

***Olecryptotendipes*, a new genus in the *Harnischia* complex (Diptera: Chironomidae) from the Russian Far East**

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Abstract. *Olecryptotendipes*, new genus, is erected for *Cryptotendipes lenzi* Zorina, 2001 and *C. secundus* Zorina, 2003 from the Russian Far East. Diagnoses of all stages of the new genus are given. The new genus is a member of the *Harnischia* complex, and based on morphological features the males of the new genus are related to the genus *Cryptotendipes* Lenz, while the pupa and larva are more similar to the genus *Chernovskiiia* Sæther. Pupa and larva of *O. lenzi* are described for the first time. A key to the males of the new genus is given.

Key words: Chironomidae, *Olecryptotendipes*, *Cryptotendipes*, new genus, key, Russia

Introduction

During a study of the non-biting midges of the subfamily Chironominae in the Russian Far East (Makarchenko *et al.* 2005) two species, *Cryptotendipes lenzi* Zorina, 2001 and *C. secundus* Zorina, 2003, were described based on the morphology of the males only. However, pupae and larvae of *C. lenzi* recently collected in the Partizanskaya River in the Primorye Territory, show that the two species should be placed in a new genus. In the present paper *Olecryptotendipes* new genus is erected for these two species. The new genus belongs in the *Harnischia* complex, and is closely related to the genera *Cryptotendipes* Lenz and *Chernovskiiia* Sæther.

The pupa and larva of *O. lenzi* are described for the first time, and a key to the males of the new genus is given.

Material and methods

The material was stored in 70% ethanol and slide-mounted in Fora-Berlese solution. Morphological terminology and abbreviations follow Sæther (1980). The measurements are given as the range.

The type material of *O. lenzi* (Zorina) and *O. secundus* (Zorina) is housed in the Institute of

Biology and Soil Sciences FEB RAS, Vladivostok, Russia.

***Olecryptotendipes* new genus**

Cryptotendipes sensu Zorina, 2001, 2003, *pro parte nec* Lenz, 1941.

Type species. *Cryptotendipes lenzi* Zorina, 2001, by present designation.

Other included species. *Cryptotendipes secundus* Zorina, 2003.

Etymology. From *Ole-* in honor of professor Ole Anton Sæther, and *-cryptotendipes* as the new genus is related to the genus *Cryptotendipes* Lenz.

Diagnosis

The following combination of characters will separate the new genus from other members of the *Harnischia* complex: Male with Y-type band on tergite IX; posterior part of tergite IX elongated with setae; superior volsella with sclerotized part and membranous ridge, with dorsal and ventral setae, microtrichia absent or present ventrally; inferior volsella weak; gonostylus curved in distal part. Pupa with small frontal

tubercles; thoracic horn plumose; hook row widely interrupted medially; pedes spurii B absent; tergite II–V with rectangular patches of shagreen; posterolateral comb or spur absent. Larval body consisting of 20 segments; posterior parapods elongated; antenna with 6 segments; pecten epipharyngis a simple scale with median notch apically; premandible with 3 teeth, brush absent; mandible with sickle-shaped dorsal tooth, apical tooth and 2 inner teeth; seta interna with 4 simple branches; mentum with pale triangular median tooth and 7 pairs of yellowish brown lateral teeth.

Description

Male. Total length 3.0–3.5 mm. Body yellow or yellowish. Antenna with 11 flagellomeres. AR 1.83–2.06. Frontal tubercles absent. Palp normally developed. Anteprenotum notched, but not completely divided medially. Scutal tubercle absent. Anteprenotals 0–2, acrostichals 0–8, dorsocentrals 4–10, prealars 2–4, supraalar 1, scutellars 6–8. Wing membrane without setae. FCu distal to RM. Squama with 1–5 setae. Apex of foretibia with rounded projection. Combs of mid- and hind legs with two spurs. Pulvilli well developed. Anal tergite bands of Y-type. Posterior part of tergite IX elongated and bearing setae. Anal point parallel-sided or widest at about apical 1/3. Superior volsella consisting of sclerotized part and membranous ridge, with dorsal and ventral setae, microtrichia absent or present ventrally. Inferior volsella weak. Gonostylus fused with gonocoxite; curved in distal part; basal, inner margin without expansion.

Pupa. Frontal tubercles small, rounded, with setae. Frontal warts absent. Thoracic horn plumose, basal ring oval. Thorax granulose along median suture. Prealar tubercle present, scutal tubercle absent. Wing sheath without nose and pearl row. Anteprenotals 2, precorneals 3, dorsocentrals 4. Tergite I bare; II–V with rectangular patches of shagreen; VI with median patch of shagreen in anterior half and posterior band of shagreen; VII with median longitudinal band of spines; VIII with two anteriolateral patches of spines. Hook row widely interrupted medially by distance greater than width of each patch of hooks, patches set on distinct, posteriorly projecting flaps. Pedes spurii B absent; Pedes spurii A well-developed on segment IV. Sternite I without anterolateral and anteromedian tubercles. Segment VIII without posterolateral comb or spur. Segment I with 1 L seta, II–III with 3 L setae, IV with 4 L setae, V–VIII with 4 LS setae. Anal lobe well-developed with complete fringe of 33–37 lamelliform setae in single row. Dorsal seta on anal lobe absent.

Larva. Total length 7.1–8.0 mm. Body elongated, consisting of 3 thorax segments and 17 abdominal segments of which 10 basal and 7 accessory. Antenna with 6 segments; basal segment slightly shorter than flagellum, with large ring organ medially; blade arising from segment 2; segment 3 with rounded style, extending to apex of segment 5; Lauterborn organs not discernible. S I and S II long, blade-like; S III small, seta-like, S IVA 3 segmented, S IVB simple; base of S I fused. Labral lamella absent. Pecten epipharyngis a simple scale with median notch at apex. Premandible with 3 teeth; brush absent. Mandible with sickle-shaped dorsal tooth, apical tooth and 2 inner teeth; seta subdentalis present; seta interna with 4 simple branches; pecten mandibularis present. Mentum with pale triangular median tooth and 7 pairs of yellowish brown lateral teeth. Ventromental plate with straight dorsal margin, striae distinct. Maxillary palp with 1 segment, weakly sclerotized, with four 2-segmented sensilla apically. Posterior parapods elongated, tapering, with 10 simple claws. Procercus short. Anal tubercles elongate with median constriction.

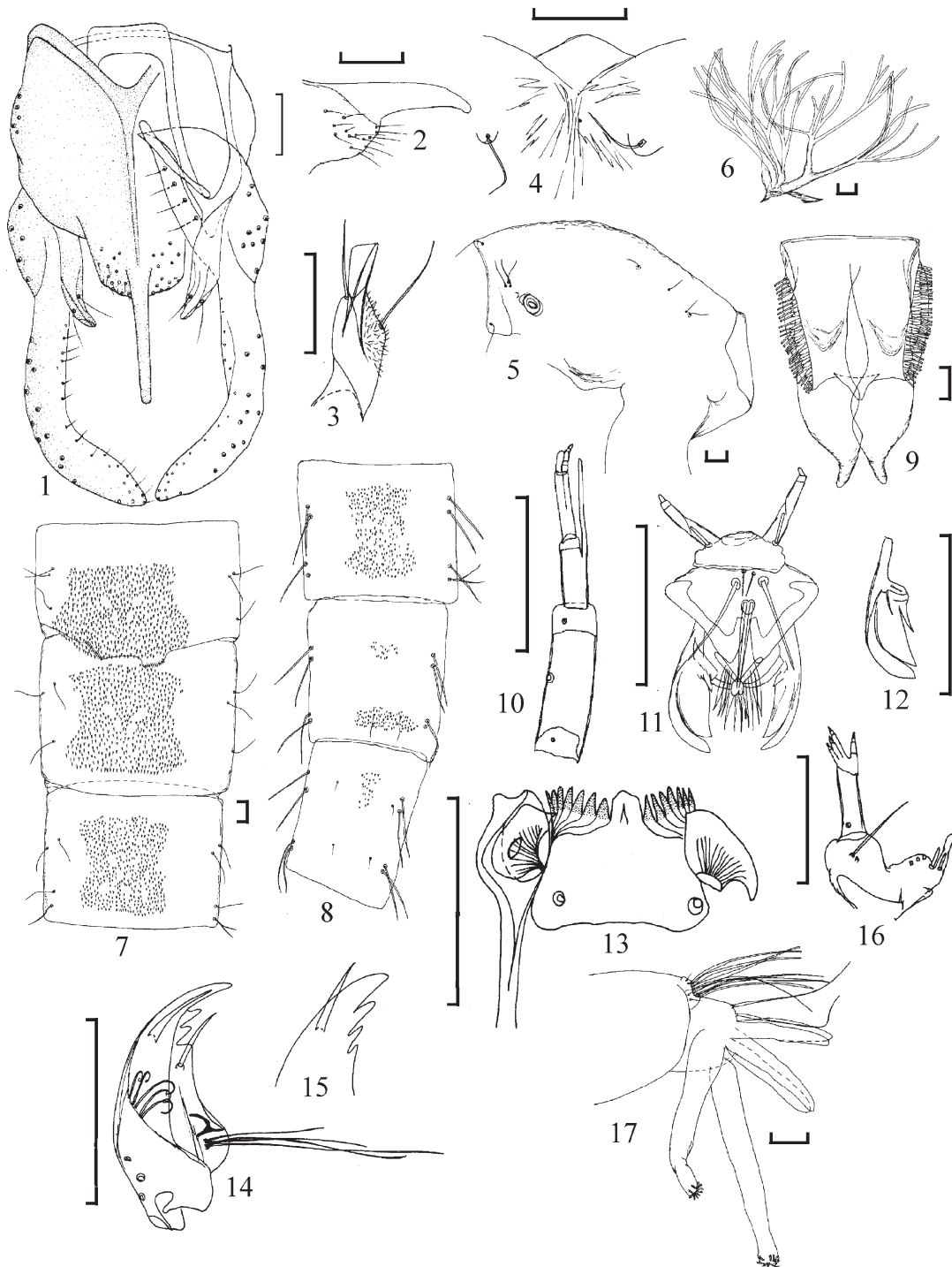
Systematics

The males of the new genus are very similar to the genus *Cryptotendipes* Lenz, but differ by the following combination of features: Tergite IX with Y-type band, posterior part of tergite IX elongate bearing setae, superior volsella consisting of sclerotized part and membranous ridge, dorsal and ventral setae present, microtrichia absent or present ventrally; gonostylus curved in distal part.

The pupa and larva are more similar to the genus *Chernovskiiia* Sæther, but can be distinguished by the following features: Pupa with small frontal tubercles, thoracic horn plumose, hook row widely interrupted medially, pedes spurii B absent, tergite II–V with rectangular patches of shagreen, posterolateral comb or spur absent. Larval body consisting of 20 segments; posterior parapods elongated; antenna 6-segmented; pecten epipharyngis a simple scale with median notch at apex; premandible with 3 teeth, brush absent; mandible with sickle-shaped dorsal tooth, apical tooth and 2 inner teeth; seta interna with 4 simple branches; mentum with pale triangular median tooth and 7 pairs of yellowish brown lateral teeth.

Ecology and distribution

The larvae of *Olecryptotendipes* inhabit sandy substrate in rivers. The two species of the new genus are known from the Sakhalin Island and the Primorye Territory, Russian Far East.



FIGS. 1-17. *Olecryptotendipes lenzi* (Zorina) new combination, male imago (1-3), pupa (4-9) and larva (10-17). 1. - Hypopygium. 2. - Anal point, lateral view. 3. - Superior and inferior volsella. 4. - Frontal apotome. 5. - Thorax, lateral view. 6. - Thoracic horn. 7. - Tergites II-IV. 8. - Tergites V-VII. 9. - Anal tergite. 10. - Antenna. 11. - Labrum. 12. - Premandible. 13. - Mentum and ventromental plate. 14. - Mandible. 15. - Apex of mandible. 16. - Maxilla. 17. - Anal segment. Scale bars: 50 μm.

***Olecryptotendipes lenzi* (Zorina) new combination**
(Figs. 1–17)

Cryptotendipes lenzi Zorina, 2001: 31.

Material examined. RUSSIA: Primorye Territory, Partizanskaya River near Peretino Village, 3 larvae, 1 pupa, 30.vi.2004, T. Vshivkova; Partizanskaya River, 250 m above bridge on the road to Nakhodka-Lazo, 2 larvae, 30.vi.2004, T. Vshivkova.

The male (Figs. 1–3) is described in detail by Zorina (2001).

Pupa (n = 1)

Total length 4.5 mm.

Cephalothorax (Figs. 4–6), 1.0 mm wide. Frontal tubercles 9 µm long, 14 µm wide. Frontal setae 36 µm long. Thoracic horn plumose, with 4 basal branches; basal ring oval, 63 µm long, 45 µm wide. Distance between DC₁ and DC₂ 153 µm, DC₃ and DC₄ 14 µm, DC₂ and DC₃ 72 µm. Wing sheath 1140 µm long, 285 µm wide.

Abdomen (Figs. 7–9). Length of thorax 3.5 mm. Hook rows with 14–17 hooks, 67.5 µm wide, distance between hook rows 117 µm. Anal segment 248 µm long, 252 µm wide. Genital sac 167 µm long.

Fourth instar larva (n = 3)

Total length 7.1–8.0 mm. Coloration white (in alcohol), with yellowish head capsule. Head capsule 2 mm long, 1.0–1.1 mm wide, cephalic index (W/L) 0.50–0.55.

Head. Antenna (Fig. 10), 97–101 µm long, length of each segment (in µm): 45–50; 23; 18–23; 27–36; 23. AR 0.86–0.95. Basal segment with ring organ at 23–25 µm from base. Blade situated subapically on second segment, extending to apex of fourth segment. Style at apex of third segment, reaching apex of fourth segment. Labrum (Fig. 11), S I 3 µm long, S II 3 µm, S III 1 µm, S IVA 2–3 µm and S IVB 10–11 µm long. Premandible (Fig. 12), 36–41 µm long, 14–18 µm wide. Mandible (Figs. 14–15), 59–63 µm long, 27 µm wide. Dorsal tooth 18 µm long. Seta subdentalis 14 µm long. Pecten mandibularis with 6 branches. Mentum (Fig. 13), 36–41 µm wide; median teeth 9 µm high, 9 µm wide; first lateral tooth 1 µm wide. Ventromental plate 18–23 µm wide, 11–13 µm long, with 13–16 striae. Maxilla (Fig. 16). Maxillary palp with basal segment 23–27 µm long, 9 µm wide. Ring organ located in basal 1/5.

Abdomen (Fig. 17). Posterior parapods 225 µm long, 248 µm wide, with 10 simple hooks. Procercus 23 µm high, 25 µm wide. Supraanal seta 113 µm long. Anal tubules 113–126 µm long, 23 µm wide.

Distribution

The species is known from the Ussury and Partizanskaya Rivers in the Primorye Territory, Russian Far East.

***Olecryptotendipes secundus* (Zorina) new combination**

Cryptotendipes secundus Zorina, 2003: 221.

The male is described in detail by Zorina (2003). Pupa and larva are unknown.

Key to the males of *Olecryptotendipes*, new genus

- 1 Acrostichals present; R and R₁ with setae; anal point narrow parallel-sided; superior volsella with microtrichia ventrally, dorsal seta arising subapically (Figs. 1–3) ***O. lenzi*** (Zorina)
- Acrostichals absent; R and R₁ without setae; anal point widest at about 2/3 from base; superior volsella lacking microtrichia ventrally, dorsal seta arising apically ***O. secundus*** (Zorina)

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