Journal of Species Research 8(2):238-246, 2019

Twenty new records of mycophagous gall midges (Diptera: Cecidomyiidae) from Korea

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Mycophagous gall midges in the family Cecidomyiidae (Diptera) are poorly known in Korea, with only 14 recorded species. From our sampling throughout South Korea during 2015-2017, we present evidence of the Korean distribution of another 20 species as follows—Lestremiinae: *Anarete angusta* Mo & Xu, 2009; Micromyinae: *Anodontoceras saigusai* Yukawa, 1967, *Campylomyza appendiculata* Jaschhof, 2015, *Campylomyza furva* Edwards, 1938, *Peromyia gotohi* Jaschhof, 2001, *Peromyia pumila* Jaschhof, 2001, and *Tekomyia populi* Möhn, 1960; Winnertziinae: *Leptosyna nervosa* (Winnertz), 1852, *Winnertzia nigripennis* (Kieffer), 1894, and *Winnertzia solidaginis* Felt, 1907; Porricondylinae: *Bryocrypta indubitata* Mamaev, 1964, *Camptomyia flavocinerea* Panelius, 1965, *Coccopsilis obscura* (Mamaev), 1964, *Coccopsilis paneliusi* (Yukawa), 1971, *Cryptoneurus muscicola* (Kieffer), 1896, *Dirhiza abludentis* (Mamaev), 1998, *Divellepidosis separata* (Yukawa), 1971, *Larimyia lavalis* Fedotova & Sidorenko, 2007, *Parvovirga latostylata* Jaschhof, 2013, and *Porricondyla nigripennis* (Meigen), 1830.

Keywords: Cecidomyiidae, mycophagous gall midges, new distributional records, South Korea

DOI:10.12651/JSR.2019.8.2.238

Introduction

The gall midge family Cecidomyiidae (Diptera) consists of six subfamilies (Catotrichinae, Lestremiinae, Micromyinae, Winnertziinae, Porricondylinae, and Cecidomyiinae), 812 genera, and 6590 named species (Gagné and Jaschhof, 2017). Cecidomyiids have tiny, fragile adults, with an average body size of only 1-3 millimetres, which contributes to their reputation of being a taxonomically difficult group. Cecidomyiidae can be divided into three ecological groups in terms of larval feeding habits: mycophagous, phytophagous, and zoophagous (Skuhravá *et al*., 1984). Most members of the Cecidomyiinae are phytophagous, but fungivores and predators are also present. The other five subfamilies are mycophagous, comprising approximately one quarter of cecidomyiid biodiversity. The larvae of mycophagous gall midges are usually found in association with plant litter, and typical larval habitats include the soil, rotting wood, and leaf litter. Interestingly, some mycophagous cecidomyiids are paedogenetic (reproducing as larvae). Paedogenesis is found in Micromyinae (genera *Aprionus* Kieffer, *Mycophila* Felt, and *Tekomyia* Möhn) and in Winnertziinae (tribe Heteropezini) (Mamaev and Krivosheina, 1965; Lee and Kim, 2003).

Mycophagous cecidomyiids are poorly studied in South Korea. Of 1490 species known in the world, 145 species are found to occur in Japan, 62 in China, 457 in Russia (Jiao and Bu, 2014; Yukawa, 2014; Gagné and Jaschhof, 2017), and only 14 in Korea (Ham and Bae, 2017; Ham *et al*., 2018; Jaschhof *et al*., 2018). Our taxonomic study of this group in Korea has revealed the presence of another 20 species, which are listed here together with full collecting data, brief adult diagnoses, and geographic distributions as known so far.

Materials and methods

Adult gall midges studied here were collected in 2015-2017 at a number of sites across Korea (Table 1) and are deposited in the Korean Entomological Institute of Korea University (KU). Samples in the Korea National Park Service (KNPS) and National Institute of Biological Re-

Table 1. Collecting sites in South Korea.

Locality	Year	N	E	Collectors	Methods
Mt. Gariwang, Jeongseon-eup, Jeongseon-gun, Gangwon-do	2009	–	–	W. Y. Choi, B. S. Kim, Y. W. Lee	Malaise trap
Buan-gun, Jeollabuk-do	2015	–	–	J. C. Jung	Malaise trap
Gapyeong Ecological Research Center (GERC), Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do	2015-2017	37.975932	127.439399	Y. J. Bae, D. Ham	Sweep net Light trap Malaise trap
Yeongwol Insectarium, Yeongwol-eup, Yeongwol-gun, Gangwon-do	2016	37.228844	128.507709	D. A. Yi, D. Ham	Sweep net Malaise trap
Yeongwol Insectarium, Buk-myeon, Yeongwol-gun, Gangwon-do	2016	37.211525	128.422684	D. A. Yi	Malaise trap
Mt. Yumyeong, Seorak-myeon, Gapyeong-gun, Gyeonggi-do	2016	37.587726	127.492466	D. Ham	Sweep net
Mt. Chiak, Socho-myeon, Wonju-si, Gangwon-do	2016	37.286281	128.084429	D. Ham	Sweep net
Korea University Agricultural Research Station, Wabu-eup, Namyangju-si, Gyeonggi-do	2017	37.58569	127.026245	D. Ham	Malaise trap
Mt. Gaeun, Seongbuk-gu, Seoul	2017	37.595828	127.028479	D. Ham	Sweep net Malaise trap
Baeksa-myeon, Icheon-si, Gyeonggi-do	2017	37.349061	127.459281	D. Ham	Sweep net

sources (NIBR) were also examined.

Specimens were collected by sweep net (SW), malaise trap (MT) and light trap (WLT, white light trap; RLT, red light trap), preserved in 80% ethanol, and later mounted on microscopic slides for closer study. Three preparation methods were used. Some specimens, whose genomic DNA was extracted for future molecular studies, were dissected separating the head, body, wing, and genitalia, using fine needles, and the different parts of the body were mounted under separate cover slips in Canada balsam. Other specimens were treated with clove oil for up to several hours in order to make them transparent and then processed as described above. In the case of damaged specimens, a less laborious approach was chosen, with specimens mounted without pre-treatment in Hoyer's solution. After thoroughly drying, the surrounding area of cover glass was treated with clear nail polish to prevent oxidation.

Specimens were examined with bright-field and phase-contrast microscopy (Olympus BX50, Japan). Microscopic images of the specimens were taken using a stereomicroscope (Olympus BX50, Japan), with the aid of a microscope-attached camera (Nikon D750, Japan). The terminology of adult morphological features used in this study follows Jaschhof and Jaschhof (2009; 2013). The world distribution and synonyms of species referred to here are in accordance with Gagné and Jaschhof (2017). Genera and species are listed alphabetically. Generic diagnoses can be found in the books by Jaschhof and Jaschhof (2009; 2013). Species diagnoses given here are largely compiled from these books (Jaschhof and Jaschhof, 2009; 2013).

Taxonomic accounts

Order Diptera Linnaeus, 1804 파리목
Family Cecidomyiidae Newman, 1834 혹파리과
Subfamily Lestremiinae Rondani, 1840 마혹파리아과
Genus *Anarete* Haliday, 1833 짧은마혹파리속 (신칭)

1. *Anarete angusta* Mo & Xu, 2009
좁은가리개혹파리 (신칭)
Anarete angusta Mo and Xu, 2009: 292.

Diagnosis. Gonostylus slender and curved inwardly with two teeth (Fig. 1a) and dense microtrichia apically (Fig. 1B). Tegmen tapering apically (Fig. 1A).
Materials examined. 1♂ (HDS525), Yeongwol Insectarium, Yeongwol-eup, Yeongwol-gun, Gangwon-do, South Korea, N37.228844, E128.507709, 1 VI-15 VII 2017, MT, D. A. Yi leg. (NIBR).
Distribution. China (Zhejiang), new to South Korea.
Remarks. Unlike *Anarete angusta* from China, the 6th and 7th flagellomeres are fused in *A. angusta* from Korea. This could be an intraspecific variation, but difficult to predict accurately because of the small number of samples.

Subfamily Micromyinae Rondani, 1856 애혹파리아과
Genus *Anodontoceras* Yukawa, 1967
끝소매애혹파리속 (신칭)

2. A*nodontoceras saigusai* Yukawa, 1967
끝소매애혹파리 (신칭)

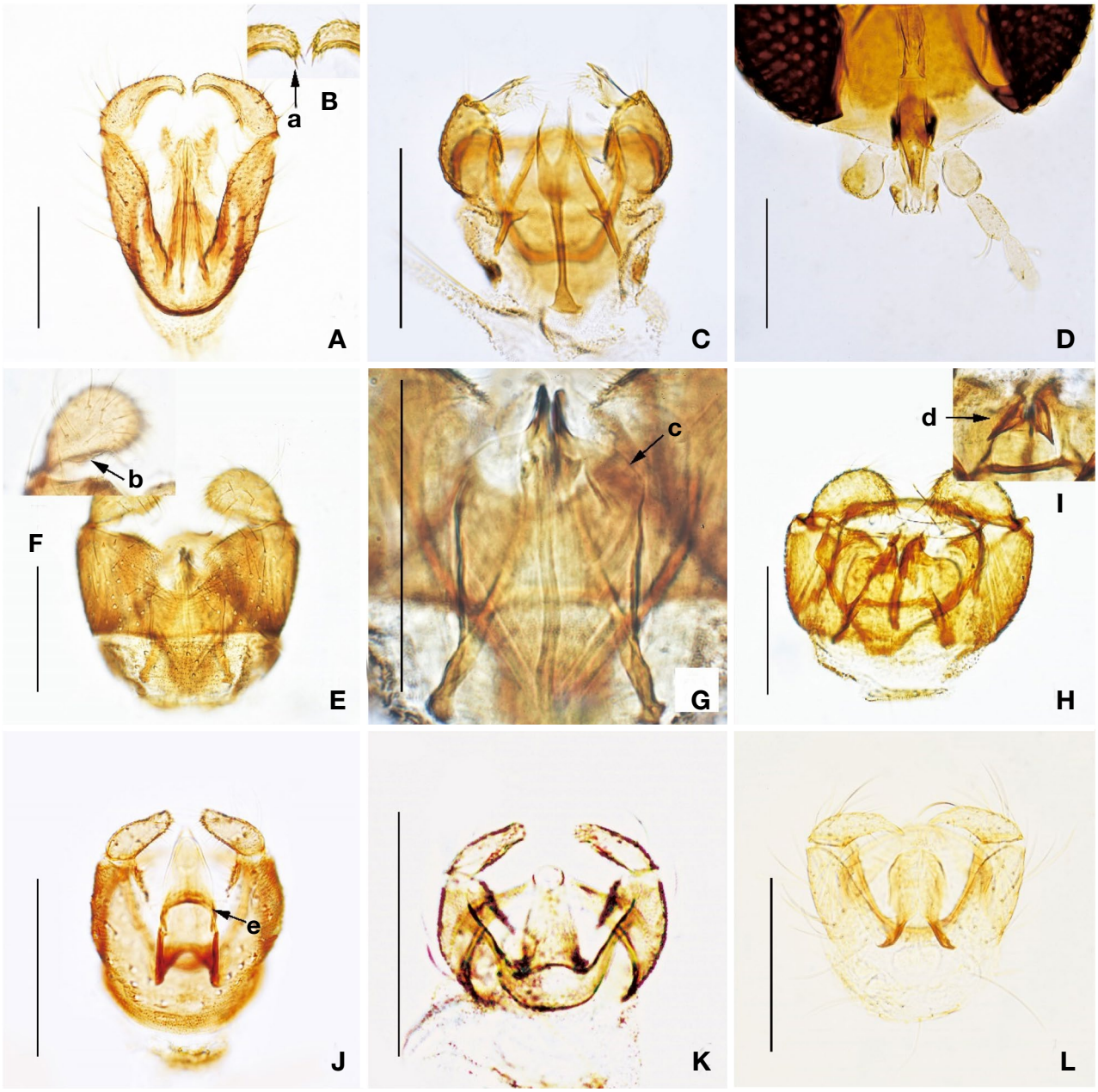

Fig. 1. Male terminalia (A-C, E-L), head (D) of cecidomyiids (Lestremiinae, Micromyinae): A - *Anarete angusta*; B - idem, gonostylus; C - *Anodontoceras saigusai*; D - idem, palpus; E - *Campylomyza appendiculata*; F - idem, gonostylus; G - idem, tegmen; H - *Campylomyza furva*; I - idem, tegmen; J - *Peromyia gotohi*; K - *Peromyia pumila*; L - *Tekomyia populi*, Scale bars = 0.1 mm, a = two teeth; b = large lobe; c = shoulder; d = leaf-shaped process; e = horse-shaped knob.

Anodontoceras saigusai Yukawa 1967: 196.

Diagnosis. Palpus 3 segmented (Fig. 1D). Outline of gonocoxites rectangular basally without ventral plate. Gonostylus tuberculate apically with many fine setae; Sockets of setae strongly swollen respectively. Tegmen smoothly rounded. Genital rod 2x as long as gonocoxites (Fig. 1C).

Materials examined. 1♂ (HDS30), Mt. Gariwang, Jeongseon-eup, Jeongseon-gun, Gangwon-do, South Korea, 5 VII-2 IX 2009, MT, W. Y. Choi, B. S. Kim, Y. W. Lee leg. (NIBR).

Distribution. Russia (Far East), Japan, West Malaysia, new to South Korea.

Remarks. In Korea, this species has genital rod separated into tow points apically. Forked part occupied one-third

of genital rod in length. In Yukawa (1967), the explanation of this part is omitted.

Genus *Campylomyza* Meigen, 1818
옷깃애혹파리속 (신칭)

3. *Campylomyza appendiculata* Jaschhof, 2015
끝등근애혹파리 (신칭)
Camplomyza appendiculata Jaschhof 2015: 377.

Diagnosis. (modified from Jaschhof, 2015) Gonostylus with large lobe dosally (Fig. 1F; 1b). Tegmen broadly parallel-sided with small shoulders (Fig. 1G; 1c). Parameral apodemes long beyond gonocoxites (Fig. 1E). Aedeagus covered with dense microtrichia apically.
Materials examined. 2♂ (HDS514, 520), Korea University Agricultural Research Station, Wabu-eup, Namyangju-si, Gyeonggi-do, South Korea, N37.585690, E127.026245, 2-8 IV 2017, MT, D. Ham leg. (1 in KU, 1 in NIBR).
Distribution. Norway, Finland, Netherlands, Japan, new to South Korea.

4. *Campylomyza furva* Edwards, 1938
검은애혹파리 (신칭)
Campylomyza furva Edwards 1938: 179.

Diagnosis. (modified from Jaschhof and Jaschhof, 2009) Gonocoxites subretangular basally. Gonostylus flattened inwardly and rounded apically (Fig. 1H). Tegmen lamellate apically with dorsal processes elongated lead-shaped (Fig. 1I).
Materials examined. 1♂ (HDS518), Korea University Agricultural Research Station, Wabu-eup, Namyangju-si, Gyeonggi-do, South Korea, N37.585690, E127.026245, 2-8 IV 2017, MT, D. Ham leg. (NIBR).
Distribution. Northern Europe, Germany, Austria, new to South Korea.

Genus *Peromyia* Kieffer, 1894 어리애혹파리속

5. *Peromyia gotohi* Jaschhof, 2001
작은고토애혹파리 (신칭)
Peromyia gotohi Jaschhof, 2001: 79.

Diagnosis. (modified from Jaschhof, 2001) Narrow portion of gonocoxites shorter than thick portion. Ventral plate shallowly emarginated. Gonostylus elongated cylindrical, rounded apically. Tegmen rounded apically with sclerotized horseshoe-shaped knob forwardly and membranous distal margin backwardly (Fig. 1J).
Materials examined. 3♂ (HDS311, 334, 335), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 25 VI-2 VII 2016, MT, Y. J. Bae leg. (1 in KU, 2 in NIBR).
Distribution. Japan, new to South Korea.

6. *Peromyia pumila* Jaschhof, 2001 꼬마애혹파리 (신칭)
Peromyia pumila Jaschhof 2001: 70.

Diagnosis. (modified from Jaschhof and Jaschhof, 2009) Gonostylus elongated and tapered towards apex. Tegmen elongated, slightly bent dorsally and tapered with pubescence microtrichia (Fig. 1K).
Materials examined. 1♂ (HDS313), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 25 VI-2 VII 2016, MT, Y. J. Bae leg. (NIBR).
Distribution. Fennoscandia, Japan, new to South Korea.

Genus *Tekomyia* Möhn, 1960
사시나무애혹파리속 (신칭)

7. *Tekomyia populi* Möhn, 1960
사시나무애혹파리 (신칭)
Tekomyia populi Möhn 1960: 6.

Diagnosis. (modified from Jaschhof and Jaschhof, 2009) Ventral gonocoxal bridge very short, membranous. Gonostylus tapering, slender with flat spine claw. Tegmen parallel-sided, truncated apically without sclerotized process inwardly (Fig. 1L).
Materials examined. 1♂ (HDS529), Yeongwol Insectarium, Yeongwol-eup, Yeongwol-gun, Gangwon-do, South Korea, N37.228844, E128.507709, 19-26 VI 2016, MT, D. A. Yi leg. (NIBR).
Distribution. Germany, new to South Korea.

Subfamily Winnertziinae Panelius, 1965
타슬혹파리아과 (신칭)
Genus *Leptosyna* Kieffer, 1894 희미한혹파리속 (신칭)

8. *Leptosyna nervosa* (Winnertz), 1852
희미한시맥혹파리 (신칭) (Fig. 2)
Heteropeza nervosa Winnertz 1852: 50.
Leptosyna nervosa Edwards 1937: 146.

Diagnosis. (modified from Jaschhof and Jaschhof, 2013) WI 3.3. Wing setose on veins (Fig. 2A). Gonostylus 2.5 x longer than wide. AntGA almost approached gonocoxal margin basally (Fig. 2B; 2a).
Materials examined. 3♂ (HDS423, 441, 442), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, S. Korea, N37.975932, E127.439399, 29 IV-6 V 2017, MT, Y. J. Bae leg. (2 in NIBR, 1 in KU).
Distribution. UK, Sweden, France, Germany, new to

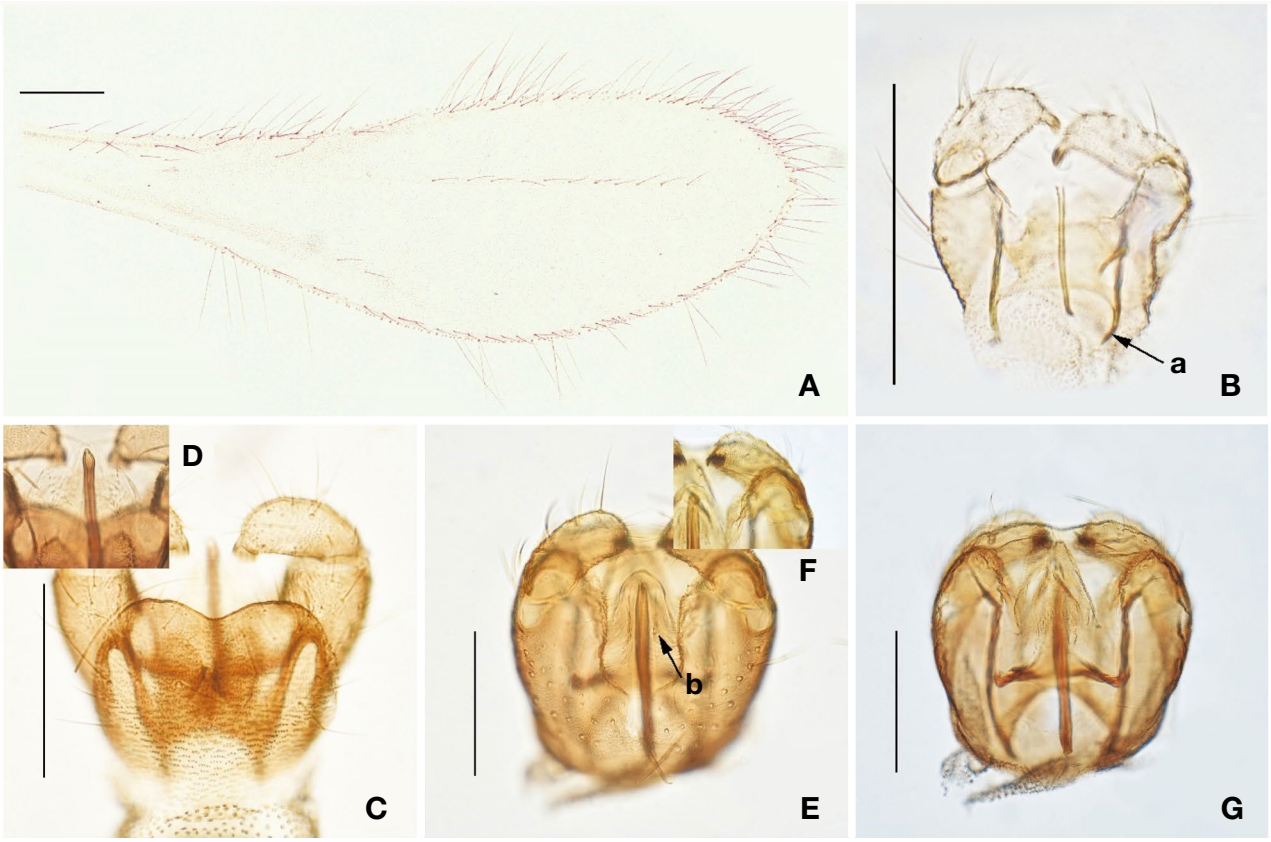

Fig. 2. Wing (A), male terminalia (B-G) of cecidomyiids (Winnertziinae): A - *Leptosyna nervosa*; B - idem; C - *Winnertzia nigripennis*; D - idem, tegmen; E - *Winnertzia solidaginis*; F - idem, gonostylus; G - idem, ventral plate, Scale bars = 0.1 mm, a = antGA; b = tegmen flat.

South Korea.
Remarks. This genus has 14 species in the world. Among this genus, 10 species were found in Rovno amber (Gagné and Jaschhof, 2017).

Genus *Winnertzia* Rondani, 1860 타슬혹파리속 (신칭)

9. *Winnertzia nigripennis* Kieffer, 1894
흑단타슬혹파리 (신칭)
Winnertzia nigripennis Kieffer 1896: 36.

Diagnosis. (modified from Jaschhof and Jaschhof, 2009) This species belongs to the *Winnertzia solidaginis* group (Jaschhof and Jaschhof, 2013). Gonostylus long and slightly swollen subapicomedially (Fig. 2C). Tegmen slightly sclerotized apically (Fig. 2D). 9th tergite broad posteriorly (Fig. 2C).
Materials examined. 1♂ (HDS306), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 5-9 V 2015, MT, Y. J. Bae leg. (NIBR).
Distribution. Widespread Europe, new to South Korea.
Remarks. The delimitation between inter- and intra-specific differences of the species in the genus *Winnertzia* is unclear.

10. *Winnertzia solidaginis* Felt, 1907
설탕단풍혹파리 (신칭)
Winnertzia solidaginis Felt 1907: 53.

Diagnosis. (modified from Jaschhof and Jaschhof, 2009) This species belongs to the *Winnertzia solidaginis* group (Jaschhof and Jaschhof, 2013). Tegmen flaps distinct (Fig. 2E; 2b). The 9th tergite broad and emarginated medially (Fig. 2G). Gonostylus slightly thick (Fig. 2F). Ventral plate U-shaped, slightly membranous (Fig. 2E). AntGA long and thin.
Materials examined. 1♂ (HDS354), Mt. Gaewun, Seongbuk-gu, Seoul, South Korea, N37.595828, E127.028479, 14-27 V 2017, MT, D. Ham leg. (NIBR).
Distribution. Eastern USA, widespread Europe, Far East, new to South Korea.

Subfamily Porricondylinae Kieffer, 1913
곧은혹파리아과
Genus *Bryocrypta* Kieffer, 1896
이끼곧은혹파리속 (신칭)

11. *Bryocrypta indubitata* Mamaev, 1964
참영월혹파리 (신칭)
Bryocrypta indubitata Mamaev 1964: 903.

Diagnosis. (modified from Jaschhof and Jaschhof, 2013) Gonocoxites much larger ventrally with triangular extensions laterally (Fig. 3a). Gonostylus conspicuously long (Fig. 3A).
Materials examined. 6♂ (HDS107-109, 133-135), Yeongwol Insectarium, Yeongwol-eup, Yeongwol-gun, Gangwon-do, South Korea, N37.228844, E128.507709, 19-26 VI 2016, MT, D. A. Yi leg. (2 in NIBR, 4 in KU).
Distribution. Widespread northern and eastern Europe, new to South Korea.

Genus *Camptomyia* Kieffer, 1894
긴머리혹파리속 (신칭)

12. *Camptomyia flavocinerea* Panelius, 1965
큰집게혹파리 (신칭)
Camptomyia flavocinerea Panelius 1965: 96.

Diagnosis. (modified from Jaschhof and Jaschhof, 2013) Gonostylus gradually thicker until apical third and tapering apically with dense microtrichia claw (Fig. 3B). A pair of parameres long and diverged distally (Fig. 3C; 3b).
Materials examined. 1♂ (HDS216), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 11 VI 2016, PM 9-11, WLT, Y. J. Bae leg. (NIBR).
Distribution. Widespread Europe, new to South Korea.

Genus *Coccopsilis* Harris, 2004 알혹파리속

13. *Coccopsilis obscura* (Mamaev), 1964
긴끝수염알혹파리 (신칭)
Holoneurus obscurus Mamaev 1964: 908.
Coccopsis obscura Mamaev 2001: 6.

Diagnosis. (modified from Jaschhof and Jaschhof, 2013) Gonocoxites not prolonged ventroposteriorly. Gonostylus curved inwardly with broad, long pectinated claw. Gonocoxal processes not convergent apically (Fig. 3D; 3c).
Materials examined. 1♂ (HDS374), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 27 VIII-3 IX 2016, MT, Y. J. Bae leg. (NIBR).
Distribution. Sweden, Finland, Estonia, Latvia, Russia (Europe), new to South Korea.

14. *Coccopsilis paneliusi* (Yukawa), 1971
참알혹파리 (신칭)
Holoneurus paneliusi Yukawa 1971: 64.
Coccopsis paneliusi Mamaev 2001: 6.
Coccopsilis marginata Ham and Bae 2016: 170; Ham and Bae 2017: 116 (misidentification).

Diagnosis. (modified from Jaschhof and Jaschhof, 2013) Gonostylus globular with broad pectinated claw (Fig. 3E).
Material examined. 2♂ (HDS190, HDS307), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 4-9 VI 2016, MT, Y. J. Bae leg. (KU). 1♂ (HDS212), Buan-gun, Jeollabuk-do, 8-14 IV 2015, MT, J. C. Jung leg. (NIBR).
Distribution. Widespread Palearctic, new to South Korea.

Genus *Cryptoneurus* Mamaev, 1964
둥근곧은혹파리속 (신칭)

15. *Cryptoneurus muscicola* (Kieffer), 1896
솔이끼혹파리 (신칭)
Holoneurus muscicola Kieffer 1896: 16.
Cryptoneurus muscicola Mamaev 1964: 909.

Diagnosis. (modified from Jaschhof and Jaschhof, 2013) Gonostylus subglobular with rounded process subapically (Fig. 3F; 3d). Claws pectinated with 2 short spines downwardly. Gonocoxal processes narrow leaf-shaped. Parameres seperated apically (Fig. 3F).
Materials examined. 1♂ (HDS526), Mt. Yumyeong, Seorak-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.587726, E127.492466, 23 July 2016, SW, D. Ham leg. (NIBR).
Distribution. Widespread Europe, new to South Korea.
Remarks. Parameres of gonocoxite overlapped each other by the press in this specimen.

Genus *Dirhiza* Loew, 1850 집게곧은혹파리속 (신칭)

16. *Dirhiza abludentis* (Mamaev), 1998
널부리집게혹파리 (신칭)
Jamalepidosis abludentis Mamaev 1998: 4.
Dirhiza abludentis Jaschhof and Jaschhof 2013: 136.

Diagnosis. (modified from Jaschhof and Jaschhof, 2013) Gonostylus short with broad, long pectinated claw (Fig. 3H). Tegmen slightly sclerotized, broad, subrectangular posteriorly. Ventral gonocoxal bridge long with broadly emarginated ventral plate (Fig. 3G).
Materials examined. 2♂ (HDS165, 166), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 20 May 2016, SW, D. Ham leg. (1 in NIBR, 1 in KU).
Distribution. Russia (Far East), new to South Korea.

Genus *Divellepidosis* Fedotova & Sidorenko, 2007
따로혹파리속

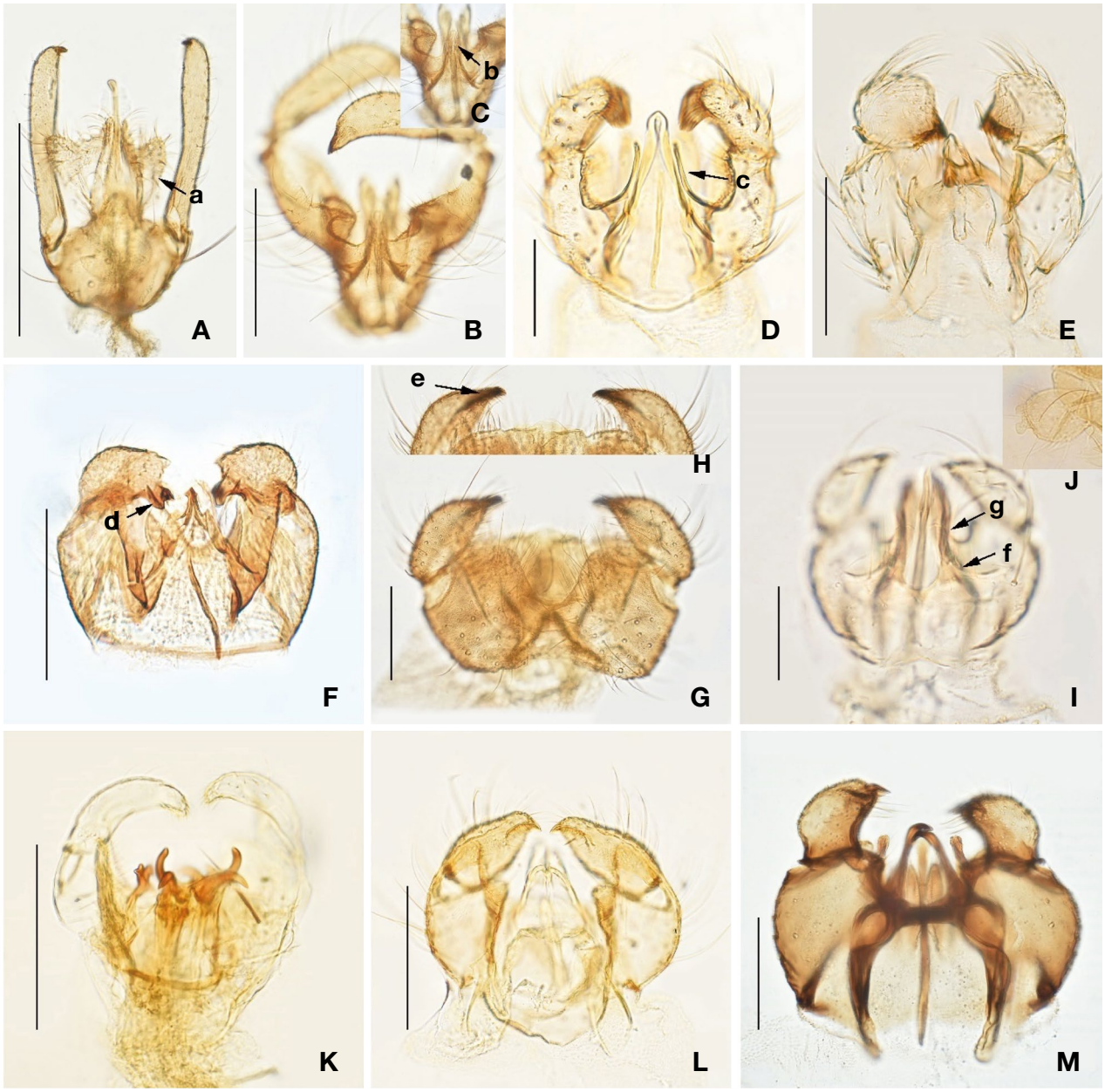

Fig. 3. Male terminalia (A-M) of cecidomyiids (Porricondylinae): A - *Bryocrypta indubitata*; B - *Camptomyia flavocinerea*; C - idem, aedeagus and parameres; D - *Coccopsilis obscura*; E - *Coccopsilis paneliusi*; F - *Cryptoneurous muscicola*; G - *Dirhiza abludentis*; H - idem, gonostylus; I - *Divellepidosis separata*; J - idem, gonostylus; K - *Larimyia lavalis*; L - *Parvovirga latostylata*; M - *Porricondyla nigripennis*, Scale bars = 0.1 mm, a = triangular extention; b = paramere; c, g = gonocoxal process; d = rounded process in gonostylus subapically; e = pectinated claw; f = protuberance.

17. *Divellepidosis separata* (Yukawa), 1971
두발톱흑파리

Porricondyla separata Yukawa 1971: 72.
Divellepidosis separata Fedotova and Sidorenko 2007b: 18.
Divellepidosis rotundata Ham and Bae 2016: 171; Ham and Bae 2017: 116 (misidentification).

Diagnosis. Gonocoxites has triangular ventral protuberances (Fig. 3f) with 3-4 long setae. Ventral plate narrow U-shaped with membranous, apically rounded gonocoxal processes (Fig. 3I; 3g). Gonostylus with two lamellar claw, sometimes fused (Fig. 3J). Tegmen apically seperated (Fig. 3I).

Materials examined. 2♂ (HDS13, 14), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 20 May 2016, MT, Y.

J. Bae leg. (1 in NIBR, 1 in KU), 2♂ (HDS40, 42), Mt. Chiak, Socho-myeon, Wonju-si, Gangwon-do, South Korea, N37.286281, E128.084429, alt. 484 m, 1 May 2016, SW, D. Ham leg. (KU), 2♂ (HDS394, 396), Mt. Gaewun, Seongbuk-gu, Seoul, South Korea, N37.595828, E127.028479, 29 May 2017, SW, D. Ham leg. (KU), 1♂ (HDS401), Baeksa-myeon, Icheon-si, Gyeonggi-do, South Korea, N37.349061, E127.459281, 5 May 2017, SW, D, Ham leg. (KU), 1♂ (HDS405), Mt. Gaewun, Seongbuk-gu, Seoul, South Korea, N37.595828, E127.028479, 3 May 2017, SW, D, Ham leg. (KU).
Distribution. Japan, new to South Korea.
Remarks. Ham and Bae (2016) redescribed *Divellepidosis separata* from South Korea, but the species is not *D. separata* but rather an undetermined *Divellepidosis* sp. This is based on the ventral protuberances of gonocoxite. As a result, this would be the first report of *D. separata* for South Korea.

Genus *Larimyia* Fedotova & Sidorenko, 2007
갈래곧은혹파리속 (신칭)

18. *Larimyia lavalis* Fedotova & Sidorenko, 2007
끝세갈래혹파리 (신칭)
Larimyia lavalis Fedotova andv Sidorenko 2007a: 90.

Diagnosis. Gonocoxites with 2 pairs parameres. Inside paired parameres long two-branched. Outside paired parameres short three-branched. Gonostylus slender, long, and curved inwardly with dense microtrichia apically (Fig. 3K).
Materials examined. 1♂ (HDS33), Mt. Gariwang, Jeongseon-eup, Jeongseon-gun, Gangwon-do, South Korea, 5 July-2 Sep 2009, W. Y. Choi, B. S. Kim, Y. W. Lee leg. (NIBR).
Distribution. Russia (Far East), new to South Korea.

Genus *Parvovirga* Jaschhof, 2013
작은막대혹파리속 (신칭)

19. *Parvovirga latostylata* Jaschhof, 2013
넓은발톱혹파리 (신칭)
Parvovirga latostylata Jaschhof and Jaschhof 2013: 290.

Diagnosis. (modified from Jaschhof and Jaschhof, 2013) Narrow portion of gonocoxites thicker than the other species of this genus. Gonostylus apically much broader with 1 bristle subapically (Fig. 3L).
Materials examined. 1♂ (HDS116), GERC, Jeokmok-ri, Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 11 June 2016, PM 9-11, WLT, Y. J. Bae leg. (NIBR).
Distribution. Sweden, new to South Korea.
Remarks. One specimen was used for identification, which was slightly collapsed by pressure when we made the slide specimens. Because of that, the tegmen looks different from the illustrations by Jaschhof and Jaschhof, 2013. However, other morphological characters also identify this species to be *P. latostylata*.

Genus *Porricondyla* Rondani, 1840
곧은혹파리속 (신칭)

20. *Porricondyla nigripennis* (Meigen), 1830
깜장곧은혹파리 (신칭)
Cecidomyia nigripennis Meigen 1830: 269.
Porricondyla nigripennis Panelius 1965: 41.

Diagnosis. (modified from Jaschhof and Jaschhof, 2013) Scutum has both presutural and prescutellar windows. Gonocoxal processes straight and cylindrical. Gonostylus semiglobular with broad pectinated claw. Parameres curved, overlapping each other (Fig. 3M).
Materials examined. 1♂ (HDS127), Buk-myeon, Gapyeong-gun, Gyeonggi-do, South Korea, N37.975932, E127.439399, 23 Sep 2016, SW, D. Ham leg. (NIBR).
Distribution. Widespread Holarctic, new to South Korea.

Acknowledgments

This study was supported by a grant from the National Institute of Biological Resources (NIBR), with funds from the Ministry of Environment of the Republic of Korea (grant no. NIBR201801201). We would like to thank the Korea National Park Research Institute (KNPS) for providing samples and Dr. Dae-Am Yi, Director of the Yeongwol Insectarium for helping to collect specimens. We sincerely thank Prof. Junichi Yukawa (Kyushu University) for his kind advice and encouragement of the study of Korean cecidomyiids.

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Submitted: July 26, 2018
Revised: March 5, 2019
Accepted: March 5, 2019