig. 21). Macrosetae at apex of the tegmen shorter (Fig. 24). Europe, Western Siberia. ...*T. nanus* (Paykull, 1792)

4 (3) Forehead more sparsely punctate. Aedeagus wider, more strongly narrowed to apex (Fig. 22). Macrosetae at apex of the tegmen longer (Fig. 25). South of Eastern Siberia. ....  
.....*T. sibiricus* sp.n.

**Family Attelabidae Billberg, 1820**

**Subfamily Apoderinae Jekel, 1860**

**Tribe Hoplapoderini Voss, 1926**

**Subtribe Hoplapoderina Voss, 1926**

***Paroplapoderus (Gomadaranus) nigroflavus* Legalov, sp.n.** (Figs. 9, 10, 18, 19, 28)

**Holotype.** Male (SMTD), China, “Ho-Chan”, Thery.

**Paratype.** 1 female (SMTD), China, “Ou-Hou”.

**Description.** Head yellow with horseshoe-like macula on forehead and vertex, and also longitudinal maculae on the side. Antennae yellow. Pronotum black with brown pronotal groove, medial striae and 2nd small maculae on disk. Elytra black with a brown basis at 3rd intervals. Forward part of prothorax yellow. Middle of meso- and metathorax yellow. Abdomen yellow, blades on 1st ventrite dark. Legs yellow. Apex of femora with dark strips. Male: Head wide, short. Rostrum short, widened to the apex, finely punctate. Forehead flat, largely and sparsely punctate. Eyes large, strongly convex. Temples elongated, rounded. Vertex finely and sparsely rugoso-punctate. Antennae short, reaching as for pronotal groove. Scapus large, longer than 1st and 2nd segments of the funicle, thicker than funicle. 1st segment of the funicle 2 times longer than 2nd segment. 2nd segment small, trapezoid. 3rd segment longer than 4th segment, long-trapezoid. 4th and 5th segments almost conical. 6th segment transversal. 7th segment similar to segments of clava. Clava long, equal in length to funicle. 1st segment longer

than 2nd segment. 3rd segment elongated, shorter than previous segments, weakly pointed. Pronotum bell-shaped, roughly rugoso-punctate, 1.4 times wider than length at the basis. Disk convex, with medial striae and 2 protuberances before postnatal groove. Sides weakly rounded. Scutellum wide, almost semicircular, finely and sparsely punctate. Elytra are widened to apex, 1.07 times longer than wide. Greatest width behind the middle. Humeri convex, with small tooth. Two large protuberances before the middle of elytra. Very weak protuberances on 4th interval on the first quarter of elytra. Intervals weakly convex, wide, finely punctate. Prothorax weakly rugoso-punctate. Mesothorax and mesepisternum densely and largely rugoso-punctate. Metathorax and metepisternum largely punctate-wrinkled. Metepisternum wide. Abdomen convex, densely and largely punctate, on the middle weakly flattened. Blades on 1st ventrite weak. 1-3rd ventrites wide. 4-5th ventrites narrow. Pygidium convex, densely and largely punctate. Legs long. Femora widened. Protibiae almost direct. Meso- and metatibiae biconcave. Tarsi long. 1st segment elongated. 2nd segment triangular. 3rd segment bilobed. 5th segment long. Length of body: 6.9 mm. Female: Head wider. Temples more narrowed to neck. Pronotum wider, 1.45 times wider than length at the basis, more narrowed to apex. Elytra 1.1 times longer than wide. Abdomen stronger convex. Protibiae wider, biconcave on internal edge. Apex of tibiae with mucro and uncus. Length of body: 6.8 mm.

**Diagnosis.** This new species is similar to *Paroplapoderus (Gomadaranus) vitticeps* (Jekel, 1860) but differs by the narrower head, temples more sharply narrowed to neck, narrower pronotum and armament of the endophallus.

**Etymology.** The name is derived from the words for “black”– “niger” and yellow”-“flavus”.

***Paroplapoderus (Gomadaranus) tristoides* (Voss, 1924), stat.n.** (Figs. 13-14, 17, 27)

*Hoplaloderus vitticeps* f. *tristoides* Voss, 1924: 284

**Remarks.** It is an independent species. It well differs from close related species by the fact that the apex of aedeagus weakly narrowed to apex and the pronotum weakly narrowed to neck. For *Hoplaloderus vitticeps* f. *tristoides* it is designated as lectotypus by the author - male from the collection SMTD with labels “Formosa, Kosempo, H. Sauterÿ09”, “1909, 22”, “Staatl. Museum für Tierkunde, Dresden”, “Lectotype *Hoplaloderus vitticeps tristoides* Voss, A. Legalov design. 2005”. Paralectotypes: 3 syntypes, one of them with an additional label “*Paroplapoderus vitticeps* Jek. f. *tristoides*, det. E. Voss”.

#### Key of species close to *Paroplapoderus vitticeps*

1 (2) Apex of aedeagus weakly narrowed to apex (Fig. 27). Pronotum weakly narrowed to neck (Figs. 13-14). Taiwan.....  
.....*P. tristoides* (Voss, 1924), stat.n.

2 (1) Apex of aedeagus very weakly narrowed to apex (Figs. 26, 28). Pronotum is more strongly narrowed to neck (Figs. 9-12). ..... 3

3 (4) Head wider (Figs. 15-16). Temples smoothly narrowed to neck. Pronotum wider (Figs. 11-12). Basal sclerite widened in the top part (Figs. 26). Continental China. ....*P. vitticeps* (Jekel, 1860)

4 (3) Head narrower (Figs. 18-19). Temples more sharply narrowed to neck. Pronotum narrower (Figs. 9-10). Basal sclerite narrowed in the top part (Figs. 28). Southern China. ....  
.....*P. nigroflavus* sp.n.

#### ACKNOWLEDGEMENTS

The work is financed by the grant of the Russian Federal Property Fund No 06-04-90816-Mol\_a. I wish to thank O. Jaeger (Dresden), R.V. Filimonov (Saint-Petersburg), K.-D. Klass (Dresden), B.A. Korotyayev (Saint-Petersburg) and O. Merkl (Budapest), for help with the work.

## REFERENCES

*Received: 27.04.2006.*

*Accepted: 15.06.2006.*

- Legalov A.A. 2003. Taxonomy, classification and phylogeny of the leaf-rolling weevils (Coleoptera: Rhynchitidae, Attelabidae) of the world fauna. Novosibirsk. CD-R. 0320301200. 733+350 p. (641 Mb.) (In Russian with English diagnosis).
- Legalov A.A. 2004. New data of the leaf-rolling weevils (Coleoptera: Rhynchitidae, Attelabidae) of the world fauna with description of 35 new taxons. *Baltic Journal of Coleopterology* 4 (1): 63–88.
- Legalov A.A., Ning Liu. 2005. New leaf-rolling weevils (Coleoptera: Rhynchitidae, Attelabidae) from China // *Baltic Journal of Coleopterology* 5(2): 99–132.
- Legalov A.A. 2006. Annotated list of the leaf-rolling weevils (Coleoptera: Rhynchitidae, Attelabidae) of the Russian fauna. *Proceedings of the Russian Entomological Society. St. Petersburg*: 77: 200–210. (in Russian).
- Voss E. 1924. H. Sauters Formosa-Ausbeute. *Curculionidae: Attelabinae. (Col.)* (16. Beitrag zur Kenntnis der Curculioniden). *Deutsche Entomologische Zeitschrift*: 278–284.