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## NEW TAXA OF THE GALL MIDGES OF THE TRIBE ASYNAPTINI (DIPTERA: CECIDOMYIIDAE, PORRICONDYLIINAE) FROM THE RUSSIAN FAR EAST

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**Summary.** The gall midges genus *Niladmirara* Fedotova, **gen. n.** (type species: *N. metula* Fedotova, **sp. n.**) is described in the tribe Asynaptini (Cecidomyiidae: Porricondyliinae). This genus consists of three species: type species, *N. divergentia* **sp. n.** and *N. mucronata* (Mamaev et Zaitzev), **comb. n.** New genus is closely related to *Camptomyia* Kieffer, 1894 but differs from it by form of wide transversal or round genitalia; by absence transversal dorsal bridge between roots of gonocoxites; by presence of roots of parameres fused with apodemae of gonocoxites; by two pairs very long overlapping projections of parameres; by presence of enlarging on proximal end of aedeagal rod; by gonostylus with subapical ventral excision and apical little claw; by very long neck of middle flagellomeres. Key to the species of *Niladmirara* **gen. n.** is given for males.

**Key words:** Diptera, Cecidomyiidae, new genus, new species, Russian Far East, Kurile Islands.

**З. А. Федотова. Новые таксоны галлиц трибы Asynaptini (Diptera: Cecidomyiidae, Porricondyliinae) с Дальнего Востока России // Дальневосточный энтомолог. 2018. N 362. С. 1-12.**

**Резюме.** Установлен новый род галлиц *Niladmirara* Fedotova, **gen. n.** (типовой вид: *N. metula* Fedotova, **sp. n.**) трибы Asynaptini (Cecidomyiidae: Porricondylinae). Новый род включает 3 вида: типовой, *N. devertentia* **sp. n.** и *N. mucronata* (Mamaev et Zaitzev), **comb. n.** Этот род очень близок к *Camptomyia* Kieffer, 1894, но отличается от него формой широких поперечных или округлых гениталий; отсутствием поперечного дорсального моста между корнями гонококситов; наличием корней парамер, слившихся с аподемой гонококситов; двух пар очень длинных перекрывающихся отростков парамер; наличием расширения на проксимальном конце эдегального стержня; гоностилей с субапикальной вентральной вырезкой и апикальным маленьким когтем; очень длинным стебельком средних флагелломеров. Приведена определительная таблица видов рода *Niladmirara* **gen. n.** (по самцам).

## INTRODUCTION

The present article continues the series of publications dealing with the study of the gall midge of the tribe Asynaptini Rübsaamen et Hedicke, 1926 from the Russian Far East. According to Catalog of the Cecidomyiidae (Diptera) of the World (Gagné & Jaschhof, 2017) this tribe contains 155 species in 15 genera, from them 41 species in 6 genera known in Russia, including 22 species in 5 genera from the Russian Far East (Mamaev, 1972, 1975a, b; Mamaev & Zaitzev, 1998; Fedotova, 2004; Fedotova & Sidorenko, 2005, 2007). One new genus and two new species of the tribe Asynaptini are described below. Key to the species of the new genus is given also.

## MATERIAL AND METHODS

The present study based on material collected by Yu. N. Sundukov in Shikotan Island in 2012.

The following abbreviations are used in the descriptions and figure legends are as follows: F1, F2, ... F12 – length of flagellomeres 1, 2, ... 12.

Besides standard lengths of the body, wing, antenna and legs were used the ratios commonly used in species diagnosis (wing-to-width ratio, second-to-first tarsomeres length ratio, flagellomere length-to-width ratio in the middle part of the flagellum, first-to-second flagellomeres length ratio) and additionally, the length ratios of the body to the antenna and the wing to the antenna, the leg, and body.

The holotypes of the new species are deposited in the collection of Zoological Institute, Russian Academy of Sciences, St. Petersburg (ZISP).

## DESCRIPTION OF NEW TAXA

### Subfamily Porricondylinae Kieffer, 1913

### Tribe Asynaptini Rübsaamen et Hedicke, 1926

### Genus *Niladmirara* Fedotova, gen. n.

Type species. *Niladmirara metula* Fedotova, sp. n., designated here.

DESCRIPTION. MALE. Body yellow, pale brown or brown with dark notum. Length of wing 2.18–3.20 mm. Eye bridge 5-14 ommatidia-broad. Antennae 2+15-17 or 2+21-22 segments. Face yellow. Mouth parts short, segments of palpi very narrow. Labrum pointed, labellum round. Scape, pedicel and flagellomeres uniformly sclerotized. Middle flagellomeres with subcylindric or barrel-shaped basal enlargement, neck 1.2–1.8 times as long as basal enlargement. Basal enlargement with simple ring sensorial file, large horse-shaped sockets in one row. Necks of middle flagellomeres without subapical swollen, basal enlargement with transparent almost invisible minute microtrichiae, or microtrichiae absence (*Niladmirara mucronata*). Ultimate segment small, sometimes fused with penultimate one. Palpi 4-segmented, much longer than length of head (Fig. 9).

Thorax slightly sclerotized, uniformly yellow-brown. Notum brown, darker than thorax, with long lateral setae. Scutellum and last part of thorax uniformly sclerotized. Hind legs shorter than fore and middlelegs. All femur slightly longer than tibiae. Claws in all tarsi with dent, empodium as long as claws, slightly shorter or longer than ones. All veins distinct,  $R_5$  strongly curved near apex, cell between veins  $C$  and  $R_5$  very narrow.  $CuA_1$  and  $CuA_2$  well developed. Length of wing 3.2–3.3 times as long as width. Apex of wing slightly narrowed.

Abdomen tergites and sternites whole, with distal row of setae. Genitalia wide transversal or almost round. Gonocoxites very wide, thick, with truncated apex, strongly enlarged distally; completely fused ventrally, almost without excision or with semiround excision. Gonostylus very wide, strongly enlarged dorsally, densely covered by swollen conical pores with very long setae (Figs 20, 23), with small light claw that pointed or round apically. Gonostylus ventrally near claw with excision and short setae (Figs 20, 24). Tegmen with shallow excision, slightly narrower than gonocoxites, truncated apically. IX tergite cordiform, slightly narrower than tegmen. X tergite short, with truncated or round lobes and triangular excision, densely covered by microtrichiae (Figs 21, 22). Ventral side of gonocoxites with medial slightly sclerotized aedeagal capsule. Aedeagus cylindrical, almost transversal or invisible. Parameres forked, with two pairs overlapping very long and thin projections; roots of parameres usually straight and thin. Genital rod long and thin, almost parallelsided, right truncated apically (Figs 21, 22). Basal part of genital rod sclerotized and enlarged on the end, sometimes far prolonging behind basal margin of genitalia (Figs 1, 10). This enlarged part slightly curved around rod. Apical part of genital rod is surrounded by aedeagal capsule.

FEMALE (known for *Niladmirara mucronata* only). Antennae with 2+21 to 2+26 segmented; segments with short neck; sensoriae forming 2 rings; ovipositor curved upwards; terminal segment of lamella with long bristles.

SPECIES INCLUDED. The genus consists of three species distributed in the Russian Far East: *Niladmirara mucronata* (Mamaev et Zaitzev, 1998), **comb. n.** from the Ussuriysky Reserve in Primorsky krai (transferred here in new genus from

the genus *Camptomyia*), and described below from Shikotan Island *N. metula* **sp. n.** and *N. divergentia* **sp. n.**



Figs 1–9. *Niladmirara metula* sp. n., male holotype. 1 – genitalia; 2 – F5; 3 – F9; 4 – F13–F16 of left antenna; 5 – F14–F15 of right antenna; 6–7 – tarsal claw; 8 – wing; 9 – head. Scale bars = 0.1 mm.

RELATIONSHIPS. New genus is closely related to the subgenus *Paracamptomyia* Mamaev, 1961 of the genus *Camptomyia* Kieffer, 1894, but differs from it by form of wide transversal or round genitalia; by little thin claw of gonostyles; presence very long, almost straight or curved overlapping projections of parameres and straight long roots of parameres; absence transversal dorsal bridge between roots of parameres; presence of sclerotized enlarging on basal end of genital rod; by presence aedeagal swollen capsule and very long neck of middle flagellomeres.

BIOLOGY. Larvae of *N. mucronata* were found under bark of decaying ash stump (Mamaev & Zaitzev, 1998).

ETYMOLOGY. Name is originated from the Latin “*nil admirari*” to take notice of the unexpected combinations of various characters in new genus.

***Niladmirara metula* Fedotova, sp. n.**

Figs 1–9, 22, 23, 25, 26

TYPE MATERIAL. Holotype: ♂ (slide 572/K-2/112), **Russia**: Southen Kuriles, Shikotan Island, Krabozavodskoje village, Malaise trap, 18–20.VIII 2012, leg. Yu.N. Sundukov (ZISP).

DESCRIPTION. MALE. Body yellow, length 1.43 mm; length of wing 2.18 mm, width 0.66 mm; length of antenna 2.07 mm. Eye bridge with 9-10 ommatidia-broad. Head length 0.23 mm (without length of mouth parts), 0.29 mm (with mouth parts), that 1.2 times as long as height of head. Antennae 2+15-16-segments. Scape 1.3 times as long as pedicel, pedicel 1.2 times longer than its width. Scape, pedicel and flagellomeres uniformly sclerotized. Face yellow, F1 as long as F2. F1 3.5 times as long as wide, basal enlargement 1.5 times as long as width, 0.7 times as long as neck. F2 3.9 times as long as wide, basal enlargement as long as width, 0.8 times as long as neck. F5 3.9 times as long as wide, basal enlargement 1.5 times as long as width, 0.6 times as long as neck. Basal enlargement barrel-shaped, 1.7 times shorter than neck. F9 4.9 times as long as wide, basal enlargement 1.7 times as long as width, 0.5 times as long as neck. F14 2.4 times as long as wide, basal enlargement 2.1 times as long as width, 1.8 times as long as neck. F16 1.1 times as long as F15. Mouthparts with triangular labrum and prolonged labellum. Palpi 4-segmented, its ratio 1:1.5:0.9:1.2, segments almost parallelsided, with palpiger. Palpi slightly longer than length of head, length of palpi 0.26 mm.

Thorax slightly sclerotized, notum 1.9 times as long as wide. Anepimeron without pores. Legs slightly lighter than body, all legs 2.4–2.9 times as long as body and 1.7–1.9 times as long as wing. Hind femur 1.3 times as long as tibia. Fore femur as long as 2nd tarsal segment, middle and hind femur 1.1 times as long as one. Fore tarsus 1.1 times as long as middle one, almost as long as hind one. 2nd segment of fore tarsus 15.8 times as long as 1st segment and 9.5 times as long as 5th segment. Combined length of 3rd-5th tarsal segments in fore legs 0.8 times as long as 2nd segment. Claw in all tarsi with thin dent, empodium as long as or slightly shorter than claw. Wing widest near middle, 3.3 times as long as wide,  $R_{1+2}$  2.2 times shorter than wing. Part of  $R_{1+2}$  from apex to point of joining it with  $R_s$  2.0 times shorter than  $R_{1+2}$ . Length of abdomen 0.66 mm (without length of genitalia). Marginal setae of abdomen tergites much shorter than width of abdomen.

Genitalia almost transversal. Gonocoxites very wide, ventral side almost without excision, 1.3 times as long as wide, apically almost stright. Gonostylus strongly enlarged distally (dorsal view) and medially (lateral view) (Fig. 1), with small claw rounded apically (Fig. 23). Gonostylus 1.6 times shorter than gonocoxites, 2.6 times



Figs 10–16. *Niladmirara divergentia* sp. n., male holotype. 10 – genitalia; 11 – F9; 12 – F2; 13 – pedicel and F1; 14 – mouth parts and palpi; 15 – tarsal claw; 16 – wing. Scale bars = 0.1 mm.

as long as wide. IX tergite narrower than gonocoxite, cordiform, as wide as X tergite. IX tergite with wide round lobe, X truncated apically, both with triangular excision. Parameres long and thin, projections apically slightly curved and pointed; roots of parameres forms the loop together with middle branch. Apical side of aedeagus not visible. Genital rod long and thin, almost parallelsided, right truncated apically. Basal part of genital rod enlarged proximally, far prolonged behind of basal margin of genitalia.

FEMALE unknown.

RELATIONSHIPS. New species closely related to *N. mucronata* (Mamaev et Zaitzev, 1998), comb. n. (Fig. 24), but differs from it by transversal form of genitalia; wide gonostylus with thin claw; completely fused and strictly truncated very wide gonocoxites; by else more long overlapping parameres; by presence very long genital rod (not transverse proximally, Fig. 24); by presence of microtrichiae on basal enlargement of flagellomeres.

ETYMOLOGY. Name of the new species is formed from the Latin *metula* – peaked column in accordance with the form of parameres of the genitalia.

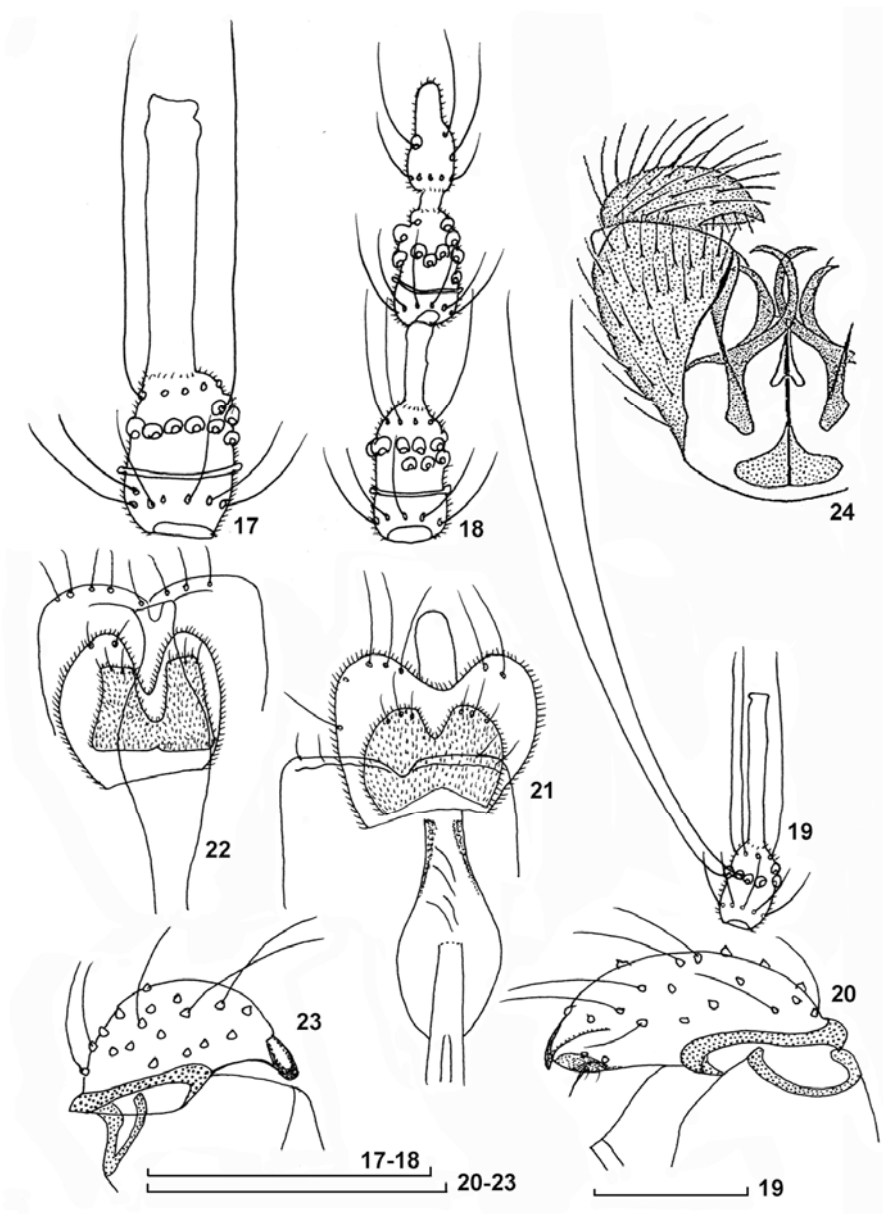
***Niladmirara devertentia* Fedotova, sp. n.**

Figs 10–21, 27, 28

TYPE MATERIAL. Holotype: ♂ (slide 571/K-2/111): **Russia**: Southern Kuriles, Shikotan Island, Krabozavodskoje village, Malaise trap, 18–20.VIII 2012, leg. Yu.N. Sundukov (ZISP).

DESCRIPTION. MALE. Body pale brown, length 1.58 mm; length of wing 2.46 mm, width 0.78 mm; length of antenna 2.37 mm. Width of eye bridge is 5-6 ommatidia. Head length 0.25 mm (without the length of mouth parts), 0.32 mm (with mouth parts), that 2.9 times as long as height of head. Antennae 2+17-segments. Scape 1.5 times as long as pedicel, pedicel 1.2 times as long as width. Scape, pedicel and subcylindric flagellomeres uniformly sclerotized. F1 3.8 times as long as wide, basal enlargement 1.1 times as long as width, 1.1 times as long as neck, 1.1 times as long as F2. F2 3.4 times as long as wide, basal enlargement 1.6 times as long as width, 0.8 times as long as neck. F5 4.1 times as long as wide, basal enlargement 1.5 times as long as width, 0.6 times as long as neck. Basal enlargement barrel-shaped, 1.8 times shorter than neck. F9 4.0 times as long as wide, basal enlargement 1.5 times as long as width, 0.6 times as long as neck. F15 3.0 times as long as wide, basal enlargement 1.9 times as long as width, 1.8 times as long as neck. Length of setae of middle whorl 2.7 times as long as flagellomere (Fig. 19). F17 with short narrowed apical projection fused with F16, together F17 and F16 1.1 times as long as F15. Mouthparts with prolonged labrum and round labellum. Palpi 4-segmented, with palpiger, its ratio 1:1.8:1.8:2.8, segments almost parallelsided.

Thorax slightly sclerotized, yellow-brown, 1.7 times as long as wide. Notum slightly darker than thorax, with three dark parts. Scutellum and notum around it is white. Anepimeron without pores. Legs 2.7–3.0 times as long as body and 1.8–1.9 times as long as wing. Legs lighter than body. Hind legs shorter than middle legs.



Figs 17–24. *Niladmirara* spp., male holotypes: 17–21 *N. divergentia* sp. n.; 22–23 *N. metula* sp. n.; 24 – *N. mucronata* (Mamaev et Zaitzev), comb. n. (after Mamaev & Zaitzev, 1998). 17 – F5; 18 – F15-17; 19 – F4; 20, 23 – gonostylus and apex of gonocoxites; 21, 22 – tegmen, IX and X tergite and aedeagal rod; 24 – genitalia. Scale bars = 0.1 mm.



All femora slightly longer than tibia. Hind femora 1.2 times as long as tibia. Fore femur 1.2 times as long as 2nd tarsal segment, middle 1.3 times as long as one, hind 1.1 times as long as 2nd tarsal segment. Fore tarsus 1.1 times as long as middle one, slightly longer than hind one. 2nd segment of fore tarsus 15.3 times as long as 1st one and 10.7 times as long as 5th segment. Combined length of 3rd-5th tarsal segments of fore legs 0.8 times as long as 2nd segment. Claw in all tarsi with thin curved dent, empodium slightly shorter than claw. Wing widest beyond middle, 3.2 times as long as wide,  $R_{1+2}$  2.1 times shorter than wing. Part of  $R_{1+2}$  from apex to point of joining it with  $R_s$  2.3 times shorter than  $R_{1+2}$ . Apex of wing slightly narrowed.

Genitalia almost round. Gonocoxites narrow not enlarged distally, 2.4 times as long as wide, apically slightly narrowed. Gonostylus with very thin light claw (Figs 10, 20), 2.2 times shorter than gonocoxites, slightly enlarged medially, 2.4 times as long as wide. IX tergite distinctly narrower than tegmen and gonocoxite, 1.2 times wider than X tergite, both with wide round lobe and shallow round excision. Parameres long and thin, bifurcated, with long apodeme. Middle branch of parameres very strongly twisted at the end. Basal branch of parameres extremely long and thin, overlapping with middle branch. Genital rod long and thin, almost parallelsided, with lateral thin projections, right truncated apically, with long basal enlarging. Aedeagal capsule is trapezoidal apically (Fig. 10) and rounded basally (Fig. 21), visible on ventral side of fused gonocoxites. Aedeagus longer than IX tergite, round apically.

FEMALE unknown.

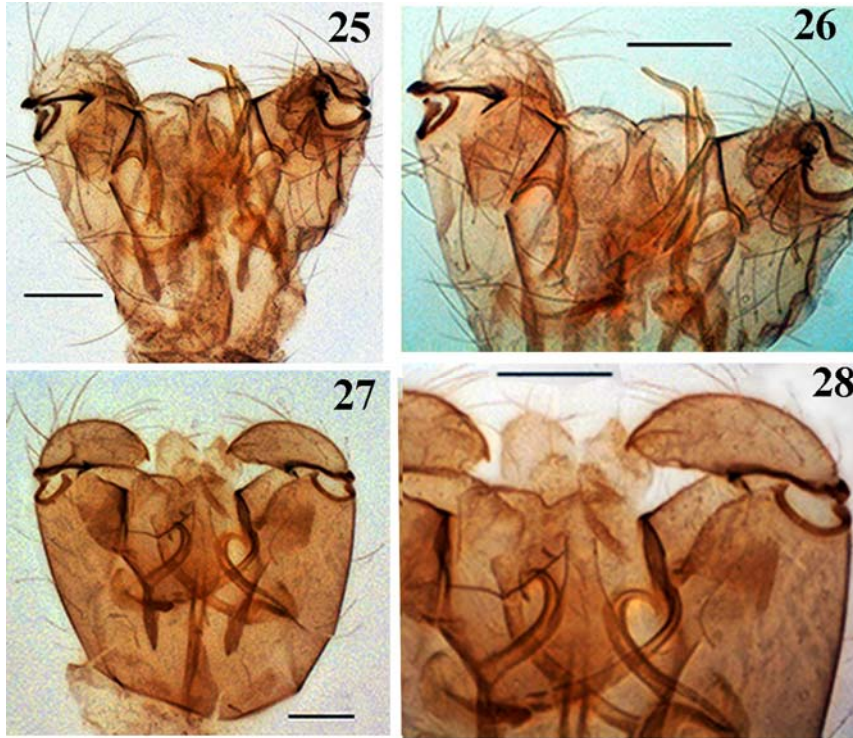
RELATIONSHIPS. New species closely related to *N. metula* sp. n. but differs from it by form of strongly curved overlapping parameres; slightly enlarged gonostylus with thin claw, pointed apically; by completely fused narrow gonocoxites; by presence long basal sclerotized enlarging on short aedeagal rod; presence of microtrichiae on basal enlargement of flagellomeres; by empodium shorter than tarsal claw.

ETYMOLOGY. Name of the new species is formed from the Latin *devergentia* for inclination or curvature in accordance with the shape of the parameres of genitalia.

**Key to species of the genus *Niladmirara* gen. n. (by males)**

1. Gonostyles with claw round apically (Figs 1, 23). Basal margin of genitalia with medial excision (Fig. 1). Parameres much longer than gonocoxites. Aedeagus with large basal swollen, prolonging far behind genitalia. Neck F5 1.7 times as long as burrel-shaped basal enlargement. Antennae 2+16-17 segments. Empodium as long as tarsal claw (Fig. 6, 7) or longer one. Body length 1.43 mm; length of wing 2.18 mm ..... *N. metula* **sp. n.**
- Gonostylus with very thin small pointed claw (Figs 10, 20, 24). Basal margin of genitalia is round (Figs 10, 24). Parameres shorter than gonocoxites. Rod of aedeagus reaches the base of genitalia (Fig. 24) or slightly longer one (Figs 10). Neck F5 1.2 or 1.8 times as long as basal enlargement (Fig. 11) ..... 2

2. Projections of parameres almost equal length (Fig. 24). Antennae 2+22-23 segments, apical flagellomere cone shaped. Neck of middle flagellomeres 1.2 times as long as subcylindric basal enlargement. Empodium longer than tarsal claw. Length of wing 3.2 mm .....  
 ..... *N. mucronata* (Mamaev et Zaitzev, 1998), **comb. n.**
- One from projections of parameres much longer than other (Fig. 10). Antennae 2+15-16 segments, terminal flagellomere with round apex (Fig. 18). Neck F5 1.8 times as long as barrel-shaped basal enlargement (Fig. 17). Empodium shorter than tarsal claw (Fig. 15). Body length 1.58 mm; length of wing 2.46 mm .....  
 ..... *N. divergentia* **sp. n.**



Figs 25–28. *Niladmirara* spp., male holotypes. 25–26 *N. metula* sp. n.; 27–28 *N. divergentia* sp. n.: 25, 27 – male genitalia; 26, 28 – gonostylus, part of gonocoxites and aedeagal complex. Scale bars = 0.05 mm.

## DISCUSSION

Thus, twenty-four species in six genera of the gall midge of the tribe Asynaptini including described in present paper taxa are known from the Russian Far East. The most of these species (18 from 24) belongs to genus *Camptomiya*. World fauna of

the widespread genus *Camptomyia* includes 65 species: 48 species are known from Palaearctic Region, 10 species from Oriental Region, 8 from Nearctic, 1 from Neotropical, 1 from Afrotropical Region, and two species are described from fossil Late Eocene Baltic and Rovno amber. Earlier five subgenera were distinguished in *Camptomyia* (Mamaev, 1961; Mamaev & Zaitzev, 1998), but distribution of the gall midges of this genus is very poorly studied in Russia. Three monotypic genera of the tribe Asynaptini were described from Primorskii krai: *Eudokimyia* Fedotova et Sidorenko 2005, *Tenepidosis* Fedotova et Sidorenko 2005 and *Larimyia* Fedotova et Sidorenko 2007. The genera *Eudokimyia*, *Tenepidosis* and *Niladmirara* gen. n. differs from *Camptomyia* by absence transversal dorsal bridge between roots of gonocoxites, by form of parameres (*Niladmirara* gen. n.) or absence of parameres (*Eudokimyia*, *Tenepidosis*).

At present, 25 species in 20 genera of the family Cecidomyiidae are known from Kuril Islands. Twelve genera and 15 species of them have been found in Shikotan Island (subfamily Porricondylinae – 2 genera and 3 species including new taxa; subfamily Cecidomyiinae – 10 genera and 12 species). Majority of the described from Shikotan species are endemic to this island, except *Camptomyia incognita* Mamaev et Zaitzev 1998 known also from Kunashir Island (Mamaev & Zaitzev, 1998; Fedotova, 2013a, b, 2014, 2016).

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#### REFERENCES

- Fedotova, Z.A. 2004. Supplement. 22. Fam. Cecidomyiidae – gall midges. P. 565–629. In: Sidorenko, V.S., Kupianskaya, A.N., Lelei, A.S. (Eds). *Key to the insects of Russian Far East. Vol. 5. Diptera and Siphonaptera. Part 3*. Dalnauka, Vladivostok. [In Russian]
- Fedotova, Z.A. 2013a. New genus and species of gall midges of the tribe Mirabilidiplosina (Diptera, Cecidomyiidae, Aphidoletidi, Bremiini) from the Russian Far East. *An International Journal of Dipterological Research*, 24(1): 17–30.
- Fedotova, Z.A. 2013b. Classification of gall midges of the tribe Aphidoletini (Diptera, Cecidomyiidae: Aphidoletidi) with description of a new genus and a new species from the Kurile Islands. *Entomologicheskoe Obozrenie*, 92(4): 823–848. [In Russian]
- Fedotova, Z.A. 2014. Classification of gall midges of the supertribe Brachineuridi (Diptera, Cecidomyiidae: Lasipterinae) with description of new genera and new species from the Kurile Islands. *Entomologicheskoe Obozrenie*, 93(3-4): 666–737. [In Russian]
- Fedotova, Z.A. 2016. Update classification of gall midges of the supertribe Coquillettomyiidi (Diptera, Cecidomyiidae) with description of the new species from the Kuril Islands. *An International Journal of Dipterological Research*, 27(1-2): 3–22.
- Fedotova, Z.A. & Sidorenko, V.S. 2005. New species of gall midges of the subfamily Porricondylinae from the Russian Far East (Diptera, Cecidomyiidae). *An International Journal of Dipterological Research*, 16(2): 89–127.

- Fedotova, Z.A. & Sidorenko, V.S. 2007. Nine new species of genus *Ledomyia* Kieffer, 1895 (Diptera, Cecidomyiidae) from the Russian Far East. *Far Eastern Entomologist*, 169: 1–19.
- Gagné, R.J. & Jaschhof, M. 2017. *A Catalog of the Cecidomyiidae (Diptera) of the World. 4th Edition. Digital Version 3*. Available from: [http://www.ars.usda.gov/ARUserFiles/80420580/Gagne\\_2017\\_World\\_Cat\\_4th\\_ed.pdf](http://www.ars.usda.gov/ARUserFiles/80420580/Gagne_2017_World_Cat_4th_ed.pdf) (accessed 20 November 2017).
- Mamaev, B.M. 1961. Gall midges of the USSR. New species of the genus *Camptomyia* Kieffer (Itonididae, Diptera). *Zoologicheskii Zhurnal*, 40: 1677–1690. [In Russian]
- Mamaev, B.M. 1972. Review of species and ecological relations of insect decomposers of wood of *Ulmus propinqua* Loidz. *Proceedings of the Institute of Biology and Soil Sciences, Far Eastern Centre of USSR Academy of Sciences, New series*, 7(110): 106–120. [In Russian]
- Mamaev, B.M. 1975a. Xylophagous insects developing on *Quercus mongolica* in southern Primor'e. *Proceedings of the Institute of Biology and Soil Sciences, Far Eastern Centre of USSR Academy of Sciences, New series*, 28: 35–42. [In Russian]
- Mamaev, B.M. 1975b. Endemic and subendemic elements in xylophagous entomocomplexes developing on *Padus maacki*. *Proceedings of the Institute of Biology and Soil Sciences, Far Eastern Centre of USSR Academy of Sciences, New series*, 28: 50–57. [In Russian]
- Mamaev, B.M. 1994. A contribution to the gall midge fauna (Diptera, Cecidomyiidae) of Kamchatka with descriptions of new species. *Vestnik Zoologii*, 2: 28–32.
- Mamaev, B.M. & Zaitzev, A.I. 1998. Ten new species of gall midges of the genus *Camptomyia* Kieffer (Diptera, Cecidomyiidae) from East Palaearctic Region. *Far Eastern Entomologist*, 62: 1–12.