



## State of knowledge of the tachinid fauna of Eastern Asia, with new data from North Korea. Part I. Phasiinae

Agnieszka DRABER-MOŃKO

*Museum and Institute of Zoology, PAS, Wilcza 64, 00-679 Warszawa; e-mail: draber@miiz.waw.pl*

**Abstract:** The present state of knowledge of the tachinid fauna of Eastern Asia is reviewed. The material from the subfamily Phasiinae collected in North Korea by five expeditions of researchers from the Institute of Zoology PAS, Warsaw, Poland was studied. Thirteen species of the phasiine flies are recorded. Ten species are reported for the first time in the fauna of North Korea. Two new species are described and illustrated: *Dionaea karinae* sp. nov., and *Hemyda dominikae* sp. nov.

**Key words:** Diptera, Tachinidae, Phasiinae, new species, North Korea

### INTRODUCTION

The cosmopolitan family Tachinidae is one of the largest families of Diptera. More than 8,500 species are distributed in all zoogeographic regions, and more than 1,600 species are recorded from the Palaearctic region (Richter 2004). The greatest number of the tachinid species occurs in the Palaearctic, Nearctic, Neotropical and Afrotropical regions. About a thousand species are recorded from the Oriental region (Crosskey 1977). The smallest number of tachinid species occurs in the Australasian and Oceanian regions (Cantrell & Crosskey 1989).

The Tachinidae are divided into four subfamilies: Phasiinae, Dexiinae, Exoristinae and Tachininae. The Phasiinae are a small subfamily with about five hundred species known worldwide. About 170 species of the Phasiinae are recorded from the Palaearctic region (Herting & Dely-Draskovits 1993, Ziegler & Shima 1996) and 68 species from the Russian Far East (Ziegler & Shima 1996, Richter 2004). All Tachinidae are, in the larval stage, endoparasitic in other arthropods, almost exclusively in insects. The majority of phasiin species of which the biology and the preimaginal stages have been studied are endoparasitoids specialized on Heteroptera (Pentatomidae, Cydnidae, Coreidae, Lygaeidae and Nabidae).

### REVIEW OF THE TACHINID FAUNA OF EASTERN ASIA

The tachinid fauna of various parts of the eastern Asian continent has not been studied equally well. Far more data are available on tachinid flies of West Siberia to Mongolia, Lake Baikal, Transbaikalia and the Russian Far East (Kamchatka Peninsula, Kuril Islands, Sakhalin and Ussuria) (Becker & Schnabl 1926). Numerous research expeditions organised mainly by zoologists from Moscow and from St. Petersburg, have made it possible for dipterologists to collect and analyse new materials and write a number of papers about tachinid genera of the Palaearctic distribution, including many works by Jacobson (1899), Röhndendorf (1923, 1924 a, b, 1927, 1928, 1933 a, b, 1934, 1947, 1949), Zimin (1926, 1928, 1929 a, b, 1931 a, b, 1935, 1947, 1949, 1951, 1954, 1957, 1958, 1960, 1961, 1963, 1965, 1966, 1967, 1970, 1974, 1980),

Zimin & Kolomyetz (1983, 1984), Kolomyetz (1952, 1966, 1967, 1970, 1971, 1973 a, b, 1974 a, b, 1975, 1976, 1977 a, b, 1979, 1987 a, b, 1989, 1990, 1992), Kolomyetz & Bogdanova (1980), Rubtzov (1947), Kamenkova (1956), Viktorov (1960, 1966), Viktorov & Kozharina (1961), Shabliovskij & Lugoviztyna (1971 a, b), Borisova-Zinoveva (1962, 1966 a, b), Hitzova (1975), Hitzova & Vinokurov (1977) and Richter (1976 a, b, 1977, 1980, 2002, 2003, 2004). Faunistical, taxonomical and biological papers on the Tachinidae of Eastern Russia have been published, including works of Wiedemann (1830), van der Wulp (1881, 1893), Loew (1844, 1845, 1847, 1858), Macquart (1843, 1845, 1847, 1851), Walker (1850–1856, 1859–1860, 1860), Mesnil (1944–1975), Draber-Mońko (1965), Herting (1983 a, b), Shima (1992), Ziegler (1994), Richter & Wood (1995, 2003), Ziegler & Shima (1996), Richter & Markova (1999), Markova (1999). Markova (2000 a, b), Markova & Lutchenko (2001), and Markova et al. (2002). A special position in the research on the Russian Tachinidae (and the Phasiinae too) is occupied by the Russian dipterologist V.A. Richter who devoted many years of her life to the study of the Tachinidae of Siberia, Mongolia and the Russian Far East. Her many papers deal with tachinid flies from South, North and East Siberia, from Russian Far East to the Kuril Islands, as well as from entire Siberia (Richter 1976 a, b, 1977, 1979, 1980, 1981, 1982, 2002, 2003, 2004). Her research work was crowned with a vast monograph – “Fam. Tachinidae – tachinids in: Key to the insects of Russian Far East” – published in 2004.

The tachinid fauna of Japan has probably been described most extensively, e.g. in papers by Matsumura (1904, 1911, 1916, 1931), Loew (1858), Baranov (1934 a, b, c, 1935, 1952), Takano (1956, 1958), Ueda (1960 a, b), Kocha (1969, 1971), Mesnil (1963, 1968, 1970, 1971), Mesnil & Pschorn-Walcher (1968), Mesnil & Shima (1977, 1978, 1979), Shima (1980, 1992, 1999).

The tachinid fauna of China has been investigated by such dipterologists as Walker (1850–1856, 1859–1860, 1860), Loew (1858), Aldrich (1928), Malloch (1934), Villeneuve (1936 a, b, 1937), Sun & Marshall (1995, 2003), Sun (1996). A prominent place in the research on Tachinidae is occupied by the Chinese dipterologist Chao C. M. who devoted his life to the study of the Tachinidae of China. His many papers are devoted to tachinid flies from entire China (1962 a, b, 1963, 1964 a, b, 1965, 1974, 1976, 1979) and Chao & Liang (1980), Chao & Shi (1981). His research work was crowned with a vast monograph: “The Tachinidae flies of China”, published in 1998 and another monograph written in cooperation with others “Diptera, Tachinidae, Fauna Sinica, Insecta”, published in 2001.

A later catalogue of the Tachinidae of the Palaearctic region was published by Herting & Dely-Draskovits (1993).

The Oriental fauna has been investigated by such dipterologist as Villers (1789), Walker (1849, 1850–1856, 1858, 1860), Coquillett (1910), Matsumura (1911), de Meijere (1917), Bezzi (1925), Curran (1927, 1934, 1938), Aldrich (1928), Malloch (1930, 1934), Baranov (1932 a, b, c, 1934 a, b, c, 1936, 1938), Mesnil (1942, 1953 a, b, 1957, 1968), Séguy (1948 a, b, 1950), Reinhard (1956), Crosskey (1966 a, b, 1967 a, b, 1969, 1976, 1980), Mesnil & Shima (1979). A later catalogue of the Tachinidae of the Oriental region was published by Cantrell & Crosskey (1977).

The tachinid fauna of Korea is very poorly known. Recent papers on the Tachinidae (excluding Phasiinae) of South Korea have been published by Han & Kim (1983). A new species of Phasiinae has recently been described from North Korea (Kolomyetz 1976, 1977 a, b). There have been no faunistical papers on this subfamily of dipterans in North Korea, and the fragmentary data scattered in different papers do not provide an adequate picture of this interesting fauna.

While the Korean Peninsula is traditionally considered part of the Palaearctic realm, the phasiin fauna of this region contains a number of Siberian-Manchurian elements and typically

Oriental forms. A zoogeographical analysis will be carried out when the entire study material has been processed.

The systematic arrangement of the present paper follows that provided by Tschorsnig & Richter (1998) and Richter (2004).

#### MATERIAL AND METHODS

The material collected in North Korea by researchers from the Institute of Zoology PAS is fairly small. However, because of poor knowledge of this group of Diptera in Eastern Asia, including Korea, the material was studied. Phasiin flies were collected during five expeditions to North Korea: in 1959, 1965, 1966, 1970 and in 1990. Detailed descriptions of these expeditions are in Mroczkowski (1972) and in Bańkowska & Sterzyńska (1997).

The scanty material of Phasiinae includes 52 specimens collected with a sweeping net or using Moericke's yellow traps placed on grass and in brushwood. The locations of the sampling areas in North Korea are presented in Fig. 1.

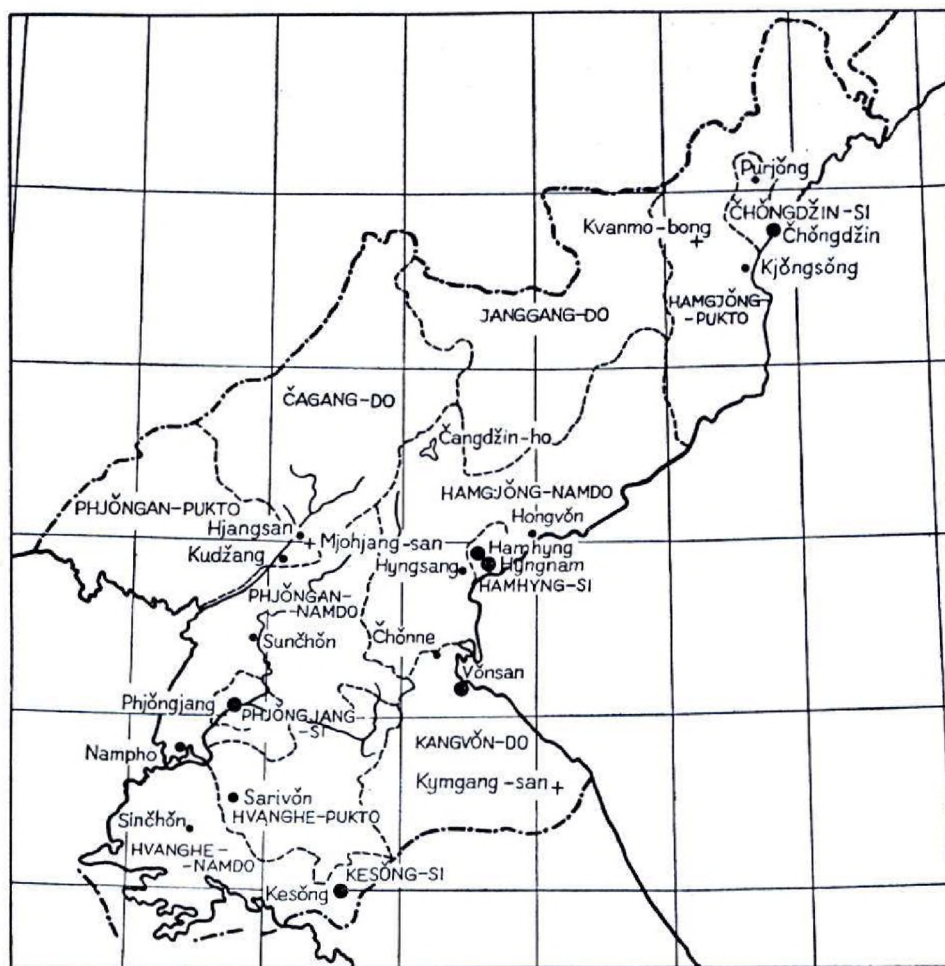


Fig.1. Location of sampling areas in North Korea in the years 1959–1990.

## SYSTEMATIC REVIEW OF SPECIES

**Subfamily Phasiinae**

## Tribe Hermyini

*Hermya* Robineau-Desvoidy, 1830***Hermya beelzebul* (Wiedemann, 1830)***Tachina beelzebul* Wiedemann, 1830: 301. Type locality: Java.

Material examined: North Korea, Chongdžin-si prov., in Kjöngsöng distr., Onpho-ri ad Chongdžin-si, 18.08.1959, 1 female, leg. B. Pisarski and J. Prószyński; Phjöngjang-si prov., in the Jongsöng distr., town Maram ad Phjöngjang-si in the Jongak-san Mts., 30.07.1959, 1 male, leg. B. Pisarski and J. Prószyński; in the Hamhyng-si prov., in the Hamdžu distr., in the vicinity of the village Hüngpong-ri, 12.06.1965, 1 female, leg. M. Mroczkowski and A. Riedel; in the Phjöngan-pukto prov., Mjohjang-san Mts., near Mjohjang-san hotel, 9–12. 06.1990, 1 female, leg. E. Chudzicka, E. Kierych and R. Pisarska.

Distribution: Palaearctic: Asia, Japan (Honshu, Shikoku and Kyushu), Oriental Region (Borneo, Burma, Ceylon, China, Hong Kong, India [Assam, Uttar Pradesh, Madras], Java, Malaya, Nepal, Philippines [Mindanao], Sumatra, Thailand, Vietnam) [Crosskey (1977), Herting & Dely-Draskovits (1993) and Richter (2004)].

## Tribe Phasiini

*Ectophasia* Townsend, 1912***Ectophasia crassipennis* (Fabricius, 1794)***Syrphus crassipennis* Fabricius, 1794: 284. Type locality: Paris (France).

Material examined: North Korea, Kangvön-do prov., Kymgang-san Mts., Onjong-ri near Kymgang-san hotel, on the river, 22.06.1990, 1 male, leg. E. Chudzicka, E. Kierych and R. Pisarska.

Distribution: Europe (Mediterranean region, northwards to Germany, Poland, Russian central European territory, Ukraine; Transcaucasia, S. Siberia, Russian Far East (Amuria, Ussuria), Japan (Kyushu to Hokkaido) [Herting & Dely-Draskovits (1993), Ziegler & Shima (1996), Richter (2004)].

***Ectophasia rotundiventris* (Loew, 1858)***Phasia rotundiventris* Loew, 1858: 109. Type locality: Japan.

Material examined: North Korea, Chöngdžin-si prov., Kjöngsöng distr., Onpho-ri ad Chöngdžin, 16.08.1959, 6 males, 3 females; 18.08.1959, 6 males, 1 female; 19.08.1959, 2 males, 4 females, leg. B. Pisarski and J. Prószyński; Kwanmo-bong Mts., Chöngdžin-si prov., Džuyr ad Chöngdžin, 24.08.1959, 1 male, leg. B. Pisarski and J. Prószyński; Hamgjöng-punkto prov., Kjöngsöng distr., Onpho-ri, 8.09.1966, 1 male, leg. C. Dziadosz and H. Szelegiewicz; 5.09.1970, 2 males; 6.09.1970, 1 male, 7.09.1970 1 male, leg. R. Bielawski and M. Mroczkowski; in the Phjöngan-pukto prov. Mjohjang-san Mts., near Mjohjang-san hotel, ravine, 11.06.1990, 1 female, leg. E. Chudzicka, E. Kierych and R. Pisarska.

Distribution: East Siberia (Chita, Yakutia), S. Kuril Islands (Kunashir), Russian Far East (Amuria, Ussuria), Japan (Hokkaido, Honshu, Shikoku and Kyushu) and N. China (Herting & Dely-Draskovits (1993), Ziegler & Shima (1996), Richter (2004)].

*Gymnosoma* Meigen, 1803

***Gymnosoma dolycoridis* Dupuis, 1961**

*Gymnosoma dolycoridis* Dupuis, 1961: 72. Type locality: Richelieu, Indre-et-Loire (France)

Material examined: North Korea, Chŏngdžin-si prov., Kjöngsŏng distr., Onpho-ri ad Chŏngdžin, 14–16.08.1959, 1 male; 16.08.1959, 2 males; 19.08.1959, 3 males, 2 females; 22.08.1959, 1 female, leg. B. Pisarski and J. Prószyński; in the Phjöngan-pukto prov. Hjangsan distr., Mjohjang-san Mts., Hjangam-ri, 16–22.06.1965, 1 male, leg. M. Mroczkowski and A. Riedel.

Distribution: Europe: Mediterranean region, northwards to Czech Republic, Slovakia, Poland, N. Germany, Ukraine and North European territory of Russia, and Asia: N. Caucasus, Transcaucasia, Russian Middle Asia, S. Siberia (Chita, Tuva, Tomsk Province), Russian Far East (Ussuria) and N. China (Herting & Dely-Draskovits (1993), Ziegler & Shima (1996), Richter (2004)].

***Gymnosoma inornata* Zimin, 1966**

*Gymnosoma inornata* Zimin, 1966: 446. Type locality: Potu nr Geokchev (Azerbaijan)

Material examined: North Korea, Kangvŏn-do prov., Kumgang-san Mts., Onjong-ri near Kumgang-san hotel 23–25.VI.1990, 1 male, leg. E. Chudzicka, E. Kierych and R. Pisarska.,

Distribution: S. Europe (Spain, Switzerland, Greece, Ukraine); Asia: S. Siberia, (Altai, Tomsk Province, Irkutsk, Chita, Altaj), Russian Far East (Amuria, Ussuria, Sakhalin Island, Japan, (Kyushu, Honshu, Hokkaido), N. China (Herting & Dely-Draskovits (1993), Ziegler & Shima (1996), Richter (2004)].

***Gymnosoma rotundata* (Linnaeus, 1758)**

*Musca rotundata* Linnaeus, 1758: 596. Type locality: not given.

Material examined: North Korea, Hamgiöng-Pukto prov., Kjöngsŏng County, Sang-onpo-ri, 17.06.1990, 1 female, leg. E. Chudzicka, E. Kierych and R. Pisarska.

Distribution: Europe northwards to Ireland, England, Sweden and northern part of Russia; Asia: Transcaucasia, S. Siberia (Tuva, Altai, Tomsk Province, Novosibirsk Province), Russian Far East ( Amuria, Ussuria), Japan (Kyushu, to Hokkaido) (Herting & Dely-Draskovits (1993), Ziegler & Shima (1996), Richter (2004)].

*Phasia* Latreille, 1804

***Phasia (Phasia) aurlans* Meigen, 1824**

*Phasia aurlans* Meigen, 1824: 197. Type locality (Austria).

Material examined: North Korea, Hamgiöng-Pukto prov., Kjöngsŏng County, Sang-onpo-ri, 17.06.1990, 1 female, leg. E. Chudzicka, E. Kierych and R. Pisarska.

Distribution: Europe northwards to Belgium, Sweden and northern European part of Russia; Asia: N. Kazahstan, W. and S. Siberia (Altai, Tomsk, Krasnoyarsk, Irkutsk), Russian Far East (Amuria, Ussuria), Japan (Hokkaido) (Herting & Dely-Draskovits (1993), Ziegler & Shima (1996), Richter (2004)].

Tribe Leucostomatini

*Dionaea* Robineau-Desvoidy, 1830

*Dionaea karinae* sp. nov. (Figs 2–5)

**Type material.** Holotype: male. Locus typicus: North Korea, Phjōngan-pukto prov., Mjohjang-san Mts., near Mjohjang-san hotel, ravine, 11.06.1990, 1 male, leg. E. Chudzicka, E. Kierych and R. Pisarska. The holotype of the species is deposited in the collection of the Museum and Institute of Zoology of the Polish Academy of Sciences in Warsaw.

**Etymology.** This new species is dedicated to my granddaughter Karina Ziółkowska.



Figs 2–5. *Dionaea karinae* sp. nov., male, North Korea, Phjōngan-pukto prov., Mjohjang-san Mts., near Mjohjang-san hotel, ravine, 11.06.1990, leg. E. Chudzicka, E. Kierych and R. Pisarska (photo P. Ślipiński): 2 – view from above, 3 – head with antenna in profile, 4 – head in dorsal view, 5 – head in frontal view.

**Description.** Male. Body length 8.0 mm. Black species densely golden silver pollinose on the dorsum of thorax, 3<sup>rd</sup> to 5<sup>th</sup> abdominal terga and golden pollinose on head.

Head (Figs 3–5). Fronto-orbital plate to occiput, parafacialia, central part of face and genal groove densely golden pollinose. Lateral part of face and postocular part of head (between ocular and postocular setae) silver-golden pollinose. On lower part of fronto-orbital plate and upper parafacialia three horizontal rugae. Frontal vitta very narrow, about 0.1 times as wide as fronto-orbital plate at middle, ocellar triangle, occupying almost posterior 1/3 of frons, ocelli dark red. Occiput and median occipital plate black and silver grey dusted with black and white hairs and densely whitish pile. Frons at its narrowest point 0.23 of head width and 0.67 of single eye width. Face almost as long as frons in profile. Parafacial in position of head profile as wide as 1<sup>st</sup> flagellomere at middle height. Gena in position of head profile 0.09 of eye height.



Inner vertical seta not long, outer vertical seta only slightly longer than postocular hairs, ocellar seta not strong, postocellar setae absent, 5–7 frontal setae, lowest seta nearly level with middle of pedicel, 1 reclinate orbital seta. Pedicel on apex light brown, several rows (3–4) of thin hairs present among frontal setae. The parafacial bare, the vibrissa not very strong, arising slightly above the level of the lower facial margin which is visible in profile, the facial ridge with 4 fine setae just above the vibrissa. Antenna with 1<sup>st</sup> flagellomere 1.5 times as long as pedicel. Arista without pubescence, thickened on almost basal 0.25, 2<sup>nd</sup> aristomere almost twice as long as wide. Palpus orange light brown, narrow, 1.5 times longer than 1<sup>st</sup> flagellomere. Eye bare, oval in lateral view.



Figs 6–9. *Dionaea aurifrons* (Meigen), male, 6 – Turkey, Güzeloluk, distr. Erdemli, “Cedry”, 1.06.2005, leg. et det. C. Bystrowski; 7–9 – Spain, Gerona prov., 2–3 km S. Port de la Selva, 2. 06.1998, 1 male, leg. et det. H. P. Tschorsnig (photo C. Bystrowski); 6 – view from above, 7 – head with antenna in profile, 8 – head in dorsal view, 9 – head in frontal view.

Thorax (Fig. 2). Black in ground colour, dorsum gold silver pollinose on postpronotal lobe, with 4 black longitudinal vittae, notopleural region narrow, posterior portion of presutural area along transverse suture and intra-alar region of postsutural scutum, pleura fine silvery grey pollinose. Hair erect and black; 1+1 acrostichal setae, 2+3 dorsocentral setae, 0+2 intraalar setae, 2 supraalar setae, 2+3 postpronotal setae arranged in a straight line, 2+1 katepisternal setae. Scutellum black with fine grey pollinosity, with 3 pairs of strong marginal setae.

Wing (Fig. 2). Hyaline, base of wing yellow, tegula and basicosta black, halter yellow, lower calypter whitish with yellow border. Costal spine shorter than vein r-m. Vein r 4+5 with 1–2 setulae at base dorsally and 1 ventrally, cell R4+5 open.

Legs. Black, tibiae dark brown, pulvillae yellow. Claws and pulvillae longer than 5<sup>th</sup> tarsomere. Fore tibia with 4 weak and short posterodorsal setae. Mid tibia with 2 long and some short anterodorsal setae, 5–6 short posterodorsal setae and 1 long and 1 short ventral setae. Hind tibia with 10 anterodorsal setae, 4 posterodorsal setae and 3 ventral setae. Hind femur with many very strong and long ventral and dorsal setae.

Abdomen (Fig. 2). Black in ground colour. Syntergum 1+2 black without pollinosity. Dorsum silver pollinose on anterior 2/3 of 3<sup>rd</sup> and 4<sup>th</sup> terga and anterior 1/2 of 5<sup>th</sup> tergum, posterior black portion of 3<sup>rd</sup> and 4<sup>th</sup> terga triangularly expanded to anterior portion, mid dorsal longitudinal vitta weakly developed on 3<sup>rd</sup> and 4<sup>th</sup> terga, venter black without pollinosity, with many, long strong, black setae. Hair on dorsum rather dense, strong, long and suberect, long and strong on side of each tergum. Each tergum with row of strong and long marginal setae. 5<sup>th</sup> tergum with irregular setae on the posterior half. Male genitalia not dissected.

**Diagnosis.** This new species is close to *Dionaea aurifrons* (Meigen, 1824), but may be easily distinguished from it by the narrow frontal vitta and genae, and by the number and position of frontal setae (Figs 6–9).

*Clairvillia* Robineau-Desvoidy, 1830

***Clairvillia biguttata* (Meigen, 1824)**

*Tachina biguttata* Meigen, 1824: 320. Type locality: not given.

Material examined: North Korea, Phjõngan-pukto prov., Mjohjang-san Mts., near Mjohjang-san hotel, ravine, 11.06.1990, 1 female, leg. E. Chudzicka, E. Kierych and R. Pisarska.

Distribution: Europe northwards to Belgium, Germany, Poland and northern European part of Russia; Asia: Transcaucasia, Levant, Mongolia, E. Siberia (Chita, Yakutia) and Russian Far East (Ussuria) (Herting & Dely-Draskovits (1993), Ziegler & Shima (1996), Richter (2004).

Tribe *Cylindromyiini*

*Cylindromyia* Meigen, 1803

*Cylindromyia* (*Neocyptera*) Townsend, 1916

***Cylindromyia* (*Neocyptera*) *arator* Reinhard, 1956**

*Cylindromyia arator* Reinhard, 1956: 121. Type locality: Chang Hyon (S.Korea)

*Cylindromyia lehri* Kolomyetz, 1976: 158. Type locality: Komarovo, Primorie (Russian Far East)

Material examined: North Korea, Phjõngan-pukto prov., Mjohjang-san Mts., 3.08.1959, 1 male, leg. B. Pisarski and J. Prószyński.



Distribution: Asia: Mongolia, Russian Far East (Ussuria), Korea, China (Heilongjiang, Jiangsu, Sichuan, Zheijiang) (Herting 1983, Ziegler & Shima 1996, Richter 2004), Kolomyetz 1976:158 recorded from Ussuria as *C. lehri* Kol.

*Cylindromyia (Malayocyptera)* Townsend, 1926

***Cylindromyia (Malayocyptera) agnieszkae* Kolomyetz, 1977**

*Cylindromyia agnieszkae* Kolomyetz, 1977: 53. Type locality: Ussuriysk, Primorie (Russian Far East).

Material examined: paratypes: North Korea, Chŏngdžin-si prov., Kjöngsöng distr., Onpho-ri ad Chŏngdžin, 16.08.1959, 1 male; 18.08.1959, 1 male; 19.08.1959, 1 male, leg. B. Pisarski and J. Prószyński, det. N.G. Kolomyetz.

Distribution. Asia: Russian Far East (Primorie) (Kolomyetz 1977, Ziegler & Shima 1996, Richter 2004), N. Korea (Kolomyetz 1977 and Kaesong (Herting 1983).

***Cylindromyia (Malayocyptera) umbripennis* van der Wulp, 1881**

*Ocyptera umbripennis* van der Wulp, 1881: 35. Type locality: Surulangun (Sumatra).

Distribution. Palaearctic: Asia: Russian Far East (Primorie), Korea, Japan (Island Tsushima) (Herting 1983, Ziegler & Shima 1996, Richter 2004), Oriental Region: *C. umbripennis* is widely distributed in this region, and has been recorded from Sri Lanka, Ceylon, Malaysia, Sumatra, Philippines, Islands Flores, Taiwan (Crosskey 1976, Herting 1983, Richter & Markova 1999).

*Hemyda* Robineau-Desvoidy, 1830

***Hemyda dominikae* sp.nov. (Figs 10–17)**

**Type material.** Holotype: female. Locus typicus: North Korea, Phjŏngan-pukto prov. Mjohjang-san Mts., at the foot of Hjangro Peak, 9–12.06.1990, 1 female, leg. E. Chudzicka, E. Kierych and R. Pisarska. The holotype of the species is deposited in the collection of the Museum and Institute of Zoology of the Polish Academy of Sciences in Warsaw.

**Etymology.** This new species is dedicated to my granddaughter Dominika Ziółkowska.



Figs 10–11. *Hemyda dominikae* sp. nov., female, North Korea, Phjŏngan-pukto prov., Mjohjang-san Mts. at foot of Hjangro Peak, 9–12.06.1990, leg. E. Chudzicka, E. Kierych and R. Pisarska (photo P. Ślipiński); 10 – head with former part of thorax, 11 – head in frontal view.



Figs 12–17. *Hemyda dominikae* sp. nov., female, North Korea, Phjŏngan-pukto prov., Mjohjang-san Mts. at foot of Hjangro Peak, 9–12.06.1990, leg. E. Chudzicka, E. Kierych and R. Pisarska (photo P. Ślipiński); 12 – wing in view from above, 13 – abdomen in dorsal view, 14 – abdomen in side view, 15 – postabdomen in profile, 16 – postabdomen in back view, 17 – postabdomen in side and back view.

**Description.** Female. Body length 9.0 mm. Head (Figs 10–11). Fronto-orbital plate, parafacial, face, gena and occiput densely silver pollinose, narrow upper occiput and median occipital plate black. Frons at its narrowest point in front of ocellar triangle 0.37 of head width and 1.2 of single eye width. Frontal vitta broad, dark black deep red, velvety, about 4 times as wide as fronto-orbital plate before ocellar triangle. Ocellar triangle occupying almost posterior 1/3 of frontal vitta. Ocellar triangle and its nearest triangular surroundings black and somewhat

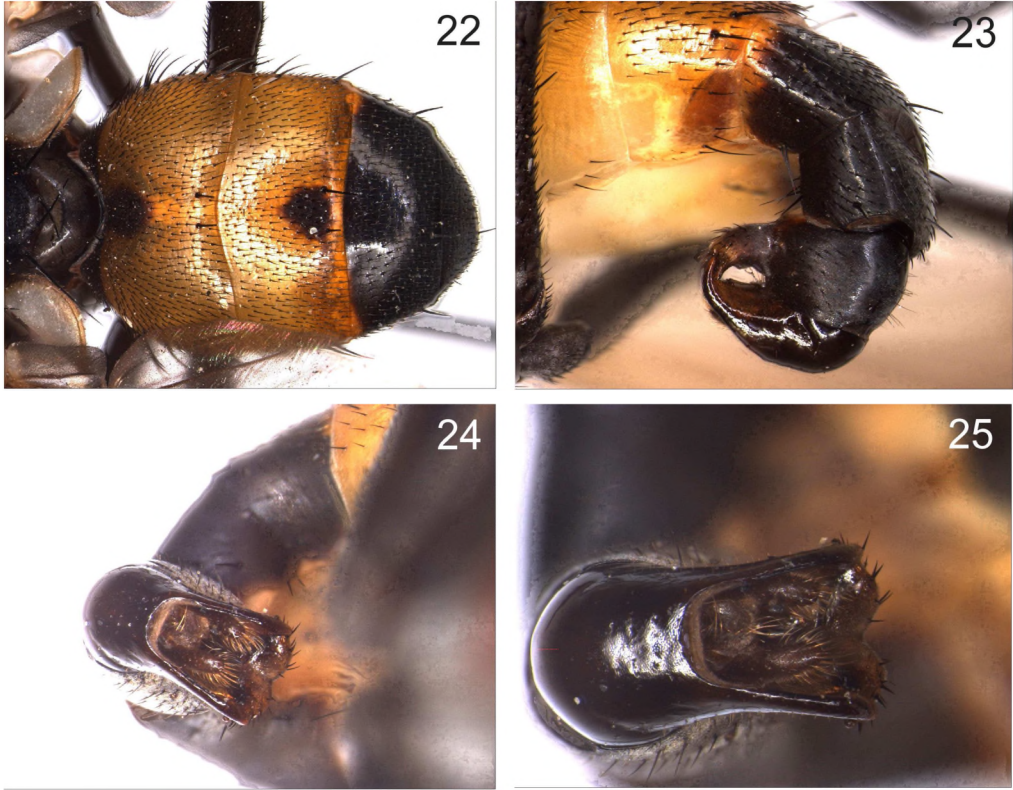
shining. Ocelli amber-coloured. Parafacial in position of head profile about 0.5 times as wide as 1<sup>st</sup> flagellomere at middle height. Gena very narrow. Outer vertical seta undeveloped, hair-like, about as long as postocular hairs, inner vertical seta strong but broken, ocellar seta weak and broken too. 7 postocular setae, their apices strongly bent forward. 2 strong proclinate orbital setae broken, 1 weak laterocline prevertical seta broken. 10–11 frontal setae, lowest seta nearly level with base of pedicel, several thin setae and long hairs present among them. Parafacials bare. Occiput with densely whitish long hairs and several short black setulae on upper portion. The vibrissa almost as long as face, arising slightly above the level of the lower facial margin, which is somewhat visible in profile, the facial ridge with 1–2 fine setae just above the vibrissa. Arista thickened on nearly basal  $\frac{1}{2}$ , 2<sup>nd</sup> aristomere almost as long as wide. Palpus dark brown, apically thickened and lighted. Eye bare lightly reniform.

Thorax (Figs 10 & 12). Black in ground colour, dorsum greyish pollinose on postpronotal lobe, notopleural region, narrow posterior portion of presutural area along transverse suture and intraalar region of postsutural scutum. Pleura broadly silvery grey pollinose. Hair erect and setae black. 2+2 acrostichal setae, 3+3 dorsocentral setae, 0+2 intraalar setae, 2 supraalar setae, 3 postpronotal setae, 1+1 katepisternal seta. Scutellum black and very slightly greyish pollinose, with 3 pairs of marginal strong setae, basal setae short.



Figs 18–21. *Hemyda obscuripennis* (Meigen), female, Poland, Bizorenda, Jędrzejów distr., 5.07.1955, leg. J. Karczewski (photo P. Ślipiński); 18 – view from above, 19 – in side view, 20 – head in profile, 21 – head in frontal view.





Figs 22–25. *Hemyda obscuripennis* (Meigen), female, Poland, Bizorenda, Jędrzejów distr., 5.07.1955, leg. J. Karczewski (photo P. Ślipiński); 22 – abdomen in dorsal view, 23 – abdomen in profile, 24 – abdomen in ventral view, 25 – postabdomen in back view.

Wing (Figs 12 & 14). Hyaline, evenly tinged with pale brown, lower calypter whitish, tegula black, basicosta yellow, halter yellow. Costal spine not differentiated, costa setulose below from base to apex of 3<sup>rd</sup> costal sector. Vein r 4+5 with 2–3 very fine setulae at base dorsally and ventrally. Cell R 4+5 open.

Legs. Femora and tarsi black, tibiae dark brown with strong setae. Fore tibia with 2 posterior setae. Mid tibia with 1 anterodorsal seta, 2 posterodorsal setae and 1 ventral seta. Hind tibia with 2 anterodorsal setae, 2 posterodorsal setae and 2 ventral setae. Claws on all legs shorter than 5<sup>th</sup> tarsomere.

Abdomen orange yellow, without pollinosity, shiny, 5<sup>th</sup> tergum strongly curved anteroventrally (Figs 13 & 15). Spinulae black and decumbent on 1st+2nd, 3<sup>rd</sup> and 4<sup>th</sup> terga and erect on 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup>. Discal setae absent. 1 pair median and 1 each lateral marginal setae on syntergum 1+2; 1 pair median and 1 each lateral marginal setae and row of long hair-like setae on 3<sup>rd</sup> tergum; row of 7 marginal setae and row of long hair-like marginal setae on 4<sup>th</sup> tergum, and 2 short marginal setae on 5<sup>th</sup> tergum (Fig. 13).

Postabdomen (Figs 14–17). Syntergum 6+7 almost as long as 5<sup>th</sup> tergum, with special fork ventrally. Syntergum 6+7 with many strong, short and erect setae.

**Diagnosis.** This new species is close to *Hemyda obscuripennis* (Meigen, 1824) but may be easily distinguished from it by the width of the vertex (Figs 18 & 21), the frontal vitta, a less

indented hind margin of the eye and an orange yellow abdomen. The female genitalia of this new species are very different from those of *H. obscuripennis*, as shown in Figs 19 & 23–25.

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## STRESZCZENIE

**[Stan wiedzy o faunie rączyc Azji Wschodniej z uwzględnieniem nowych danych z Korei Północnej. Cz. 1. Phasiinae]**

Opracowany materiał muchówek z rodziny Tachinidae został zebrany przez pracowników Instytutu Zoologii PAN w Warszawie w latach 1959–1990 podczas 5 ekspedycji do Korei Północnej. Muchówki były zbierane głównie siatką entomologiczną lub czerpakiem, jedynie w dwu ostatnich wyprawach zastosowano również pułapki Moeric'ą. Zgromadzony materiał Tachinidae liczy niewiele ponad 200 okazów, jest on jednak dość zróżnicowany i interesujący. W obrębie opracowanej podrodziny znaleziono 13 gatunków z 8 rodzajów Phasiinae, z czego zaledwie trzy gatunki były dotychczas wymieniane z Półwyspu Koreańskiego. Z omawianej podrodziny wykazano 10 gatunków nowych dla Korei Północnej.

W opracowanym materiale wyodrębniono dwa nowe dla nauki gatunki Phasiinae, są to *Dionaea karinae* sp. nov. i *Hemyda dominikae* sp. nov. Oba gatunki znalezione były w górach Mjohjang-san w prowincji Phjōngan-pukto. Nowy gatunek *Dionaea karinae* sp. nov. jest morfologicznie najbardziej zbliżony do palearktycznego gatunku *Dionea aurifrons* (Meig.), od którego różni się bardzo wąską pręgą czołową oraz wąskimi policzkami jak również ilością i ustawieniem szczecin czołowych. Następny nowy gatunek *Hemyda dominikae* sp. nov. jest morfologicznie najbardziej zbliżony do występującego również na Dalekim Wschodzie gatunku *Hemyda obscuripennis* (Meig.) od którego różni się szerokością ciemienia i pręgi czołowej, nieznacznie nerkowatymi oczami oraz jednolicie pomarańczowym odwłokiem, jak również odmienną budową zaodwłoka (pokładelka). W pracy podano opisy morfologiczne form dorosłych, omówiono cechy różniące nowe gatunki od najbliższych im gatunków oraz zilustrowano je kolorowymi fotografiami.

W pracy omówiono także stan poznania fauny Tachinidae Dalekiego Wschodu oraz podano obszerny wykaz piśmiennictwa dotyczący ich występowania w tej części kontynentu.

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