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New species of gall midges of formerly monotypic genera (Diptera, Cecidomyiidae: Porricondylinae)

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Descriptions of *Arctepidosis paneliusi* sp. n. from Finland, *Dendrepidosis bifidula* sp. n. from Yaroslavl Region, *Solntsevia nigripecta*, *Grisepidosis transmarina* spp. n. from Kuril Islands, *Stomatocolpodia sinuosa* sp. n. from Primorskyy Region, *Synepidosis voluptaria* sp. n. from Tuva, *Neocolpodia dubitabila* sp. n from Kamchatka, *Paracolpodia lunularis* sp. n. from Amur Region, *Parwinnertzia italiana* sp. n. from Italy are given.

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Key words. Diptera, Cecidomyiidae, *Arctepidosis*, *Dendrepidosis*, *Solntsevia*, *Grisepidosis*, *Stomatocolpodia*, *Synepidosis*, *Neocolpodia*, *Paracolpodia*, *Parwinnertzia*, new species.

Introduction

More than 35 monotypic genera were described in course the revisions of Palaearctic and Nearctic gall midges of subfamily Porricondylinae (Mamaev, 1964, 1966, 1990; Panelius, 1965; Parnell, 1971; Yukawa, 1971; Spungis, 1987 etc.). Validity of many formerly monotypic genera was confirmed now after description of additional species of these genera. However significant number of genera, belonging to subfamily Porricondylinae, contains a single species, and their taxonomic status is uncertain (cfr. Mamaev, 1990).

We selected 76 Palaearctic and 2 Nearctic monotypic genera, described the second species of this taxons and confirmed the validity of these genera.

General diagnosis of subfamily Porricondylinae had been published many times (Panelius, 1965; Parnell, 1971 etc.). We used taxonomic terminology of above mentioned publications.

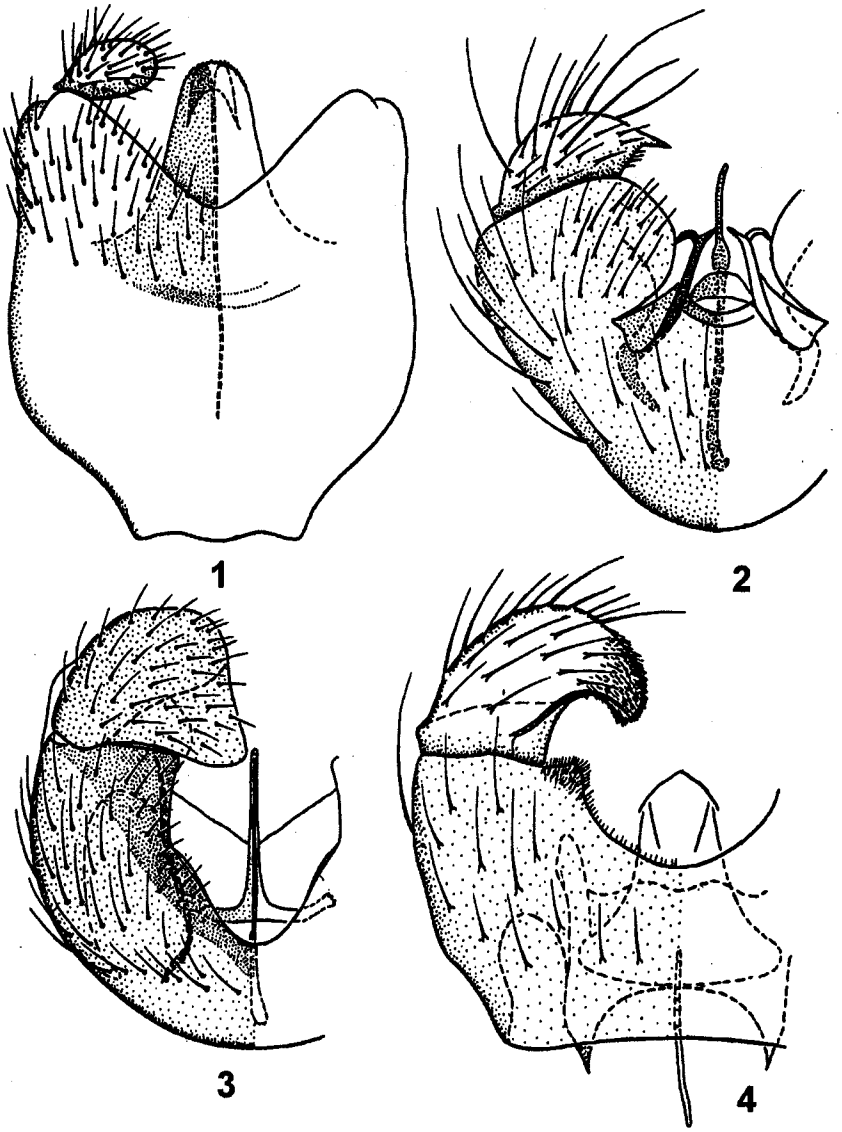
DESCRIPTIONS OF NEW SPECIES

Arctepidosis paneliusi **Mamaev et Zaitzev, sp. n.**

(Fig. 1)

Holotype. ♂, **Finland**, Grankulla, 12.V.1957, S. Panelius leg. (deposited in B. Mamaev collection).

Monotypic genus *Arctepidosis* was described by B. Mamaev (1990). Antennae of male with 2+14 segments; eye bridge strongly reduced and removed on the frontal surface of the head; palpi with 4 segments; stem of middle flagellar segment of male nearly as long as basal enlargement, 1—8th flagellar segments with ring-shaped sensoriae; wings short and narrow, wing venation strongly reduced; apical projection of the first tarsal segment acute; tarsal claw with basal dent; empodium well developed; apodeme of male postabdomen without roots.



Figs 1—4. Male genitalia, ventral view, IX tergite removed.
1, *Arctepidosis paneliusi* sp. n.; **2**, *Dendrepidosis bifidula* sp. n.; **3**, *Solntsevia nigripecta* sp. n.; **4**, *Grisepidosis transmarina* sp. n.

Differential diagnosis. Pale yellow, length of wing 1.5 mm. Legs short, femur 0.5 as long as body; all legs densely covered with erected narrow scales; projection of the 1st tarsal segment short and blunt. Male genitalia with thick coxite and small round style without claw; 9th tergite with straight caudal margin and narrow median incision; tegmen with round apical part covered with numerous small knobs; genital rod very thin; apodeme weakly sclerotized without rots; basal half of coxites bare.

Female unknown.

Type of genus – *A. jamalensis* Mam. – light brown, with long legs, lacking scales, projection of the 1st tarsal segment short but acute, style of male genitalia 2 times as long as broad.

Dendrepidosis bifidula **Mamaev et Zaitzev, sp. n.**

(Fig. 2)

Holotype. ♂, **Russia**, *Yaroslavl Region*, Volkovo, 30.VI.1961, B. Mamaev leg. (deposited in B. Mamaev collection).

Monotypic genus *Dendrepidosis* was described by B. Mamaev (1990). B. Mamaev and Zaitzev (1996) supposed that *Porricondyla longipennis* Spungis, 1981 also belongs to genus *Dendrepidosis*. Antennae of male with 2+14 segments; stem of flagellar segments longer than basal enlargement; ring-shaped antennal sensoriae sinuous, present on 1—13th flagellar segments; eye bridge usually 6—7 facets broad; palpi

very long and thin, 4-segmented; wing venation of common type; legs very long, apical projection of the 1st tarsal segment short and blunt, tarsal claw bifid, empodium rudimentary.

Differential diagnosis. Male. Yellow brown, length of wing 2.1 mm. In contrast with *D. trispinula* Mam. parameres of new species bifurcated; style of male genitalia only 2 times as long as broad, with acute apical dent; 9th tergite entire; genital rod only slightly longer than coxite.

Female unknown.

Solntsevia nigripecta **Mamaev et Zaitzev, sp. n.**

(Fig. 3)

Holotype. ♂, **Russia**, *Kuril Is.*, Kunashir I., larvae, in decayed birch wood, 3.X.1972, bred by B. Mamaev.

Paratypes. 4 ♂, 5 ♀, same data as holotype (deposited in B. Mamaev collection).

Monotypic genus was erected after investigation of larval characters with brief description of adults (Mamaev, Krivosheina, 1965). Full description of both sexes had been published later (Mamaev, 1966).

Eye bridge 6—8 facets broad; wings long and narrow, with reduced wing venation (*M* absent, *Cu* simple); antennae of both sexes with 2+11 segments, flagellar segments of male with long stem and ring-shaped sensoria with two longitudinal branches on basal enlargement, female with net-like sensoria on cylindrical basal enlargement and very short stem; palpi 2-segmented; first tarsal segment with long acute apical projection; tarsal claw bifid; empodium rudimentary. Ovipositor telescopic; spermathecae invisible.

Differential diagnosis. Intensive brown, wing length of male 2.0, female 2.4 mm. Very similar to *S. nigripes* Mam., but hollow between coxites elongated, not round as in *S. nigripes*; style large, with round apex; tegmen needle-shaped.

Nearctic species *S. maculata* (Felt) does not belong to genus *Solntsevia* (cfr. Parnell, 1971).

Grisepidosis transmarina **Mamaev et Zaitzev, sp. n.**

(Fig. 4)

Holotype. ♂, **Russia**, *Kuril Is.*, Kunashir I., larvae in decayed wood of elm, 18.VI.1977, bred by B. Mamaev (deposited in B. Mamaev collection).

Monotypic genus *Grisepidosis* was described by Mamaev (1968). Eye bridge broad; antennae of male with 2+11, female with 2+10 segments; stem of male flagellar segments longer than basal enlargement; ring-shaped sensoria with longitudinal projection, flagellar segment of female with net-like sensoriae; wing narrow with somewhat reduced wing venation (M_{3+4} absent, *Cu* evanescent distally); apical projection of the first tarsal segment long and acute; tarsal claw with long basal dent; empodium rudimentary. Ovipositor long, telescopic; sclerotized spermathecae absent.

Differential diagnosis. Pale yellow, length of wing 2.1 mm. In contrast with type of genus *Grisepidosis bilobata* Mam., new species with style of male genitalia strongly curved, tegmen thick, roots of apodeme short and acute.

Female unknown.

Stomatocolpodia sinuosa **Mamaev et Zaitzev, sp. n.**

(Fig. 5)

Holotype. ♂, Far East of **Russia**, reserve Kedrovaya Pad, netting, 27.VIII.1964, B. Mamaev leg.

Paratype. ♂, the same region, netting, 25.VIII.1962, O. Kovalev leg. (deposited in B. Mamaev collection).

Monotypic genus was described by B. Mamaev (1990). Eye bridge narrow, removed on frontal surface of the head; occiput somewhat dilated; mouth parts enlarged; male with 2+14, female with 2+11 antennal segments, stem of male flagellar segments distinctly longer than basal enlargement, ring-shaped sensoria on 1st—7th flagellar segments; palpi with 4 segments; wing venation of ordinary type; 1st tarsal segment with long acute projection; claw simple, empodium as long as claw. Ovipositor non-protractile, with 2-segmented lamellae.

Differential diagnosis. New species with very unusual male genitalia: style with long acute spine, shape of sclerotized parameres very peculiar; coxites with small subapical dent on inner side.

Female unknown.

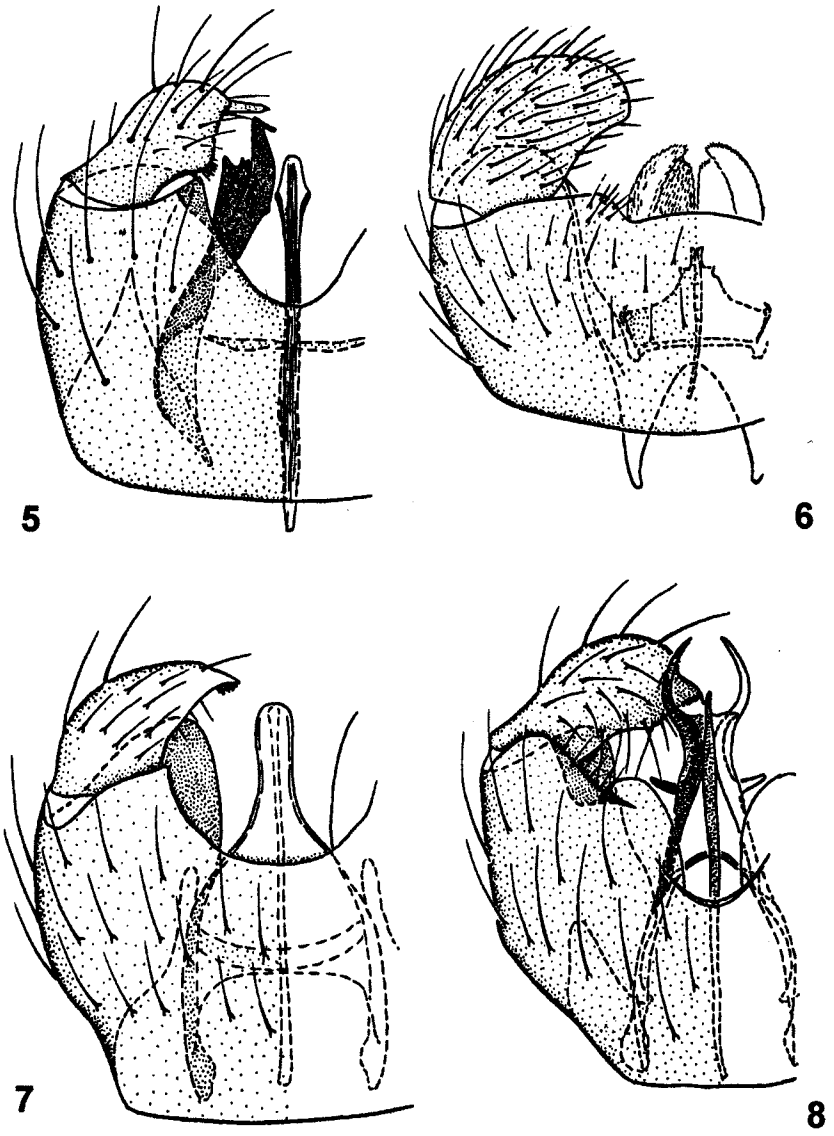
We investigated type of *Holoneurus unidentatus* Marikovskyi, 1958: Zool. Zh., **37**: 1844 and now include this species in the genus *Stomatocolpodia* as *Stomatocolpodia unidentata* (Marikovskyi), **comb. n.**

Synepidosis voluptaria **Mamaev et Zaitzev, sp. n.**

(Fig. 6)

Holotype. ♂, **Russia**, Tuva, Ishtii-Chem, larvae in decayed Larix wood, 14.VIII.1975, bred by B. Mamaev.

Paratypes. ♂, 2 ♀, the same data as holotype (deposited in B. Mamaev collection).



Figs 5—8. Male genitalia, ventral view, IX tergite removed, except of fig. 6.
5, *Stomatocolpodia sinuosa* sp. n.; *Synepidosis voluptaria* sp. n.; **7**, *Neocolpodia dubitabila* sp. n.; **8**, *Paracolpodia lunularis* sp. n.

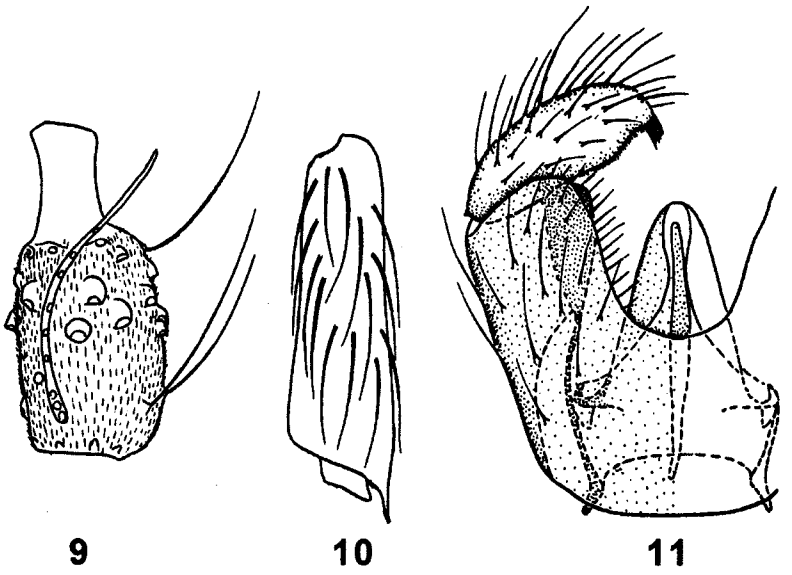
Monotypic genus *Synepidosis* was described by B. Mamaev (1964). Eye bridge broad; antennae of male and female with 2+14 segments, stem of female flagellar segment as long as basal enlargement or somewhat shorter, covered with macrotrichiae, stem of male flagellar segment longer than basal enlargement, lacking macrotrichiae; palpi with 4 segments; wing venation reduced: M_{3+4} very weak, *Cu* distinct basally, evanescent distally; 1st tarsal segment with long acute apical projection; tarsal claw bifid; empodium rudimentary. Female with long telescopic ovipositor; spermathecae unsclerotized.

Differential diagnosis. Yellow, wing length of male 2.7, female 3.0 mm. In contrast with *S. longiventris* Mam. stem of female flagellar segment only 0.5 as long as basal enlargement; roots of apodeme of male genitalia 0.5 as long as coxites (roots of *S. longiventris* as long as coxites); genital rod of new species very short in comparison with *S. longiventris*.

Neocolpodia dubitabila Mamaev et Zaitzev, sp. n.

(Fig. 7)

Holotype. ♂, **Russia**, Kamchatka, Kozyrevsk, 17.VIII. 1987, B. Mamaev leg. (deposited in B. Mamaev collection).



Figs 9—11. *Parwinnertzia italiana* sp. n.
9, 6th flagellar segment of male antennae; **10**, apical projection of 1st tarsal segment; **11**, male genitalia, ventral view, IX tergite removed.

Genus *Neocolpodia* was described by B. Mamaev (1964) as subgenus of the genus *Colpodia* Winn. Later B. Mamaev (1966) erected this subgenus to full generic status as monotypic genus with type species *Neocolpodia paradoxa* Mam. (Mamaev, 1990).

Eyes bridge devoid of facets; wing long, narrows gradually basally; antennal segment with long stem and simple ring-shaped sensoria on 1st—10th flagellar segments; hind femur longer than tibia; palpi with 4 segments; apical projection of the 1st tarsal segment short and blunt; tarsal claw sickle-shaped; empodium as long as claw.

Differential diagnosis. Light brown, length of wing 2.2 mm. Coxite of male genitalia very thick, style short, not dilated, tapering to apex; tegmen finger-shaped; genital rod long and thin. In contrast of *N. paradoxa* Mam. style of male genitalia of new species not strongly dilated.

Female unknown.

Nearctic species *N. pinea* (Felt, 1907) does not belong to genus *Neocolpodia*.

Paracolpodia lunularis Mamaev et Zaitzev, sp. n.

(Fig. 8)

Holotype. ♂, **Russia**, *Amur region*, Sega, netting, 3.VIII.1982, M. Krivosheina leg. (deposited in B. Mamaev collection).

Parnell (1911) erected monotypic genus *Paracolpodia* with type species *Colpodia capitata* Felt. Head with eye bridge 4 ommatidia broad; antennae with 2+14 segments, stem of segment longer than basal enlargement; ring-shaped sensoria on 1st—7th segments; palpi with 4 segments; *Rs* at angle with costa, M_{3+4} branched from *Cu*; 1st tarsal segment with sharply pointed apical projection; tarsal claw simple; empodium well developed.

Differential diagnosis. In contrast with *P. capitata* new species with 2 curved bifurcated parameres and 2 additional long waved sclerotized projections; sclerotized bridge well developed; genital rod very long, coxite with small subapical protuberance on inner surface; style sharply narrowed apically, with acute terminal dent.

Female unknown.

Parwinnertzia italiana Mamaev et Zaitzev, sp. n.

(Figs 9—11)

Holotype. ♂, **Italy**, Sienna, netting, 30.VI.1994, B. Mamaev leg.

Paratype. ♂, same data as holotype (deposited in B. Mamaev collection).

According to Parnell (1971), type of this genus *P. notmani* Felt, known from North America in the female sex only, with broad eye bridge, narrow wings (wing 2.5—2.6 times as long as broad) and reduced wing venation (M_{3+4} absent, *Cu* distinct curving to meet posterior wing margin at median point, anal lobe of wing reduced); palpi short, 2-segmented; 1st tarsal segment with sharp apical projection; tarsal claw simple, empodium rudimentary.

Differential diagnosis. Male blackish, length of wing 1.0 mm. In contrast with *P. notmani* Felt new species with 4-segmented palpi; head with 6—7 ommatidia broad eye bridge; antennae of male with 2+10(11) segments, stem of middle flagellar segment 0.5 as long as basal enlargement, 2 long narrow sensoria on flagellar segment with distal end free of body surface; basal and distal setae in single whorl on basal enlargement of flagellar segments, median setae in 1—2 whorls. Male genitalia with thick coxite. style with black pectinate claw, 9th tergite with straight caudal margin, tegmen triangular with round apex, genital rod slightly shorter than coxite, apodeme of coxites with very short roots.

Female unknown.

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