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Contribution to the knowledge of the fauna of Bombyces, Sphinges and Noctuidae of the Southern Ural Mountains, with description of a new *Dichagyris* (Lepidoptera: Lasiocampidae, Endromidae, Saturniidae, Sphingidae, Notodontidae, Noctuidae, Pantheidae, Lymantriidae, Nolidae, Arctiidae)

Kari Nupponen & Michael Fibiger

[In co-operation with Vladimir Olschwang, Timo Nupponen, Jari Junnilainen, Matti Ahola and Jari-Pekka Kaitila]

Abstract. The list, comprising 624 species in the families Lasiocampidae, Endromidae, Saturniidae, Sphingidae, Notodontidae, Noctuidae, Pantheidae, Lymantriidae, Nolidae and Arctiidae from the Southern Ural Mountains is presented. The material was collected during 1996–2001 in 10 different expeditions. *Dichagyris lux* Fibiger & K. Nupponen **sp. n.** is described. 17 species are reported for the first time from Europe: *Clostera albosigma* (Fitch, 1855), *Xylomoia retinax* Mikkola, 1998, *Echobemia misella* (Püngeler, 1907), *Pseudohadena stenoptera* Boursin, 1970, *Hadula nupponenorum* Hacker & Fibiger, 2002, *Saragossa uralica* Hacker & Fibiger, 2002, *Conisania arida* (Lederer, 1855), *Polia malchani* (Draudt, 1934), *Polia vespertilio* (Draudt, 1934), *Polia altaica* (Lederer, 1853), *Mythimna opaca* (Staudinger, 1899), *Chersotis stridula* (Hampson, 1903), *Xestia wocke* (Möschler, 1862), *Euxoa dsheiron* Brandt, 1938, *Agrotis murinoides* Poole, 1989, *Agrotis sp. n.* Fibiger & Ahola *in prep.*, *Agrotis iremeli* K. Nupponen, Ahola & Kullberg, 2001. *Euxoa friedeli* Pinker, 1980 **syn. n.** is synonymized with *Euxoa adumbrata* (Eversmann, 1842). *Euchalcia uralensis* (Eversmann, 1842) **stat. rev.** is stated to be a valid species occurring sympatrically with *E. variabilis* (Piller, 1783) in the southern Urals. The everted vesica of *Euxoa dsheiron* Brandt, 1938 is illustrated for the first time. A previously unknown larva of *Cucullia biornata* Fischer von Waldheim, 1840 was found on *Artemisia dracunculi*. Further illustrations and notes on some poorly known taxa are given.

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Samenvatting. Bijdrage tot de kennis van de fauna van spinners, pijlstaarten en Noctuidae van het zuidelijk Oeralgebergte met beschrijving van een nieuwe *Dichagyris*-soort (Lepidoptera: Lasiocampidae, Endromidae, Saturniidae, Sphingidae, Notodontidae, Noctuidae, Pantheidae, Lymantriidae, Nolidae, Arctiidae)

De auteurs geven een lijst van de 624 soorten uit de families Lasiocampidae, Endromidae, Saturniidae, Sphingidae, Notodontidae, Noctuidae, Pantheidae, Lymantriidae, Nolidae en Arctiidae die in de zuidelijke Oeral werden vastgesteld. Het materiaal werd tijdens 10 expedities verzameld in de periode 1996–2001. *Dichagyris lux* Fibiger & K. Nupponen **sp. n.** wordt beschreven. 17 soorten worden voor het eerst uit Europa vermeld: *Clostera albosigna* (Fitch, 1855), *Xylomoia retinax* Mikkola, 1998, *Echobemia misella* (Püngeler, 1907), *Pseudohadena stenoptera* Boursin, 1970, *Hadula nupponenorum* Hacker & Fibiger, 2002, *Saragossa uralica* Hacker & Fibiger, 2002, *Conisania arida* (Lederer, 1855), *Polia malchani* (Draudt, 1934), *Polia vespertilio* (Draudt, 1934), *Polia altaica* (Lederer, 1853), *Mythimna opaca* (Staudinger, 1899), *Chersotis stridula* (Hampson, 1903), *Xestia wockei* (Möschler, 1862), *Euxoa dsheiron* Brandt, 1938, *Agrotis nurinoides* Poole, 1989, *Agrotis sp. n.* Fibiger & Ahola *in prep.*, *Agrotis iremeli* K. Nupponen, Ahola & Kullberg, 2001. *Euxoa friedeli* Pinker, 1980 **syn. n.** wordt gesynonymiseerd met *Euxoa adumbrata* (Eversmann, 1842). *Euchalcia uralensis* (Eversmann, 1842) **stat. rev.** wordt beschouwd als een goede soort die sympatrisch voorkomt met *E. variabilis* (Piller, 1783) in de zuidelijke Oeral. De uitgestulpte vesica van *Euxoa dsheiron* Brandt, 1938 wordt hier voor het eerst geïllustreerd. De vroeger onbekende rups van *Cucullia biornata* Fischer von Waldheim, 1840 werd gevonden op *Artemisia dracunculi*. Verder worden afbeeldingen en notities gegeven over weinig bekende taxa.

Résumé. Contribution à la connaissance des bombycides, sphingides et noctuelles de l'Oural méridional avec description d'une espèce nouvelle de *Dichagyris* (Lepidoptera: Lasiocampidae, Endromidae, Saturniidae, Sphingidae, Notodontidae, Noctuidae, Pantheidae, Lymantriidae, Nolidae, Arctiidae)

Une liste est donnée des 624 espèces des familles Lasiocampidae, Endromidae, Saturniidae, Sphingidae, Notodontidae, Noctuidae, Pantheidae, Lymantriidae, Nolidae et Arctiidae qui ont été trouvées dans l'Oural méridional. Le matériel fut capturé pendant 10 expéditions dans la période 1996–2001. *Dichagyris lux* Fibiger & K. Nupponen **sp. n.** est décrit dans cet article. 17 espèces sont mentionnées ici pour la première fois d'Europe: *Clostera albosigna* (Fitch, 1855), *Xylomoia retinax* Mikkola, 1998, *Echobemia misella* (Püngeler, 1907), *Pseudohadena stenoptera* Boursin, 1970, *Hadula nupponenorum* Hacker & Fibiger, 2002, *Saragossa uralica* Hacker & Fibiger, 2002, *Conisania arida* (Lederer, 1855), *Polia malchani* (Draudt, 1934), *Polia vespertilio* (Draudt, 1934), *Polia altaica* (Lederer, 1853), *Mythimna opaca* (Staudinger, 1899), *Chersotis stridula* (Hampson, 1903), *Xestia wockei* (Möschler, 1862), *Euxoa dsheiron* Brandt, 1938, *Agrotis nurinoides* Poole, 1989, *Agrotis sp. n.* Fibiger & Ahola *in prep.*, *Agrotis iremeli* K. Nupponen, Ahola & Kullberg, 2001. *Euxoa friedeli* Pinker, 1980 **syn. n.** est mis en synonymie avec *E. variabilis* (Piller, 1783), avec lequel il vole sympatriquement dans l'Oural méridional. La vésica évertée d'*Euxoa dsheiron* Brandt, 1938 est figurée ici pour la première fois. La chenille de *Cucullia biornata* Fischer von Waldheim, 1840, inconnue jusque maintenant, fut trouvée sur *Artemisia dracunculi*. Enfin, des illustrations et des notes sont données pour les taxa les moins connus.

Key words: Ural Mountains – faunistics – *Dichagyris lux* – *Euchalcia uralensis*

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1. Introduction

The Ural Mountains form a 2000 km long natural border between Europe and Asia. The mountains almost reach the Caspian Sea in the south and the Arctic Ocean seashore in the north. It is over 300 million years old (Olenev 1965) and relatively low mountain range, the highest elevation in the southern part being 1640 m (a.s.l.). The biotopes at higher elevation are taiga forests with a few isolated mountain tundra habitats on the highest hilltops. The southernmost part of the Ural Mountains has been reduced to a foothill zone, gradually becoming lowland steppe without any clear border.

The fauna of noctuids, bombyces and sphinges is rather well known in the southern Ural region. Prof. Eduard Eversmann (1844) made thorough faunistic investigations in the area in the middle of 19th Century and described numerous new species, among them several noctuids. Since the beginning of the 20th Century, mainly butterflies have been collected there and the new literature of moths refers to the old records (Anikin *et al.* 2000a, 2000b; Fibiger 1990, 1993, 1997; G. Ronkay & L. Ronkay 1994, 1995; L. Ronkay, Yela & Hreblay 2001).

This article is based on the material collected during 1996–2001 in Finnish-Russian expeditions. The investigations were made in 30 different localities. The fieldwork comprised 162 days and a total of 373 working days (1 working day = 1 day/collector).

2. The investigated area, material and methods

The investigated area is situated in Sverdlovsk, Cheliabinsk and Orenburg oblasts and Bashkiria in the southern Ural Mountains, between 50°40'N – 56°30'N and 53°05'E – 62°06'E. The majority of collecting places were located on the eastern - southern foothill region and at low altitude. The habitats were mainly different kinds of steppes, but also taiga forests, alpine meadows and mountain tundra. The lowest locality was in the valley of the river Ilek, Novoiletzk (100 m a.s.l.) and the highest one the Iremel Mountain (1580 m a.s.l.). Most localities were lying at an elevation of 200–450 m.

The present article is based on the material collected during 1996–2001 on 10 different expeditions. The dates, areas visited and collectors on each of the trips are as follows:

- 1: 13–29.VI.1996; Cheliabinsk oblast, Bashkiria; K. Nupponen, J–P. Kaitila, J. Junnilainen, M. Ahola.
- 2: 26.VI–16.VII.1997; Cheliabinsk oblast; K. Nupponen, J–P. Kaitila, J. Junnilainen, M. Ahola.
- 3: 25.V–22.VI.1998; Orenburg oblast, Cheliabinsk oblast, Bashkiria; K. Nupponen, T. Nupponen, J. Junnilainen.
- 4: 11–31.VII.1998; Orenburg oblast, Cheliabinsk oblast, Bashkiria; K. Nupponen.
- 5: 11–20.V.1999; Orenburg oblast, Cheliabinsk oblast; K. Nupponen.
- 6: 13–30.VI.1999; Orenburg oblast, Cheliabinsk oblast, Bashkiria; K. Nupponen, T. Nupponen.
- 7: 19.VI.2000; Sverdlovsk oblast (near Ekaterinburg); K. Nupponen, T. Nupponen.
- 8: 25.VII–04.VIII.2000; Orenburg oblast, Cheliabinsk oblast, Bashkiria; T. Nupponen.
- 9: 26.VIII–06.IX.2000; Orenburg oblast, Cheliabinsk oblast; K. Nupponen.

10: 29–31.V.2001, 09–28.VI.2001; Orenburg oblast, Cheliabinsk oblast, Bashkiria, Sverdlovsk oblast; K. Nupponen.

The material was mainly collected by artificial light at night. Sugar ropes (sisal ropes soaked in red wine and sugar) were used at the second half of the summer, and some day-active species were recorded by netting during daytime. The collected material is generally deposited in the collections of the observers.

3. Collecting sites

The collecting localities are mentioned below. Brief variants of locality names are given in uppercase letters before each locality and used later in the species list. The italicised dates indicate daytime collecting only in the locality. The number given to each of the localities is connected with that on the map (Fig. 1).

Ajat River (1): Cheliabinsk oblast, 53°02'N 62°06'E, 200 m, Ajat river near Nikolaevka village (Fig. 2). A rocky hill in a riverbank, surrounded by a moist place on a riverside and a large *Artemisia* steppe. 03–05.VII.1997, 24–25.VII.1998, 04–05.IX.2000.

Arkaim (2): Cheliabinsk oblast, 52°39'N 59°34'E, 350 m, Arkaim reserve near Amurskii village. A large reserve with different kinds of steppe habitats. 14–19.VI.1996, 06–10.VII.1997, 22–23.VII.1998, 17.V.1999, 15–16.VI.1999.

Bajmak (3): Bashkiria, 52°40'N 58°34'E, 450 m, Bajmak 15 km E. Open foothill steppe locality. 17–18.VI.1998.

Berlin (4): Cheliabinsk oblast, 53°59'N 61°12'E, 250 m, Troizkii reserve near Berlin village. A small, mainly grassland steppe surrounded by a bog and young forest. 30.VI–02.VII.1997.

Bishtiryak (18): Bashkiria, 51°48'N 57°05'E, 500 m, Kasmarka river near Bishtiryak village. Steep rocky slopes, dry meadows and deciduous forests. 13–14.VII.1998.

Burannoe (13): Orenburg oblast, 50°58'N 54°25'E, 100 m, near Burannoe village, Ilek river valley (Fig. 3). Lowland *Artemisia* steppes, wet meadows and wetlands. 20–21.VI.1999, 30.VII.2000, 29.VIII.2000, 12.VI.2001.

Chalk Hills (5): Orenburg oblast, 50°40–45'N 54°26–28'E, 170–230 m, Pokrovka village 20 km S, Schibendy valley (Fig. 4; see also Nupponen *et. al.* 2000). A dry, open, lowland *Artemisia* steppe with wet meadows along the small riverside. Whitish limestone rocks surround the flat valley, the vegetation being luxurious on northern slopes and very sparse but characteristic (e.g. *Nanophyton erinaceum* and *Anabasis cretacea*) on southern slopes. 03–07.VI.1998, 17–18.VII.1998, 21–24.VI.1999, 31.VII–01.VIII.2000, 30–31.VIII.2000, 10–11.VI.2001.

Ekaterinburg: Sverdlovsk oblast, Ekaterinburg city. 27–28.VII.1998, 25–28.VI.2001.

Ekaterinburg Biol. St. (21): Sverdlovsk oblast, Ekaterinburg 50 km S, near Dvurechensk village, biological station of Ural's university. Mixed forests, bogs and meadows. 20–22.VI.1998.

Iremel (6): Cheliabinsk oblast, 54°31–35'N 58°49–54'E, 900–1580 m, Iremel Mountain reserve (Fig. 5; see also Nupponen *et. al.* 2001). Taiga forest between 800 – 1300 m, alpine meadows at 1300–1400 m and mountain tundra at the highest elevation over 1400 m. 23–27.VI.1996, 11–14.VII.1997, 25–28.VI.1999, 16–17.VI.2001.

Kandrykul (24): Bashkiria, 54°28'N 54°05'E, 200–250 m, ozero Kandrykul. Young forests and different kinds of meadows. 30–31.V.2001.

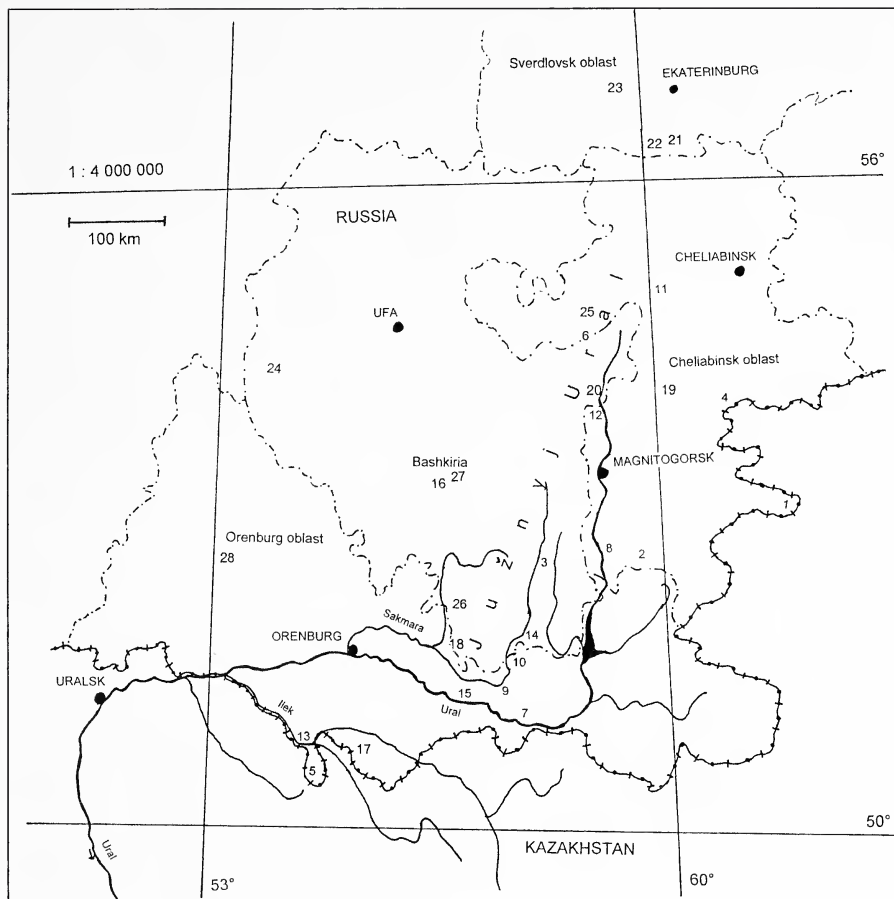


Fig. 1. Map of southern Ural region with collecting localities. -1: Ajat river. -2: Arkaim. -3: Bajmak. -4: Berlin. -5: Chalk Hills. -6: Iremel. -7: Kidriasovo. -8: Kizilskoye. -9: Kuvandyk. -10: Kuvandyk 2. -11: Miass. -12: Moskovo. -13: Burannoe, Novoiletzk. -14: Sakmara river. -15: Verbljushka. -16: Zirgan. -17: Shkunovka. -18: Bishtiryak. -19: Sanarskii Bor. -20: Uchaly. -21: Ekaterinburg biol.st. -22: Kosmokovo. -23: Tavatui. -24: Kandrykul. -25: Nurgush. -26: Suleimanovo. -27: Tratau. -28: Zesnokovka.

Kidriasovo (7): Orenburg oblast, 51°13'N 57°37'E, 350 m, Mednogorsk 20 km S, near Kidriasovo village (Fig. 6). Open, partly gravelly foothill steppe with plenty of *Caragana* bushes in lower parts of the slopes and wet meadows between the hills. 28–30.V.1998, 16.VI.1999.

Kizilskoye (8): Cheliabinsk oblast, 52°39'N 59°00'E, 300 m, Kizilskoye 15 km S, near Ural river. Dry, open *Artemisia* – *Stipa* steppe with rocky hills. 27–28.V.1998, 18.V.1999, 26.VII.2000, 03.IX.2000.

Kosmokovo (22): Sverdlovsk oblast, Ekaterinburg 50 km S, Kosmokovo village. Dry meadows, conifer forests, waterside meadows and cultural habitats. 19.VI.2000.

Kuvandyk (9): Orenburg oblast, 51°26'N 57°26'E, 250 m, Kuvandyk 12 km SE. A foothill region with different kinds of steppes and old *Quercus* – *Populus* – *Betula* forests on the top of the hills. 13–16.VI.1998, 19–21.VII.1998, 15.V.1998, 02.VIII.2000, 02.IX.2000.

Kuvandyk II (10): Orenburg oblast, 51°37'N 57°34'E, 300 m, Kuvandyk 30 km NE. Rocky hills and meadows, at the slopes some blackish coloured, hot, gravelly spots with sparse vegetation. 16–17.VI.1998, 03.VIII.2000.

Miass (11): Cheliabinsk oblast, 55°01'N 60°06'E, 350 m, Miass, Ilmen State reserve (Fig. 7). Forest steppes and old conifer forests. The records from Miasovo lake belonging to the same reserve (appr. 10 km NE; Fig. 8) are included in the list of Miass. 13.VI.1996, 28–29.VI.1996, 26–29.VI.1997, 15–16.VII.1997, 25–26.V.1998, 19–20.VI.1998, 11.V.1999, 18–20.V.1999, 29–30.VI.1999, 26.VIII.2000, 06.IX.2000, 29–30.V.2001, 18–21.VI.2001, 24.VI.2001; In addition, light trap collecting during 15.VI–24.VIII.1999, 25.VII–05.IX.2000, 29.V–24.VI.2001.

Moskovo (12): Cheliabinsk oblast, 53°57'N 59°03'E, 650 m, near Moskovo village (Fig. 9). Open, rocky foothill region with different kinds of steppes and wet meadows along the riverside. 22–23.VI.1996, 10–11.VII.1997, 26.V.1998, 18.VI.1998, 11–13.VII.1998, 04.VIII.2000, 26.VIII.2000.

Nurgush (25): Cheliabinsk oblast, 54°47'–50'N 59°05'–10'E, 600–1400 m, Satka region, Nurgush Mountains. Taiga forest up to 1250 m, alpine meadows and dry mountain tundra at the highest elevation between 1250–1400 m. 22–23.VI.2001.

Novoiletzk (13): Orenburg oblast, 50°59'N 54°17'–22'E, 100 m, Novoiletzk 8 km E, Ilek river valley. Sand dune region with few *Artemisia* steppe spots, wet meadows and wetlands. 08–09.VI.1998.

Sakmara River (14): Bashkiria, 51°54'N 57°43'E, 450 m, Sakmara river near Jantyshevo village. Rocky slopes, forest steppes, meadows and mixed forests. 20–21.VI.1996.

Sanarskii Bor (19): Cheliabinsk oblast, 54°06'N 60°30'E, 400 m, Sanarskii Bor near Sanarka village. Old conifer forest. 26–27.VII.1998.

Shkunovka (17): Orenburg oblast, 50°48'N 55°18'E, 200 m, Malaja Hobda river near Shkunovka village. Large lowland steppes, rocky hills and wet meadows along the riverside. 01–02.IX.2000.

Suleimanovo (26): Bashkiria, 52°12'N 56°50'E, 400–500 m, near Suleimanovo village. Rocky slopes, forest steppes, meadows and mixed forests. 14–15.VI.2001.

Tavatui (23): Sverdlovsk oblast, Ekaterinburg 60 km W, near Tavatui village. Mixed forests and meadows. 28–30.VII.1998.

Tratau (27): Bashkiria, 53°33'N 56°05'E, 300–400 m, near Sterlitamak village, Tratau hill. A high hill with steep slopes. The rocky SW slope is covered by rolling stones. On the W and N slopes there are meadows and deciduous forests. 15.VI.2001.

Uchaly (20): Bashkiria, 54°33'N 59°41'E, 500 m, Uchaly village 30 km NE. Foothills with different kinds of meadows. 25.VII.2000.

Verbljushka (15): Orenburg oblast, 51°23'N 56°49'E, 130 – 340 m, Donskoje village 6 km W, Mount Verbljushka (Fig. 10; see also Nupponen *et. al.* 2000). A 200 m high hill in the Ural River bank at the southern corner of the foothill region. The southern slope is extremely hot with more or less sparse vegetation. *Artemisia* steppe is present on the western slope and there is a quite luxuriant, rich flora on the northern slope. There are wet meadows and deciduous forest between the hill and the river banks. 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 12–14.V.1999, 17–19.VI.1999, 27–29.VII.2000, 27–28.VIII.2000.

Zesnokovka (28): Orenburg oblast, 52°45'N 53°05'E, 250–300 m, near Zesnokovka village. An isolated chalk hill with whitish limestone on the ground, surrounded by agricultural biotopes. 09.VI.2001.

Zirgan (16): Bashkiria, 53°12'N 56°00'E, 400 m, near Zirgan village. Forest steppes. 24.VI.1999.

4. List of species

The nomenclature follows the one used in the new list of the Lepidoptera of Europe (Karsholt & Razowski (eds.) 1996). The dates and localities of records for each species is given, as well as further notes on some poorly known species. The estimated occurrence and abundance of each species is divided into classes as follows:

Very rare: The taxon is recorded only occasionally and/or a single locality is known.

Rare: The taxon is recorded more or less occasionally and/or a few localities are known.

Rather rare: The taxon is known in few localities in the region; it is not recorded every night and usually only 1–2 ex./night.

Rather common: The taxon is known in several localities in the region; it is recorded regularly but usually only a few specimens/night.

Common: The taxon is widely distributed in the region; it is recorded almost every night during its flight period, but it is abundant only occasionally.

Very common: The taxon is recorded every night during its flight period and usually it is abundant.

Locally common: The taxon is locally distributed in the region and only a few populations are known, but usually several specimens/night are recorded in such localities.

The estimation is related to the intensity of collecting in different types of habitats, because we have investigated steppe localities more than forest biotopes; the estimate tells the probability to record a species in a suitable habitat during its flight period.

Lasiocampidae

Trichiura crataegi (Linnaeus, 1758): Kuvandyk 02.VIII.2000, 02.IX.2000; Miass 31.VIII–05.IX.2000, 06.IX.2000. Rather common.

Eriogaster neogena (Fischer von Wadheim, 1824): Ajat 04.IX.2000 14♂ 2♀, 05.IX.2000 12♂; Kizilskoye 03.IX.2000 1♂ 2♀; Kuvandyk 02.IX.2000 3♂; Moskovo 26.VIII.2000 1♂; Shkunovka 01.IX.2000 3♂ 3♀. Rather rare. (Figs. 11–12). **Distribution.** S Siberia; from S Russia and S Ural to the Altai Mountains. **Remarks.** *E. neogena* is known to occur in south easternmost Europe already in the 19th Century (Staudinger & Wocke 1871, Hoffmann 1897). However, the taxon is not listed as European by Schintlmeister (1996). The larval host plant is *Caragana*; in the Urals *C. frutex*.

Malacosoma neustria (Linnaeus, 1758): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Kizilskoye 26.VII.2000; Kuvandyk 13.VI.1998;

Miass 26–29.VI.1997, 15.VII.1997; Nurgush 23.VI.2001; Uchaly 25.VII.2000. Rather rare.

Malacosoma castrensis (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Miass 26–29.VI.1997, 15.VII.1997. Rather common.

Lasiocampa trifolii (Denis & Schiffermüller, 1775): Moskovo 04.VIII.2000 1♂; Shkunovka 01.IX.2000 6♂; Verbljushka 28.VIII.2000 1♂. Rather rare.

Lasiocampa eversmanni (Eversmann, 1843): Chalk Hills 30.VIII.2000 3♂, 31.VIII.2000 2♂. Rare.

Lasiocampa quercus (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Miass 26–29.VI.1997, 15.VII.1997, 19.VI.2001; Moskovo 10.VII.1997; Suleimanovo 14.VI.2001; Uchaly 25.VII.2000. Rather common.

Macrothylacia rubi (Linnaeus, 1758): Arkaim 14–19.VI.1996; Iremel 25–28.VI.1999; Miass 25–26.V.1998, 19–20.VI.1998, 11.V.1999, 12–18.V.1999, 19.V.1999, 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999, 30.V–17.VI.2001. Common.

Dendrolimus pini (Linnaeus, 1758): Arkaim 07–10.VII.1997; Bishtiryak 13.VII.1998; Iremel 23–27.VI.1996; Miass 28–29.VI.1996, 26–29.VI.1997, 15.VII.1997, 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999, 18–24.VI.2001; Moskovo 10.VII.1997. Very common. Remark. The possible occurrence of *Dendrolimus superans* (Butler, 1877) in the Urals has not been confirmed, and the material is presented as *D. pini* for the moment.

Euthrix potatoria (Linnaeus, 1758): Berlin 30.VI–02.VII.1997; Miass 26–29.VI.1997, 15.VII.1997, 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999, 18–24.VI.2001; Verbljushka 27–29.VII.2000. Rather common.

Cosmotriche lobulina (Denis & Schiffermüller, 1775): Berlin 30.VI–02.VII.1997; Iremel 25.VI.1996; Miass 26–29.VI.1997. Rare.

Phyllodesma ilicifolia (Linnaeus, 1758): Miass 25.V.1998, 11.V.1999, 12–18.V.1999, 19.V.1999; Moskovo 26.V.1998; Verbljushka 12–14.V.1999. Rather common.

Phyllodesma tremulifolia (Hübner, 1810): Arkaim 14–19.VI.1996; Chalk Hills 03–07.VI.1998, 10.VI.2001; Kizilskoye 27.V.1998; Miass 25.V.1998, 19.VI.1998, 11.V.1999, 12–18.V.1999, 19.V.1999, 15–28.VI.1999, 29.VI.1999, 18–24.VI.2001; Moskovo 26.V.1998, 18.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998; Zesnokovka 09.VI.2001. Rather common.

Gastropacha quercifolia (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Ekaterinburg Biol. St. 20–21.VI.1998; Miass 26–29.VI.1997, 15.VII.1997, 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999; Moskovo 10.VII.1997; Verbljushka 27–29.VII.2000. Rather common.

Gastropacha populifolia (Denis & Schiffermüller, 1775): Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999; Miass 26–29.VI.1997; Moskovo 18.VI.1998, 11–13.VII.1998; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999. Rather rare.

Odonestis pruni (Linnaeus, 1758): Miass 26–29.VI.1997, 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999; Suleimanovo 14.VI.2001; Verbljushka 14–16.VII.1998. Rather rare.

Endromidae

Endromis versicolora (Linnaeus, 1758): Miass 12–18.V.1999, 19.V.1999. Rather common.

Saturniidae

Aglia tau (Linnaeus, 1758): Iremel 25–28.VI.1999; Miass 25.V.1998. Rather common.

Saturnia pavonia (Linnaeus, 1758): Miass 26–29.VI.1997 (larvae), 11.V.1999, 18.V.1999. Rather rare.

Sphingidae

Mimas tiliae (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Kandrykul 30.V.2001; Kuvandyk 02.VIII.2000; Miass 26–29.VI.1997, 15–28.VI.1999, 29.VI.1999, 25.VII–04.VIII.2000, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Uchaly 25.VII.2000; Zirgan 24.VI.1999. Common.

Smerinthus caecus Ménériés, 1857: Berlin 30.VI–02.VII.1997; Ekaterinburg Biol. St. 20–21.VI.1998; Iremel 25–28.VI.1999, 16–17.VI.2001; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999, 29.V.2001, 21.VI.2001; Moskovo 22.VI.1996; Nurgush 22–23.VI.2001; Sakmara river 20–21.VI.1996; Verbljushka 30.V–02.VI.1998; Zirgan 24.VI.1999. Rather common.

Smerinthus ocellata (Linnaeus, 1758): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Iremel 16–17.VI.2001; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 18–24.VI.2001; Moskovo 10.VII.1997; Suleimanovo 14.VI.2001; Tratau 15.VI.2001. Common.

Laothoe populi (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997, 25–28.VI.1999, 16.VI.2001; Kandrykul 30.V.2001; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 18–24.VI.2001; Moskovo 10.VII.1997, 18.VI.1998; Nurgush 22–23.VI.2001; Verbljushka 17–19.VI.1999; Zirgan 24.VI.1999. Common.

Laothoe amurensis (Fischer von Waldheim, 1830): Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Iremel 23–27.VI.1996, 25–28.VI.1999; Miass 26–29.VI.1997, 15–28.VI.1999, 29.VI.1999, 18–24.VI.2001; Nurgush 22–23.VI.2001. Rather common.

Agris convolvuli (Linnaeus, 1758): Burannoe 29.VIII.2000 1 ♂ 1 ♀; Chalk Hills 30.VIII.2000 7 ex. Very rare, migrant.

Sphinx ligustri Linnaeus, 1758: Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Kizilskoye 27.V.1998, 26.VII.2000; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997, 18.VI.1998; Tratau 15.VI.2001; Zirgan 24.VI.1999. Common.

Hyloicus pinastri (Linnaeus, 1758): Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Iremel 17.VI.2001; Kandrykul 30.V.2001; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 19.VI.1998, 15–28.VI.1999, 01–16.VII.1999, 30.V–17.VI.2001, 18–24.VI.2001. Common.

Hemaris fuciformis (Linnaeus, 1758): Ajat river 03–05.VII.1997; Chalk Hills 03–07.VI.1998; Miass 13.VI.1996, 26–29.VI.1997, 19.VI.1998; Verbljushka 12–14.V.1999, 17–19.VI.1999. Common.

Hemaris croatica (Esper, 1779): Chalk Hills 06.VI.1998 1♂. Very rare. Distribution. Asia Minor, SE Europe, S Russia, Crimea, Caucasus, Iran. Remarks. The specimen was collected in a hot, extremely calcareous slope. Probably another specimen was seen later during the same day. The northern distribution range of *H.*

croatica has strongly decreased during the last 100 years. In the middle of the 19th century it occurred along the river Volga up to the Casan district (Eversmann 1844). The previous records of *H. croatica* in S Russia (lower Volga region) were made at the end of the 19th century. Several authors (e.g. Anikin *et al.* (2000a) and Pittaway (internet home page)) consider the taxon to be extinct in the regions north from the Caucasus. However, our record confirms that there still remain small populations of *croatica* in the present territory of Russia.

Macroglossum stellatarum (Linnaeus, 1758): Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 30–31.VIII.2000, 10–11.VI.2001; Kuvandyk 21.VII.1998; Miass 13.VI.1996, 28–29.VI.1996. Rather rare, migrant.

Sphiugoneopsis gorgoniades (Hübner, 1819): Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 10–11.VI.2001; Kidriasovo 28–29.V.1998; Kuvandyk 13–15.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999. Rather common.

Proserpinus proserpina (Pallas, 1772): Kidriasovo 29.V.1998 1 ex.; Verbljushka 30.V–02.VI.1998 1 ex., 18.VI.1999 2♂. Rare.

Hyles euphorbiae (Linnaeus, 1758): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000; Chalk Hills 30–31.VIII.2000, 10–11.VI.2001; Kandrykul 30.V.2001; Kizilskoye 26.VII.2000, 03.IX.2000; Kuvandyk 13–15.VI.1998; Miass 13.VI.1996; Moskovo 22.VI.1996, 10.VII.1997; Sakmara river 20–21.VI.1996; Shkunovka 01.IX.2000; Tratau 15.VI.2001; Verbljushka 12–14.V.1999, 17–19.VI.1999, 27–28.VIII.2000. Common.

Hyles galii (Rottemburg, 1775): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000, 10–11.VI.2001; Ekaterinburg 28.VI.2001; Miass 26–29.VI.1997, 19.VI.1998, 15–28.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997, 18.VI.1998; Shkunovka 01.IX.2000; Suleimanovo 14.VI.2001; Zesnokovka 09.VI.2001; Uchaly 25.VII.2000. Common.

Hyles hippophaes (Esper, 1793): Chalk Hills 03.VI.2000 1 ex. Very rare.

Hyles livornica (Esper, 1779): Burannoe 30.VII.2000 1♂. Very rare.

Deilephila elpeutor (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Ekaterinburg 26.VI.2001; Iremel 25–28.VI.1999; Kizilskoye 26.VII.2000; Miass 26–29.VI.1997, 15–28.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997; Tratau 15.VI.2001. Common.

Deilephila porcellus (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 12.VI.2001; Chalk Hills 10–11.VI.2001; Iremel 25–28.VI.1999; Kandrykul 30.V.2001; Kizilskoye 27.V.1998, 26.VII.2000; Miass 26–29.VI.1997, 19.VI.1998, 15–28.VI.1999, 29.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997, 18.VI.1998; Suleimanovo 14.VI.2001; Uchaly 25.VII.2000; Verbljushka 17–19.VI.1999; Zesnokovka 09.VI.2001. Common.

Notodontidae

Pygaera timon (Hübner, 1803): Ekaterinburg Biol. St. 21.VI.1998; Iremel 25–28.VI.1999, 16.VI.2001; Miass 26–29.VI.1997, 25.V.1998, 19.VI.1998, 15–28.VI.1999, 20–21.VI.2001; Nurgush 22–23.VI.2001. Rather rare.

Clostera curtula (Linnaeus, 1758): Ajat river 03–05.VII.1997; Iremel 25–28.VI.1999; Kizilskoye 27.V.1998; Kuvandyk 20.VII.2000; Miass 15–28.VI.1999, 29.VI.1999,

19.VI.2001; Nurgush 22–23.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 27–29.VII.2000. Rather common.

Clostera albosigma (Fitch, 1855): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997. A total of about 25 ex. Rare. (Fig. 13). Distribution. E Palaearctic, from Russian Far East to the Urals. *Remarks*. In the list of the Palaearctic Notodontidae, Schintlmeister (1984) considers the Sayan Mountains as a western boundary of the distribution range of *C. albosigma*. The taxon is, however, much more widely distributed in the west. It is rather common in the W Altai range (K. & T. Nupponen, unpublished), and occurs also in the Urals. New to Europe.

Clostera pigra (Hufnagel, 1766): Kuvandyk 02.VIII.2000; Miass 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999, 21.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather common.

Clostera anachoreta (Denis & Schiffermüller, 1775): Iremel 16.VI.2001; Nurgush 22–23.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 12–14.V.1999, 17–19.VI.1999. Rather rare.

Clostera anastomosis (Linnaeus, 1758): Ekaterinburg Biol. St. 20–21.VI.1998; Miass 26–29.VI.1997, 19.VI.1998, 01–16.VII.1999. Rather rare.

Cerura vinula (Linnaeus, 1758): Ajat river 03–05.VII.1997; Iremel 17.VI.2001; Miass 26–29.VI.1997, 12–18.V.1999, 15–28.VI.1999, 30.V–17.VI.2001; Moskovo 18.VI.1998; Verbljushka 12–14.V.1999, 17–19.VI.1999. Rather rare.

Cerura erminea (Esper, 1783): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 29.V.2001, 18.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather rare.

Furcula furcula (Clerck, 1759): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Iremel 23–27.VI.1996, 16.VI.2001; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 15–28.VI.1999; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather common.

Furcula bicuspis (Borkhausen, 1790): Arkaim 14–19.VI.1996; Ekaterinburg Biol. St. 20–21.VI.1998; Iremel 23–27.VI.1996, 25–28.VI.1999, 16.VI.2001; Kandrykul 30.V.2001; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 28.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Suleimanovo 14.VI.2001. Rather common.

Furcula bifida (Brahm, 1787): Arkaim 07–10.VII.1997; Iremel 23–27.VI.1996; Miass 26–29.VI.1997, 15–28.VI.1999, 21.VI.2001; Verbljushka 17–19.VI.1999. Rather common.

Dicranura ulmi (Denis & Schiffermüller, 1775): Chalk Hills 03–07.VI.1998, 10.VI.2001; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Verbljushka 30.V–02.VI.1998, 12–14.V.1999. Rather common.

Notodonta dromedarius (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Iremel 23–27.VI.1996, 25–28.VI.1999; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 28.VI.1999, 01–16.VII.1999, 25.VII–04.VIII.2000, 06.IX.2000, 18–24.VI.2001; Moskovo 10.VII.1997; Nurgush 23.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998; Zirgan 24.VI.1999. Common.

Notodonta torva (Hübner, 1803): Iremel 23–27.VI.1996, 25–28.VI.1999, 16.VI.2001; Miass 26–29.VI.1997, 29.VI.1999, 01–16.VII.1999, 25.VII–04.VIII.2000, 06.IX.2000, 20.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather common.

Notodonta tritophus (Denis & Schiffermüller, 1775): Berlin 30.VI–02.VII.1997; Iremel 23–27.VI.1996; Miass 26–29.VI.1997; Moskovo 26.V.1998, 18.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 27.VII.2000. Rather common.

Notodonta ziczac (Linnaeus, 1758): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 12.VI.2001; Chalk Hills 31.VII.2000; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 25.VII–04.VIII.2000, 06.IX.2000, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997, 18.VI.1998; Nurgush 22–23.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather common.

Drymonia dodonaea (Denis & Schiffermüller, 1775): Suleimanovo 14.VI.2001 1♂. Very rare.

Pheosia tremula (Clerck, 1759): Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 28.VI.2001; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999. Rather common.

Pheosia gnoma (Fabricius, 1776): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 26–28.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997, 25–28.VI.1999, 16–17.VI.2001; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999; Moskovo 10.VII.1997; Uchaly 25.VII.2000. Common.

Pterostoma palpina (Clerck, 1759): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Miass 26–29.VI.1997, 06.IX.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather rare.

Leucodonta bicoloria (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Iremel 23–27.VI.1996; Miass 26–29.VI.1997, 15–28.VI.1999, 18–21.VI.2001; Moskovo 18.VI.1998; Nurgush 23.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather common.

Ptilodon capucina (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Iremel 23–27.VI.1996, 11–14.VII.1997, 25–28.VI.1999, 16–17.VI.2001; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 18–24.VI.2001; Moskovo 10.VII.1997; Nurgush 23.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Common.

Odontosia carmelita (Esper, 1799): Iremel 23–27.VI.1996, 25–28.VI.1999; Kizilskoye 27.V.1998; Miass 25.V.1998, 11.V.1999, 12–18.V.1999, 19.V.1999; Moskovo 26.V.1998. Rather common.

Gluphisia crenata (Esper, 1785): Iremel 23–27.VI.1996, 16–17.VI.2001; Miass 26–29.VI.1997, 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999, 18–24.VI.2001; Suleimanovo 14.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather common.

Phalera bucephala (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Iremel 25–28.VI.1999, 16.VI.2001; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 25.VII–04.VIII.2000, 06.IX.2000, 18–24.VI.2001; Moskovo 10.VII.1997; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Uchaly 25.VII.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998; Zirgan 24.VI.1999. Common.

Stauropus fagi (Linnaeus, 1758): Berlin 30.VI–02.VII.1997; Miass 26–29.VI.1997, 18–24.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998. Rather common.

Noctuidae

Acronictinae

Oxicesta geographica (Fabricius, 1787): Verbljushka 15.VII.1998 1♂. Very rare. Remark. New to the Ural region.

Moma alpium (Osbeck, 1778): Ekaterinburg 25–28.VI.2001; Miass 26–29.VI.1997, 29–30.VI.1999, 18–24.VI.2001; Nurgush 23.VI.2001; Zirgan 24.VI.1999. Rather common.

Acronicta alni (Linnaeus, 1767): Iremel 23–27.VI.1996, 25–27.VI.1999; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999; Nurgush 23.VI.2001; Zirgan 24.VI.1999. Rather common.

Acronicta cuspis (Hübner, 1813): Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999 19–21.VI.2001; Moskovo 18.VI.1998. Rather rare.

Acronicta tridens (Denis & Schiffermüller, 1775): Burannoe 30.VII.2000 2♂; Chalk Hills 31.VII.2000 2♀. Rare.

Acronicta psi (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998; Ekaterinburg 25–28.VI.2001; Ekaterinburg Biol. St. 20–21.VI.1998; Iremel 23–27.VI.1996, 25–27.VI.1999, 16.VI.2001; Kandrykul 30.V.2001; Kosmokovo 19.VI.2000; Kuvandyk 13–15.VI.1998, 02.VIII.2000; Miass 26–29.VI.1997, 19.VI.1998, 28.VI.1999, 21–25.VIII.2000, 29.V.2001, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 18.VI.1998; Nurgush 23.VI.2001; Uchaly 25.VII.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 28.VII.2000. Common. Remarks. Among the typical specimens of *A. psi* in the forest steppe region of the S Urals, there occurs a whitish form of the taxon with indistinct pattern of the forewings (Fig. 14). The pale form is dominating in the populations occurring northwards from 55°N.

Acronicta aceris (Linnaeus, 1758): Kuvandyk 13–15.VI.1998; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998, 17–19.VI.1999, 27–28.VII.2000; Zirgan 24.VI.1999. Rare.

Acronicta leporina (Linnaeus, 1758): Ekaterinburg 26.VI.2001; Iremel 16.VI.2001; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 15.VII.1997, 19.VI.1998, 21–25.VIII.2000, 29.V.2001, 19.VI.2001; Moskovo 10.VII.1997; Nurgush 22.VI.2001. Rather common.

Acronicta megacephala (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000; Chalk Hills 31.VII.2000; Iremel 23–27.VI.1996, 25–27.VI.1999; Kandrykul 30.V.2001; Kuvandyk 02.VIII.2000; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 29–30.VI.1999, 18–24.VI.2001; Moskovo 10.VII.1997, 04.VIII.2000; Nurgush 22.VI.2001; Uchaly 25.VII.2000; Verbljushka 27–29.VII.2000; Zirgan 24.VI.1999. Common.

Acronicta strigosa (Denis & Schiffermüller, 1775): Berlin 30.VI–02.VII.1997; Ekaterinburg 28.VI.2001; Iremel 23–27.VI.1996, 16.VI.2001; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 19.VI.1998, 28–30.VI.1999, 18–24.VI.2001; Verbljushka 02.VI.1998, 10–12.VI.1998; Zirgan 24.VI.1999. Locally common.

Acronicta auricoma (Denis & Schiffermüller, 1775): Kuvandyk 02.VIII.2000; Miass 19.VI.1998, 29–30.VI.1999, 25.VII–04.VIII.2000, 30.V–17.VI.2001, 18–24.VI.2001; Uchaly 25.VII.2000. Rather rare.

Acronicta cinerea (Hufnagel, 1766): Chalk Hills 03–07.VI.1998; Kizilskoye 27.V.1998; Kuvandyk 13–15.VI.2000; Miass 19.VI.1998, 29–30.VI.1999; Moskovo 10.VII.1997, 18.VI.1998, 04.VIII.2000; Verbljushka 17–19.VI.1999. Rather common.

Acronicta rumicis (Linnaeus, 1758): Burannoe 29.VIII.2000; Ekaterinburg 25–28.VI.2001; Iremel 23–27.VI.1996, 25–27.VI.1999, 16–17.VI.2001; Kandrykul 30.V.2001; Kuvandyk 02.VIII.2000; Miass 13.VI.1996, 26–29.VI.1997, 29–30.VI.1999,

30.V–17.VI.2001; Suleimanovo 14.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 28.VII.2000. Common.

Simyra nervosa (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 07–10.VII.1997; Bishtiryak 13.VII.1998; Chalk Hills 21–23.VI.1999; Kizilskoye 27.V.1998, 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–20.VII.1998; Moskovko 10.VII.1997, 18.VI.1998, 12.VII.1998; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 14–15.VII.1998. Rather common.

Simyra albovenosa (Goeze, 1781): Arkaim 14–19.VI.1996, 22–23.VII.1998; Miass 26–29.VI.1997, 01–16.VII.1999, 22–23.VI.2001; Sakmara river 20–21.VI.1996. Rather rare.

Bryophilinae

Cryphia fraudatricula (Hübner, 1803): Burannoe 12.VI.2001 2♂. Very rare.

Cryphia raptricula (Denis & Schiffermüller, 1775): Bajmak 17.VI.1998; Miass 25.VII–04.VIII.2000. Very rare.

Cryphia orthogramma Boursin, 1954: Ajat river 03–05.VII.1997; Arkaim 09.VII.1997, 22–23.VII.1998; Bajmak 17.VI.1998; Iremel 23–27.VI.1996; Kizilskoye 26.VII.2000; Kuvandyk II 03.VIII.2000; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 19.VI.1998, 29–30.VI.1999, 25.VII–04.VIII.2000, 24.VI.2001; Moskovko 22.VI.1996, 10.VII.1997, 18.VI.1998, 11–13.VII.1998, 04.VIII.2000; Uchaly 25.VII.2000; Verbljushka 14–16.VII.1998, 29.VII.2000. Locally rather common.

Victrix umovii (Eversmann, 1846): Iremel 23–27.VI.1996; Miass 26–29.VI.1997, 19.VI.1998, 01–16.VII.1999, 22–23.VI.2001, 24.VI.2001. Rather rare. Remarks. The species occurs in old conifer forests. Usually it is active only during very warm nights.

Herminiinae

Simplicia rectalis (Eversmann, 1842): Ajat river 24.VII.1998 1♂; Arkaim 23.VII.1998 1♀; Berlin 01.VII.1997 1 ex. Very rare. Remark. The type locality of the taxon is Orenburg and Casan.

Paracolax tristalis (Fabricius, 1794): Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 29.VIII.2000; Miass 26–29.VI.1997; Moskovko 10.VII.1997. Rather rare.

Macrochilo cribrumalis (Hübner, 1793): Ajat river 03–05.VII.1997; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997. Rather common, local.

Hermينيا tarsicrinalis (Knoch, 1782): Ekaterinburg 26.VI.2001; Ekaterinburg Biol. St. 20–21.VI.1998; Miass 26–29.VI.1997, 15–28.VI.1999, 20.VI.2001, 24.VI.2001. Rather rare.

Hermينيا grisealis (Denis & Schiffermüller, 1775): Iremel 23–27.VI.1996. Rare.

Polygogon tentacularia (Linnaeus, 1758): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Iremel 25–27.VI.1999; Miass 28.VI.1996, 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 19–21.VI.2001; Suleimanovo 14.VI.2001; Tratau 15.VI.2001. Rather common.

Pechipogo strigilata (Linnaeus, 1758): Ekaterinburg 26.VI.2001; Iremel 23–27.VI.1996, 16.VI.2001; Miass 28.VI.1996, 26–29.VI.1997, 29–30.VI.1999, 20.VI.2001; Verbljushka 02.VI.1998, 12.VI.1998. Rather common.

Zanclognatha lunalis (Scopoli, 1763): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Bishtiryak 13.VII.1998; Ekaterinburg 27.VI.2001; Kuvandyk 02.VIII.2000; Kuvandyk II 03.VIII.2000; Miass 26–29.VI.1997,

25.VII–04.VIII.2000; Moskovo 11–13.VII.1998; Verbljushka 27–29.VII.2000. Rather common.

Zanclognatha tarsipennalis Treitschke, 1835: Miass 26–29.VI.1997. Rare.

Strepsimaninae

Hypenodes humidalis Doubleday, 1850: Ekaterinburg 27.VI.2001 1♂; Miass 26.VI.1997 1♂. Rare, local.

Schrankia balnearum (Alphéraky, 1880): Shkunovka 01.IX.2000 1♂. Very rare. (Fig. 15). Distribution. Irak, Iran, Caucasus, Turkmenistan. Remarks. Second record of this taxon from Europe. The other is from Ukraine, Crimea.

Catocalinae

Catocala sponsa (Linnaeus, 1767): Kuvandyk II 03.VIII.2000 1♀. Very rare.

Catocala fraxini (Linnaeus, 1758): Burannoe 29.VIII.2000; Miass 31.VIII–05.IX.2000, 06.IX.2000; Verbljushka 27–28.VIII.2000. Rather common.

Catocala nupta (Linnaeus, 1767): Ajat river 24–25.VII.1998; Burannoe 29.VIII.2000; Kuvandyk 19–21.VII.1998; Tavatui 28–29.VII.1998; Verbljushka 14–16.VII.1998, 27–29.VII.2000, 27–28.VIII.2000. Common.

Catocala neonympha (Esper, 1805): Ajat river 24–25.VII.1998, 04–05.IX.2000; Arkaim 07–10.VII.1997, 22–23.VII.1998; Burannoe 30.VII.2000; Chalk Hills 17–18.VII.1998, 31.VII–01.VIII.2000, 30–31.VIII.2000; Kuvandyk 19–21.VII.1998; Shkunovka 01.IX.2000; Verbljushka 14–16.VII.1998, 29.VII.2000. Rather common.

Catocala deducta Eversmann, 1843: Burannoe 29.VIII.2000 14♂; Verbljushka 28.VIII.2000 4♂ 1♀. Very rare. Distribution. S Siberia, Altai, S Ural. Remark. These records are the first ones in the Urals since the beginning of the 20th century.

Catocala orientalis Staudinger, 1877 *bona* sp. (see Hacker & Miatleuski 2001): Burannoe 30.VII.2000 6 ex.; Chalk Hills 31.VII–01.VIII.2000 1 ex.; Verbljushka 16.VII.1998 3♂ 1♀, 29.VII.2000 1 ex., 28.VIII.2000 1 ex. Rare.

Catocala promissa (Denis & Schiffermüller, 1775): Kuvandyk II 03.VIII.2000 3 ex. Rare.

Catocala detrita Warren, 1913 *bona* sp. (see Noctuidae Europaeae vol.10, *in prep.*): Ajat river 05.IX.2000 2 ex.; Burannoe 30.VII.2000 3 ex. Very rare.

Catocala pacta (Linnaeus, 1758): Ajat river 24–25.VII.1998, 04–05.IX.2000; Miass 26–30.VIII.2000; Sanarskii Bor 26.VII.1998; Verbljushka 14–16.VII.1998. Locally rather common.

Catocala fulminea (Scopoli, 1763): Bishtiryak 13.VII.1998; Kuvandyk 19–21.VII.1998, 02.VIII.2000; Moskovo 11–13.VII.1998; Tavatui 28–29.VII.1998; Verbljushka 14–16.VII.1998, 28–29.VII.2000. Rather common.

Minucia lunaris (Denis & Schiffermüller, 1775): Kuvandyk 13.VI.1998 2 ♀♀; Verbljushka 10–12.VI.1998 2 ♀♀; Zirgan 24.VI.1999 1♂. Rare.

Drasteria cailino (Lefëbvre, 1827): Arkaim 14–19.VI.1996; Bajmak 17.VI.1998; Kidriasovo 28–29.V.1998; Kuvandyk 13–15.VI.1998; Moskovo 22.VI.1996, 10.VII.1997, 26.V.1998; Sakmara river 20–21.VI.1996; Verbljushka 17–19.VI.1999. Rather common.

Drasteria caucasica (Kolenati, 1846): Burannoe 20.VI.1999 1♂ 1♀, 29.VIII.2000 2♂ 1♀; Chalk Hills 06.VI.1998 1♀, 30.VIII.2000 2♀, 31.VIII.2000 1♂ 2♀. Rare.

Drasteria rada (Boisduval, 1848): Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 10.VI.2001. A total of about 25 ex. Rare.

Lygephila lubrica (Freyer, 1842): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Verbljushka 14–16.VII.1998, 27–28.VII.2000. Rare.

Lygephila tudicra (Hübner, 1790): Ajat river 03–05.VII.1997; Arkaim 08–10.VII.1997; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 02.VIII.2000; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 24.VI.2001; Moskovo 10.VII.1997, 18.VI.1998, 04.VIII.2000; Uchaly 25.VII.2000; Verbljushka 10.VI.1998, 27–29.VII.2000; Zirgan 24.VI.1999. Common.

Lygephila pastinum (Treitschke, 1826): Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Miass 26–29.VI.1997; Moskovo 10.VII.1997. Rather common.

Lygephila viciae (Hübner, 1822): Arkaim 14–19.VI.1996; Miass 26–29.VI.1997, 15–28.VI.1999, 29–30.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001. Common.

Lygephila craccae (Denis & Schiffermüller, 1775): Chalk Hills 30.VIII.2000; Kuvandyk 02.IX.2000; Miass 25.VII–04.VIII.2000; Verbljushka 27.VII.2000. A total of about 10 ex. Rather rare.

Lygephila proca (Hübner, 1813): Chalk Hills 03.VI.1998 1♂, 06.VI.1998 1♂, 18.VII.1998 1♂, 30.VIII.2000 3♀, 31.VIII.2000 1♂ 1♀; Verbljushka 30.V–02.VI.1998 1 ex., 27.VII.2000 1♀, 28.VII.2000 1♂. Rare.

Autophila chamaephanes Boursin, 1940: Chalk Hills 03–07.VI.1998 4 ex., 31.VII–01.VIII.2000 16 ex., 30–31.VIII.2000 3♂ 4♀, 10.VI.2001 1♂. Very rare, local. (Fig. 16). Remarks. The specimens north from the Caspian Sea belong to ssp. *macrophanes* Boursin, 1940. The species occurs on chalk slopes. It is active at night, but practically does not react to artificial light at all. The moth usually sits on vertical chalk walls after dark and it is possible to find it by a flashlight (see also Remarks of *Pseudohadena stenoptera* below).

Aedia funesta (Esper, 1786): Ajat river 03.VII.1997; Berlin 02.VII.2000; Miass 19.VI.1998, 30.V–17.VI.2001; Moskovo 18.VI.1998; Verbljushka 11.VI.1998, 28.VII.2000. A total of about 10 ex. Rare.

Acantholipes regularis (Hübner, 1813): Burannoe 20.VI.1999, 12.VI.2001; Chalk Hills 03–07.VI.1998, 21–23.VI.1999, 10–11.VI.2001; Novoilezk 09.VI.1998; Shkunovka 01.IX.2000; Verbljushka 10–12.VI.1998. Rare.

Tyta luctuosa (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 12.VI.2001; Chalk Hills 03–07.VI.1998, 31.VII–01.VIII.2000, 10–11.VI.2001; Kizilskoye 26.VIII.2000; Kuvandyk 02.VIII.2000; Kuvandyk II 03.VIII.2000; Miass 28.VI.1996, 26–29.VI.1997, 25.VII–04.VIII.2000; Sakmara river 20–21.VI.1996; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17–19.VI.1999, 28.VII.2000; Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Common.

Callistege mi (Clerck, 1759): Arkaim 14–19.VI.1996; Kandrykul 30.V.2001; Moskovo 18.VI.1998. Rare.

Euclidia glyphica (Linnaeus, 1758): Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998; Miass 13.VI.1996, 26–29.VI.1997, 29.V.2001; Verbljushka 30.V–02.VI.1998, 29.VII.2000. Rather rare.

Euclidia fortalitium (Tauscher, 1809): Ajat river 03–05.VII.1997, 24–25.VII.1998; Chalk Hills 17–18.VII.1998; Kizilskoye 26.VII.2000. A total of about 20 ex. Very rare.

Gonospileia munita (Hübner, 1813): Burannoe 30.VII.2000 1 ♀; Chalk Hills 11.VI.2001 1♀. Very rare.

Gonospileia triquetra (Denis & Schiffermüller, 1775): Arkaim 14–19.VI.1996; Chalk Hills 03–07.VI.1998, 21.VI.1999; Kandrykul 30.V.2001; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998, 26.VII.2000; Verbljushka 30.V–02.VI.1998, 12–14.V.1999, 27–29.VII.2000. Rather common.

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Laspeyria flexula (Denis & Schiffermüller, 1775): Miass 28.VI.1996, 26–29.VI.1997, 29–30.VI.1999. Rather common.

Calpinae

Scoliopteryx libatrix (Linnaeus, 1758): Burannoe 29.VIII.2000 2♂; Kizilskoye 03.IX.2000 1♀; Moskovo 26.V.1998 1 ex. Rather rare.

Calyptra thalictri (Borkhausen, 1790): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 28.VII.1998; Kizilskoye 26.VII.2000; Kuvandyk 19–21.VII.1998, 02.VIII.2000; Miass 29–30.VI.1999, 25.VII–04.VIII.2000; Moskovo 10.VII.1997, 04.VIII.2000; Sanarskii Bor 26.VII.1998; Tavatui 28–29.VII.1998; Uchaly 25.VII.2000; Verbljushka 14–16.VII.1998. Rather common.

Hypeninae

Rhynchodontodes ravulalis (Staudinger, 1879): Burannoe 30.VII.2000 1♀; Chalk Hills 03–07.VI.1998 2 ex., 07.VI.1998 1♀. Very rare.

Hypena proboscidalis (Linnaeus, 1758): Ekaterinburg 27.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997; Miass 26–29.VI.1997, 29–30.VI.1999, 25.VII–04.VIII.2000, 18–24.VI.2001; Zesnokovka 09.VI.2001. Rather common.

Hypena rostralis (Linnaeus, 1758): Ajat river 03–04.VII.1997; Chalk Hills 31.VII.2000, 30.VIII.2000; Kizilskoye 27.V.1998; Kuvandyk 02.VIII.2000, 02.IX.2000; Miass 25.V.1998, 18–20.V.1999; Moskovo 26.VIII.2000; Verbljushka 12–14.V.1999, 28.VII.2000. Rather common.

Hypena obesalis Treitschke, 1829: Ajat river 05.IX.2000 1 ex.; Kidriasovo 28.V.1998 1 ex.; Miass 25.V.1998 2 ex., 16–20.VIII.2000 2 ex., 21–25.VIII.2000 3 ex., 26–30.VIII.2000 4 ex.; Moskovo 26.VIII.2000 3 ex. Rather rare.

Hypena crassalis (Fabricius, 1787): Miass 26–29.VI.1997. Rare.

Phytometra viridaria (Clerck, 1759): Arkaim 14–19.VI.1996; Iremel 11–14.VII.1997; Kizilskoye 26.VII.2000; Moskovo 10–11.VII.1997; Uchaly 25.VII.2000; Verbljushka 28.VII.2000. Rather rare.

Rivula sericealis (Scopoli, 1763): Miass 28.VI.1996, 29–30.VI.1999, 25.VII–04.VIII.2000; Verbljushka 27–29.VII.2000. Rather rare.

Parascotia fuliginaria (Linnaeus, 1761): Miass 29–30.VI.1999. Rare.

Cotobochyla salicalis (Denis & Schiffermüller, 1775): Miass 29–30.VI.1999; Nurgush 23.VI.2001; Verbljushka 10–12.VI.1998. Rare.

Plusiinae

Euchalcia variabilis (Piller, 1783): Ekaterinburg Biol. St. 20–21.VI.1998; Iremel 26.VI.1996; Kuvandyk II 16.VI.1998; Miass 26–29.VI.1997, 01–11.VII.1999; 24–31.VII.1999, 18–24.VI.2001; Suleimanovo 14.VI.2001. Genitalia slide: M. Fibiger prep. no. 4202. Rather rare.

Euchalcia uralensis (Eversmann, 1842) **stat. rev.:** Miass 28–29.VI.1997 4 ex. Genitalia slide: M. Fibiger prep. no. 4198 (♂). Very rare. Remarks. Type locality: S Ural, Casan. *E. variabilis* and *E. uralensis* occur sympatrically in S Ural and are two distinct and quite different looking species, with distinct genitalia. Superficially they can be separated from each other by details: *E. variabilis* has narrower forewing with less conspicuous reniform spot, and it lacks the distinct discal spot in the underside of the hindwing. About the differences in the genitalia, see Noctuidae Europaeae, vol. 10 (*in prep.*).

Euchalcia modestoides Poole, 1989; Berlin 30.VI–02.VII.1997; Miass 28–29.VI.1997, 25.VII–04.VIII.2000, 30.V–17.VI.2001; Moskovko 10.VII.1997; Uchaly 25.VII.2000. Rare.

Euchalcia siderifera (Eversmann, 1846); Chalk Hills 03–07.VI.1998, 21–23.VI.1999, 10.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17–19.VI.1999. Rather rare, local. Remark. The species occurs on chalk slopes.

Euchalcia consona (Fabricius, 1787); Arkaim 14–19.VI.1996, 07–10.VII.1997; Chalk Hills 03–07.VI.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 30–31.VIII.2000, 10.VI.2001; Kizilskoye 03.IX.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Sakmara river 20–21.VI.1996; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 17–19.VI.1999, 27–29.VII.2000, 27.VIII.2000. Rather common.

Polychrysia moneta (Fabricius, 1787); Arkaim 09.VII.1997; Berlin 30.VI.1997; Iremel 11–14.VII.1997; Kizilskoye 26.VII.2000; Moskovko 10.VII.1997; Uchaly 25.VII.2000. Common.

Lamprotes c-aureum (Knoch, 1781); Arkaim 07–10.VII.1997; Miass 26–29.VI.1997, 15.VII.1997, 29–30.VI.1999, 25.VII–04.VIII.2000; Moskovko 10.VII.1997; Sanarskii Bor 26.VII.1998. Rather common.

Panchrysia deanrata (Esper, 1787); Ajat river 03–05.VII.1997; Burannoe 30.VII.2000; Chalk Hills 21–23.VI.1999, 31.VII.2000, 31.VIII.2000, 10.VI.2001; Kuvandyk 13–15.VI.1998, 02.VIII.2000; Kuvandyk II 16.VI.1998; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998, 28.VII.2000. Rather rare.

Panchrysia v-argenteum (Esper, 1798); Miass 28.VI.1996, 26.VI.1997, 15.VII.1997, 01–16.VII.1999, 25.VII–04.VIII.2000, 24.VI.2001; Moskovko 10.VII.1997, 04.VIII.2000; Uchaly 25.VII.2000. Locally rather common. Remarks. The species occurs in the forest steppe region. The specimens of *P. v-argenteum* in the Urals differ from those in western Europe, as the moths having a dark grey (not reddish brown) ground colour of the forewings.

Diachrysia chrysitis (Linnaeus, 1758); Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 21–23.VI.1999; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Miass 26–29.VI.1997, 29–30.VI.1999, 30.V–17.VI.2001; Moskovko 10.VII.1997; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 17–19.VI.1999. Rather common. Remarks. *D. chrysitis* and *D. tutti* are very closely related taxa and difficult to separate from each other. However, both taxa occur in the Urals. For further information, see Noctuidae Europaeae, vol. 10 (*in prep.*).

Diachrysia tutti (Kostrowicki, 1961); Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 14–19.VI.1996, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 12.VI.2001; Chalk Hills 31.VII.2000; Ekaterinburg 25–28.VI.2001; Miass 26–29.VI.1997, 31.VIII–05.IX.2000, 30.V–17.VI.2001; Moskovko 10.VII.1997; Tratau 15.VI.2001; Uchaly 25.VII.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17–19.VI.1999, 27–29.VII.2000; Zesnokovka 09.VI.2001. Common. Remark. See Remarks of *D. chrysitis* (above).

Diachrysia zosimi (Hübner, 1822); Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Miass 30.V–17.VI.2001, 18.VI.2001, 22–23.VI.2001, 24.VI.2001; Moskovko 10.VII.1997. A total of about 15 ex. Rare.

Diachrysia chryson (Esper, 1789); Ajat river 03.VII.1997 1 ex.; Kizilskoye 26.VII.2000 1 ex.; Miass 25.VII–04.VIII.2000 1 ex.; Uchaly 25.VII.2000 1 ex. Very rare.

Macdunnoughia confusa (Stephens, 1850); Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 31.VII–01.VIII.2000, 30–31.VIII.2000, 10–11.VI.2001; Ekaterinburg 27.VII.1998; Kandrykul 30.V.2001; Kizilskoye 27.V.1998, 18.V.1999, 26.VII.2000; Kuvandyk *Phega* 30 (4) (I.XII.2002): 138

02.VIII.2000, 02.IX.2000; Miass 26–29.VI.1997, 15.VII.1997, 29–30.VI.1999, 25.VII–04.VIII.2000, 31.VIII–05.IX.2000, 30.V–17.VI.2001; Moskovo 10.VII.1997, 11–13.VII.1998, 04.VIII.2000, 26.VIII.2000; Suleimanovo 14.VI.2001; Verbljushka 27–28.VIII.2000. Common.

Plusia festucae (Linnaeus, 1758): Ajat river 03–05.VII.1997, 04–05.IX.2000; Burannoe 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 10–11.VI.2001; Ekaterinburg 28.VII.1998; Kizilskoye 26.VII.2000, 03.IX.2000; Miass 28.VI.1996, 25.VII–04.VIII.2000, 16–20.VIII.2000, 30.V–17.VI.2001, 18–24.VI.2001; Shkunovka 01.IX.2000; Uchaly 25.VII.2000; Verbljushka 27–29.VII.2000. Rather common.

Plusia putnami (Grote, 1873): Miass 29–30.VI.1999. Very rare.

Autographa macrogamma (Eversmann, 1842): Iremel 23–27.VI.1996 1 ex. Very rare.

Autographa gamma (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 29.VIII.2000, 12.VI.2001; Chalk Hills 31.VII–01.VIII.2000, 30–31.VIII.2000; Ekaterinburg 27.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997; Kizilskoye 26.VII.2000, 03.IX.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998, 02.VIII.2000, 02.IX.2000; Miass 26–29.VI.1997, 15.VII.1997, 25.VII–04.VIII.2000, 16–20.VIII.2000, 31.VIII–05.IX.2000; Moskovo 10.VII.1997, 18.VI.1998, 04.VIII.2000, 26.VIII.2000; Suleimanovo 14.VI.2001; Verbljushka 27–28.VIII.2000. Very common.

Autographa mandarina (Freyer, 1845): Iremel 23–27.VI.1996 2 ex.; Kizilskoye 26.VII.2000 1♂; Miass 16–20.VIII.2000 1♂, 29.V.2001 6♂, 30.V–17.VI.2001 2♂; Moskovo 04.VIII.2000 1♂; Uchaly 25.VII.2000 10 ex. Rather rare.

Autographa pulchrina (Haworth, 1809): Ekaterinburg 28.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 29–30.VI.1999, 18–24.VI.2001; Moskovo 18.VI.1998; Nurgush 23.VI.2001; Suleimanovo 14.VI.2001; Tratau 15.VI.2001. Rather common.

Autographa buratica (Staudinger, 1892): Iremel 11–14.VII.1997 1♂. Genitalia slide: M. Fibiger prep. no. 4134. Rare.

Autographa jota (Linnaeus, 1758): Moskovo 11.VII.1998 1♂. Very rare.

Autographa excelsa (Kretschmar, 1862): Miass 01–16.VII.1999, 25.VII–04.VIII.2000. Rare.

Plusidia cheiranthi (Tauscher, 1809): Ajat river 03–05.VII.1997; Bajmak 17.VI.1998; Burannoe 12.VI.2001; Chalk Hills 03–07.VI.1998, 21–23.VI.1999, 10–11.VI.2001; Kuvandyk 13–15.VI.1998; Moskovo 10.VII.1997; Sakmara river 20–21.VI.1996; Suleimanovo 14.VI.2001; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998; Zirgan 24.VI.1999. Rather common.

Cornutiplusia circumflexa (Linnaeus, 1767): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Miass 28.VI.1996. Very rare, migrant.

Syngrapha microgamma (Hübner, 1823): Ekaterinburg Biol. St. 21.VI.1998 1♀. Very rare. *Remark.* New to the Ural region.

Syngrapha ain (Hochenwarth, 1785): Bajmak 17.VI.1998; Iremel 23–27.VI.1996, 11–14.VII.1997; Miass 26–29.VI.1997, 15.VII.1997, 19.VI.1998, 15–28.VI.1999, 01–16.VII.1999, 22–23.VI.2001; Moskovo 10.VII.1997; Uchaly 25.VII.2000. Locally rather common.

Syngrapha interrogationis (Linnaeus, 1758): Miass 15.VII.1997. Rare.

Trichoplusia ni (Hübner, 1803): Arkaim 14–19.VI.1996. Very rare, migrant.

Abrostola tripartita (Hufnagel, 1766): Arkaim 14–19.VI.1996; Burannoe 12.VI.2001; Iremel 23–27.VI.1996, 25–27.VI.1999; Miass 26–29.VI.1997, 19.VI.1998, 29–

30.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998. Rather common.

Abrostola asclepiadis (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Miass 28.VI.1996, 26–29.VI.1997, 29.V.2001, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 18.VI.1998; Sakmara river 20–21.VI.1996. Rather common.

Abrostola triplasia (Linnaeus, 1758): Burannoe 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 31.VII–01.VIII.2000; Ekaterinburg 27.VI.2001; Iremel 23–27.VI.1996; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999; Moskovo 18.VI.1998; Verbljushka 27.VII.2000; Zirgan 24.VI.1999. Rather rare.

Acontiinae

Acontia lucida (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000; Chalk Hills 03–07.VI.1998, 31.VII–01.VIII.2000; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 25.VII–04.VIII.2000; Novoiletzk 08–09.VI.1998; Verbljushka 30.V–02.VI.1998, 14–15.VII.1998, 17–19.VI.1999, 27–29.VII.2000; Zesnokovka 09.VI.2001. Rather common.

Acontia titania (Esper, 1798): Arkaim 14–19.VI.1996; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Sakmara river 20–21.VI.1996; Suleimanovo 14.VI.2001; Verbljushka 10–12.VI.1998, 17–19.VI.1999, 27–29.VII.2000. Locally rather common.

Eustrotiinae

Emmelia trabealis (Scopoli, 1763): Ajat river 24–25.VII.1998; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 10–11.VI.2001; Iremel 11–14.VII.1997; Kuvandyk 13–15.VI.1998, 19–21.VII.1998, 02.VIII.2000; Miass 28.VI.1996, 26–29.VI.1997, 25.VII–04.VIII.2000; Moskovo 22.VI.1996, 10.VII.1997; Sakmara river 20–21.VI.1996; Shkunovka 01.IX.2000; Suleimanovo 14–15.VI.2001; Verbljushka 14–16.VII.1998, 28.VII.2000; Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Very common.

Phyllophila obliterated (Rambur, 1833): Chalk Hills 11.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17.VI.1999. Rare.

Protodeltote pygarga (Hufnagel, 1766): Ajat river 03–05.VII.1997; Ekaterinburg 25–28.VI.2001; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 29–30.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Verbljushka 18.VI.1999. Rather common.

Deltote deceptoris (Scopoli, 1763): Arkaim 14–19.VI.1996; Kandrykul 30.V.2001; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 30.V–17.VI.2001; Moskovo 22.VI.1996; Sakmara river 20–21.VI.1996; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 18.VI.1999; Zirgan 24.VI.1999. Common.

Deltote uncula (Clerck, 1759): Ajat river 03–05.VII.1997; Miass 26–29.VI.1997, 29–30.VI.1999. Rather rare.

Deltote bankiana (Fabricius, 1775): Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Ekaterinburg Biol. St. 20–21.VI.1998; Kosmokovo 19.VI.2000; Miass 26–29.VI.1997, 15–28.VI.1999, 30.V–17.VI.2001; Verbljushka 10–12.VI.1998, 18.VI.1999, 27–29.VII.2000; Zirgan 24.VI.1999. Rather rare.

Pseudeustrotia candidula (Denis & Schiffermüller, 1796): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 14–19.VI.1996; Burannoe 29.VIII.2000; Chalk Hills 03–07.VI.1998; Ekaterinburg 25–28.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 28.VI.1999, 21–25.VIII.2000,

30.V–17.VI.2001, 18–24.VI.2001; Moskovo 22.VI.1996, 10.VII.1997; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998, 14–16.VII.1998; Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Common.

Eubleminae

Odice arcuinna (Hübner, 1790): Bishtiryak 13.VII.1998; Chalk Hills 03–07.VI.1998, 17–18.VII.1998; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 27–29.VII.2000, 27.VIII.2000. A total of about 20 ex. Rare.

Eublemma minutata (Fabricius, 1794): Ajat river 03–05.VII.1997; Arkaim 22–23.VII.1998; Burannoe 30.VII.2000, 29.VIII.2000; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 22.VI.1999, 31.VIII.2000, 10–11.VI.2001; Novoiletzk 08–09.VI.1998; Shkunovka 01.IX.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000. Common.

Eublemma porphyriina (Freyer, 1845): Ajat river 04.VII.1997; Arkaim 14–19.VI.1996; Bajmak 17.VI.1998; Burannoe 30.VII.2000; Chalk Hills 03–07.VI.1998, 31.VII–01.VIII.2000, 30.VIII.2000, 10–11.VI.2001; Kidriasovo 28–29.V.1998; Kuvandyk 02.IX.2000; Moskovo 22.VI.1996, 10.VII.1997, 18.VI.1998, 11–13.VII.1998, 26.VIII.2000; Sakmara river 20–21.VI.1996; Tratau 15.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000, 27–28.VIII.2000; Zesnokovka 09.VI.2001. Rather common. Remark. The type locality of the species is Urals.

Eublemma parva (Hübner, 1808): Chalk Hills 17.VII.1998 1♀. Very rare.

Eublemma pannonica (Freyer, 1840): Chalk Hills 31.VII.2000 1♂; Verbljushka 29.VII.2000 2♂. Very rare.

Eublemma amasina (Eversmann, 1842): Ekaterinburg Biol. St. 21.VI.1998 2♂; Kosmokovo 19.VI.2000 1♂. Very rare. Remarks. The type locality of the species is Orenburg. *E. amasina* occurs in forest steppes and it seems to be extremely rare or nowadays even absent in the southern steppe regions.

Eublemma rosea (Hübner, 1790): Chalk Hills 03–07.VI.1998, 21–23.VI.1999; Kuvandyk 13–15.VI.1998; Moskovo 18.VI.1998, 11–13.VII.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999. Rather rare.

Eublemma amoena (Hübner, 1803): Kuvandyk 13–15.VI.1998 4♂. Very rare.

Eublemma purpurina (Denis & Schiffermüller, 1775): Ajat river 03.VII.1997, 24–25.VII.1998, 04–05.IX.2000; Arkaim 14–19.VI.1996, 09.VII.1997, 22–23.VII.1998; Burannoe 29.VIII.2000; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 30.VIII.2000, 10–11.VI.2001; Kidriasovo 16.VI.1999; Kuvandyk 13–15.VI.1998, 19–21.VII.1998, 02.IX.2000; Miass 06.IX.2000; Novoiletzk 08–09.VI.1998; Sakmara river 20–21.VI.1996; Shkunovka 01.IX.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 29.VII.2000; Zirgan 24.VI.1999. Common.

Eublemma pallidula (Herrich-Schäffer, 1856): Ajat river 03–05.VII.1997; Bishtiryak 13.VII.1998; Burannoe 30.VII.2000; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 27–29.VII.2000. Rare.

Eublemma parallela (Freyer, 1842): Chalk Hills 03–07.VI.1998; Kidriasovo 28–29.V.1998; Novoiletzk 09.VI.1998; Verbljushka 30.V–02.VI.1998, 18.VI.1999. A total of 13 ex. Rare.

Eublemma pusilla (Eversmann, 1834): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Bajmak 17.VI.1998; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–

21.VII.1998; Moskovo 18.VI.1998, 11–13.VII.1998; Novoiletzk 08–09.VI.1998; Shkunovka 01.IX.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000. Rather common. Remark. The type locality of the species is Orenburg.

Glossodice polygramma (Duponchel, 1842): Chalk Hills 03–07.VI.1998, 22.VI.1999, 10–11.VI.2001; Sakmara river 20–21.VI.1996; Verbljushka 10–12.VI.1998, 17.VI.1999; Zesnokovka 09.VI.2001. Rather rare.

Trisateles emortualis (Denis & Schiffermüller, 1775): Miass 26–29.VI.1997, 18–24.VI.2001. Very rare.

Elaphria venustula (Hübner, 1790): Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Chalk Hills 21–23.VI.1999; Ekaterinburg 25–27.VI.2001; Kuvandyk 13–15.VI.1998; Miass 13.VI.1996, 26–29.VI.1997, 29–30.VI.1999, 29.V.2001, 30.V–17.VI.2001, 18–24.VI.2001; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17–19.VI.1999. Common.

Cuculliinae

Cucullia argentina (Fabricius, 1787): Ajat river 24–25.VII.1998; Arkaim 14–19.VI.1996, 22–23.VII.1998; Burannoe 20.VI.1999; Chalk Hills 03–07.VI.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 30–31.VIII.2000, 10–11.VI.2001; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Uchaly 25.VII.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999. Rather common. Remarks. Few almost full-grown larvae of *C. argentina* were found at 20–21.VI.1999 in Burannoe, feeding on the flowers of *Artemisia campestris* (T. & K. Nupponen leg.). The moths emerged during the first half of July, 1999.

Cucullia magnifica Freyer, 1839: Ajat river 25.VII.1998 1♂; Chalk Hills 31.VII.2000 5 ex., 01.VIII.2000 4 ex.; Kizilskoye 26.VII.2000 1 ex. Very rare.

Cucullia splendida (Stoll, 1782): Ajat river 24–25.VII.1998; Arkaim 07–10.VII.1997, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000; Chalk Hills 31.VII–01.VIII.2000, 30–31.VIII.2000; Kizilskoye 26.VII.2000; Kuvandyk 02.VIII.2000; Miass 05–15.VIII.2000; Moskovo 10.VII.1997; Verbljushka 17–19.VI.1999, 27–29.VII.2000. Common.

Cucullia fraudatrix Eversmann, 1837: Ajat river 03–05.VII.1997 1 ex.; Berlin 02.VII.2000 1 ex.; Miass 26.VI.1997 1 ex., 01–16.VII.1999 1 ex. Rare. Remark. The type locality of the species is Orenburg.

Cucullia absinthii (Linnaeus, 1761): Ajat river 24–25.VII.1998; Arkaim 23.VII.1998; Chalk Hills 31.VII–01.VIII.2000; Kuvandyk 21.VII.1998, 02.VIII.2000; Miass 25.VII–04.VIII.2000; Moskovo 26.VII.2000 (larvae); Verbljushka 27–29.VII.2000. Rather rare.

Cucullia argentea (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 31.VII–01.VIII.2000; Kizilskoye 26.VII.2000; Kuvandyk 02.VIII.2000; Miass 25.VII–04.VIII.2000; Moskovo 10.VII.1997; Uchaly 25.VII.2000; Verbljushka 27–29.VII.2000. Rather common.

Cucullia spectabilisoides Poole, 1989: Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII.2000; Verbljushka 17–19.VI.1999. A total of 22 ex. Very rare.

Cucullia cineracea Freyer, 1841: Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 07–10.VII.1997, 22–23.VII.1998; Bajmak 17.VI.1998; Chalk Hills 21–23.VI.1999; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998; Moskovo 10.VII.1997; Verbljushka 10–12.VI.1998, 17–19.VI.1999. Rather rare.

Cucullia lindei Heyne, 1899: Miass 01–16.VII.1999 2♂, 22–23.VI.2001 3♂ 1♀, 24.VI.2001 2♂. Very rare, local. Remark. The species occurs in the forest steppe region.

Cucullia artemisiae (Hufnagel, 1766): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 07–10.VII.1997, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998, 31.VII–01.VIII.2000; Kizilskoye 26.VII.2000; Miass 26–29.VI.1997, 15.VII.1997, 29–30.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999. Common.

Cucullia praecana Eversmann, 1843: Moskovo 10.VII.1997 1♂. Very rare. Remark. The type locality of the species is Urals.

Cucullia mixta Freyer, 1841: Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 10–11.VI.2001; Kidriasovo 28–29.V.1998, 16.VI.1999; Kizilskoye 27.V.1998, 18.V.1999; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather common.

Cucullia lactea (Fabricius, 1787): Arkaim 14–19.VI.1996; Chalk Hills 21–23.VI.1999, 10.VI.2001; Kidriasovo 28–29.V.1998, 16.VI.1999; Kuvandyk 13–15.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000; Zesnokovka 09.VI.2001. Locally rather common.

Cucullia xeranthemi Boisduval, 1840: Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 31.VII–01.VIII.2000, 10–11.VI.2001; Kidriasovo 28–29.V.1998, 16.VI.1999; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Moskovo 10.VII.1997, 11–13.VII.1998, 04.VIII.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000. Rather common.

Cucullia propinqua Eversmann, 1842: Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 07–10.VII.1997, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Moskovo 10.VII.1997, 18.VI.1998, 11–13.VII.1998. A total of about 30 ex. Rare. Remark. The type locality of the species is W Urals.

Cucullia fraterna Butler, 1878: Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Kandrykul 30.V.2001; Kidriasovo 28–29.V.1998, 16.VI.1999; Miass 26–29.VI.1997, 29–30.VI.1999, 22–23.VI.2001; Verbljushka 30.V.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999. A total of about 20 ex. Very rare.

Cucullia lucifuga (Denis & Schiffermüller, 1775): Arkaim 14–19.VI.1996; Kosmokovo 19.VI.2000; Miass 29.VI.1997, 29.V.2001, 30.V–17.VI.2001, 24.VI.2001; Moskovo 26.V.1998, 22.VI.1996. A total of 14 ex. Rather rare.

Cucullia umbratica (Linnaeus, 1758): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 07–10.VII.1997, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998, 01.VIII.2000; Ekaterinburg 27.VI.2001; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998, 26.VII.2000; Miass 13.VI.1996, 28.VI.1996, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997, 18.VI.1998, 11–13.VII.1998, 04.VIII.2000; Verbljushka 30.V–02.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000. Common.

Cucullia biornata Fischer von Waldheim, 1840: Ajat river 03–05.VII.1997, 24–25.VII.1998, 04–05.IX.2000; Arkaim 14–19.VI.1996, 07–10.VII.1997, 22–23.VII.1998; Burannoe 29.VIII.2000; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 10.VI.2001; Kizilskoye 27.V.1998, 26.VII.2000, 03.IX.2000; Miass 25.VII–04.VIII.2000, 24.VI.2001; Moskovo 10.VII.1997, 11–13.VII.1998; Novoiletzk 09.VI.1998; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000. Common. Remarks. A full-grown larva of *C. biornata* was found feeding

on the flowers of *Artemisia dracunculi* at 08.VI.1998 in Chalk Hills (T. & K. Nupponen leg.). The moth emerged in early July, 1998.

Cucullia balsamitae Boisduval, 1840: Chalk Hills 03–07.VI.1998, 31.VII–01.VIII.2000, 10–11.VI.2001; Novoiletzk 09.VI.1998; Verbljushka 27.VII.2000. A total of 25 ex. Rather rare.

Cucullia santonici (Hübner, 1813): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 07–10.VII.1997, 22–23.VII.1998; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 30–31.VIII.2000, 10–11.VI.2001; Kidriasovo 28–29.V.1998; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000; Zesnokovka 09.VI.2001. Rather common.

Cucullia boryphora Fischer von Waldheim, 1840: Kidriasovo 28.V.1998 1 ♀. Very rare.

Cucullia gnaphalii (Hübner, 1813): Arkaim 14–19.VI.1996 1 ex.; Miass 30.V–17.VI.2001 1 ♀, 18.VI.2001 1 ♂; Moskovo 22.VI.1996 1 ♂ 1 ♀, 18.VI.1998 1 ♀. Very rare.

Cucullia tanacetii (Denis & Schiffermüller, 1775): Chalk Hills 21–23.VI.1999, 01.VIII.2000, 10.VI.2001; Kuvandyk 13–15.VI.1998; Miass 29.V.2001, 24.VI.2001; Moskovo 18.VI.1998; Verbljushka 30.V–02.VI.1998, 12.VI.1998, 17–19.VI.1999. A total of 17 ex. Rare.

Cucullia dracunculi (Hübner, 1813): Ajat river 03–05.VII.1997; Arkaim 22–23.VII.1998; Berlin 02.VII.1997; Chalk Hills 21–23.VI.1999, 31.VII–01.VIII.2000; Verbljushka 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000. A total of about 40 ex. Rare.

Cucullia virgaureae Boisduval, 1840: Ajat river 24–25.VII.1998; Arkaim 22–23.VII.1998; Chalk Hills 31.VII–01.VIII.2000; Kizilskoye 26.VII.2000; Verbljushka 27–29.VII.2000. Rare.

Cucullia asteris (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 22–23.VII.1998; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 31.VII–01.VIII.2000; Kidriasovo 28–29.V.1998; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Kuvandyk II 03.VIII.2000; Moskovo 18.VI.1998; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 27–29.VII.2000. Rather common.

Shargacucullia gozmanyi G. & L. Ronkay, 1994: Arkaim 15.VI.1996; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Sakmara river 20–21.VI.1996; Verbljushka 14.V.1999. A total of 7 ♂ 2 ♀. Very rare. Distribution. Eastern Central Europe: Carpathian basin and N Balkans. Remark. New to Russia and the Ural region.

Shargacucullia lychnitis (Rambur, 1833): Chalk Hills 21–23.VI.1999; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998, 18.V.1999; Kuvandyk 13–15.VI.1998; Miass 13.VI.1996; Sakmara river 20.VI.1996; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 12–14.V.1999, 17–19.VI.1999. Rare.

Shargacucullia verbasci (Linnaeus, 1758): Chalk Hills 04.VI.1998, 22.VI.1999; Kidriasovo 28–29.V.1998; Verbljushka 30.V–02.VI.1998, 18.VI.1999. A total of 11 ex. Rare.

Calophasia lunula (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Chalk Hills 03–07.VI.1998, 31.VII–01.VIII.2000, 10–11.VI.2001; Kizilskoye 26.VII.2000; Miass 25.VII–04.VIII.2000, 30.V–17.VI.2001; Moskovo 10.VII.1997, 18.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17–19.VI.1999, 27.VII.2000. Rather common.

Calophasia opalina (Esper, 1793): Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 30–31.VIII.2000, 10–11.VI.2001; Kidriasovo 28–*Phegea* 30 (4) (1.XII.2002): 144

29.V.1998; Kizilskoye 26.VII.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000. Rather rare.

Omphalophana antirrhinii (Hübner, 1803): Chalk Hills 03–07.VI.1998; Kidriasovo 28–29.V.1998; Verbljushka 30.V–02.VI.1998; Zesnokovka 09.VI.2001. Rather common, local.

Sympistis heliophila (Paykull, 1793): Iremel 23–27.VI.1996 1 ex. Very rare. Remarks. The species has a relict population in the southern mountain tundra region of the Urals. The nearest corresponding habitats are located at the northern Ural, about 600 km to the north from Iremel.

Oncocnemis senica (Eversmann, 1856): Miass 21–25.VIII.2000 1♂. Very rare. Remarks. The type locality of *O. senica* is Urals and Altai. The species occurs in the forest steppe region.

Oncocnemis confusa (Freyer, 1842): Chalk Hills 31.VII.2000 2♂ 2♀, 01.VIII.2000 2♂, 30.VIII.2000 2♂, 31.VIII.2000 4♂. Very rare, local.

Oncocnemis nigricula (Eversmann, 1847): Ajat river 04–05.IX.2000; Chalk Hills 30–31.VIII.2000; Kizilskoye 03.IX.2000; Kuvandyk 02.IX.2000; Moskovko 04.VIII.2000, 26.VIII.2000; Shkunovka 01.IX.2000; Verbljushka 27–28.VIII.2000. Locally rather common. Remark. The type locality of the species is Urals, Orenburg and Volga.

Oncocnemis campicola Lederer, 1853: Bishtiryak 13.VII.1998; Kuvandyk 20.VII.1998; Kuvandyk II 03.VIII.2000; Miass 15.VII.1997, 25.VII–04.VIII.2000, 05–15.VIII.2000; Uchaly 25.VII.2000. A total of about 30 ex. Rather rare.

Epinecia ustula (Freyer, 1835): Arkaim 14–19.VI.1996, 07–10.VII.1997, 22–23.VII.1998; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 10.VI.2001; Kidriasovo 28–29.V.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 27–29.VII.2000. Rather rare.

Amphipyrinae

Amphipyra pyramidea (Linnaeus, 1758): Kuvandyk 02.IX.2000 1 ex.; Moskovko 26.VIII.2000 1♂; Verbljushka 27–28.VIII.2000 2 ex. Rather rare.

Amphipyra perflua (Fabricius, 1787): Miass 01–07.VIII.1999. Rather rare.

Amphipyra livida (Denis & Schiffermüller, 1775): Ajat river 05.IX.2000 1 ex.; Burannoe 30.VII.2000 1♂, 29.VIII.2000 3 ex.; Miass 16–20.VIII.2000 2 ex., 26–30.VIII.2000 1 ex., 31.VIII–05.IX.2000 1♀, 06.IX.2000 2♀; Verbljushka 27.VIII.2000 1 ex. Rather rare.

Amphipyra tragopoginis (Clerck, 1759): Miass 16–20.VIII.2000, 31.VIII–05.IX.2000; Verbljushka 27.VII.2000. Rather rare.

Amphipyra tetra (Fabricius, 1787): Ajat river 05.VII.1997 1♂, 25.VII.1998 1♂, 04.IX.2000 1 ex.; Arkaim 09.VII.1997 1 ex., 23.VII.1998 1 ex.; Burannoe 29.VIII.2000 1♂ 1♀; Chalk Hills 18.VII.1998 1♀; Verbljushka 29.VII.2000 1♀. Rare.

Phidrimana amurensis (Staudinger, 1892): Arkaim 22–23.VII.1998; Burannoe 30.VII.2000; Chalk Hills 31.VII–01.VIII.2000; Kizilskoye 26.VII.2000; Verbljushka 27–29.VII.2000. A total of about 35 ex. Rare. (Fig. 17). Distribution. E Siberia, Russian Far East. Remarks. Eastern steppe species. The taxon was previously known from the Orenburg region (Kononenko 1989). It is also reported from S Russia by Anikin *et al.* (2000b), but without exact data. However, *P. amurensis* is not listed as European by Novacki & Fibiger (1996a).

Psaphidinae

Feralia sauberi (Graeser, 1892): Miass 25.V.1998, 11.V.1999, 18–20.V.1999. A total of about 50 ex. Very local, but not rare when occurs.

Stiriinae

Apaustis rupicola (Denis & Schiffermüller, 1775): Sakmara river 21.VI.1996 1♂; Suleimanovo 14.VI.2001 1♀. Very rare.

Panemeria tenebrata (Scopoli, 1763): Iremel 27.VI.1999 1♂ 1♀. Rare.

Aegle kaekeritziana (Hübner, 1799): Verbljushka 10.VI.1998 1♂, 12.VI.1998 1♂, 10–12.VI.1998 1♂, 18.VI.1999 2♂. Very rare.

Mycteroplus puniceago (Boisduval, 1840): Ajat river 24–25.VII.1998; Arkaim 22–23.VII.1998; Chalk Hills 31.VII.2000; Kizilskoye 26.VII.2000; Kuvandyk 19–21.VII.1998; Verbljushka 27–29.VII.2000. A total of about 35 ex. Rare.

Heliothinae

Schinia scutosa (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 07–10.VII.1997, 22–23.VII.1998, 17.V.1999, 15.VI.1999; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 30–31.VIII.2000, 10–11.VI.2001; Kandrykul 30.V.2001; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998, 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998, 15.V.1999, 02.VIII.2000, 02.IX.2000; Kuvandyk II 03.VIII.2000; Miass 18–20.V.1999, 24–31.VII.1999, 25.VII–04.VIII.2000, 21–25.VIII.2000, 29.V.2001, 30.V–17.VI.2001; Moskovo 18.VI.1998, 11–13.VII.1998, 04.VIII.2000; Novoiletzk 08–09.VI.1998; Shkunovka 01.IX.2000; Tratau 15.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 12–14.V.1999, 17–19.VI.1999, 27–29.VII.2000, 27–28.VIII.2000; Zesnokovka 09.VI.2001. Very common. Remarks. *S. scutosa* is one of the most abundant moths in the southern steppe region of the Urals. The recorded maximum is 5500 ex. by one light trap during one night (Kuvandyk 02.VIII.2000).

Pyrocleptria cora (Eversmann, 1837): Chalk Hills 06.VI.1998 1♀, 07.VI.1998 1♂, 03–07.VI.1998 1♂; Kuvandyk 13–15.VI.1998 1♂ 1♀; Suleimanovo 14.VI.2001 1♂, 15.VI.2001 2♂. Very rare. Remarks. The type locality of *P. cora* is Orenburg. The species is active mainly at daylight, but occasionally the moth comes to artificial light.

Heliothis viroplata (Hufnagel, 1766): Arkaim 14–19.VI.1996; Burannoe 30.VII.2000; Chalk Hills 31.VII–01.VIII.2000, 10–11.VI.2001; Kizilskoye 27.V.1998, 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Moskovo 22.VI.1996; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 27–29.VII.2000. Rather common.

Heliothis maritima Graslin, 1855: Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 31.VII–01.VIII.2000, 10–11.VI.2001; Iremel 11–14.VII.1997; Kandrykul 30.V.2001; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Miass 29.V.2001, 30.V–17.VI.2001; Moskovo 10.VII.1997, 18.VI.1998, 11–13.VII.1998, 04.VIII.2000; Novoiletzk 09.VI.1998; Suleimanovo 14.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27–29.VII.2000; Zesnokovka 09.VI.2001. Common.

Heliothis ononis (Denis & Schiffermüller, 1775): Arkaim 14–19.VI.1996; Bajmak 17–18.VI.1998; Berlin 30.VI–02.VII.1997; Kizilskoye 26.VII.2000; Kuvandyk 13–

15.VI.1998; Moskovo 23.VI.1996, 18.VI.1998; Verbljushka 30.V–02.VI.1998. Rather rare.

Heliothis peltigera (Denis & Schiffermüller, 1775): Arkaim 15.VI.1996; Burannoe 30.VII.2000; Chalk Hills 31.VII–01.VIII.2000; Novoiletzk 09.VI.1998; Verbljushka 27.VII.2000. A total of 10 ex. Rare, migrant.

Heliothis nubigera Herrich-Schäffer, 1851: Arkaim 14–19.VI.1996; Chalk Hills 03–07.VI.1998; Kidriasovo 28–29.V.1998; Novoiletzk 09.VI.1998. A total of 8 ex. Very rare, migrant.

Helicoverpa armigera (Hübner, 1808): Burannoe 29.VIII.2000; Chalk Hills 31.VII–01.VIII.2000, 30–31.VIII.2000; Miass 26–30.VIII.2000; Novoiletzk 09.VI.2000; Verbljushka 14.VII.1998, 27.VIII.2000. Rare, migrant.

Pyrrhia umbra (Hufnagel, 1766): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Ekaterinburg 25–28.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 01–16.VII.1999, 29.V.2001, 19–21.VI.2001; Moskovo 22.VI.1996, 10.VII.1997, 04.VIII.2000; Sakmara river 20–21.VI.1996; Tratau 15.VI.2001; Verbljushka 17–19.VI.1999, 27–29.VII.2000; Zesnokovka 09.VI.2001. Rather common.

Pyrrhia exprimens (Walker, 1857): Ekaterinburg Biol. St. 21.VI.1998 1♀; Miass 27.VI.1997 1♂, 28.VI.1997 1♀, 01–16.VII.1999 1♀; Moskovo 10.VII.1997 1♂. Very rare.

Chazaria incarnata (Freyer, 1838): Arkaim 14–19.VI.1996; Chalk Hills 03–07.VI.1998, 31.VII.2000, 10–11.VI.2001; Kizilskoye 26.VII.2000; Novoiletzk 09.VI.1998; Sakmara river 20–21.VI.1996; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998; Zesnokovka 09.VI.2001. Rare.

Aedophron rhodites (Eversmann, 1851): Chalk Hills 21–23.VI.1999; Verbljushka 12.VI.1998, 17–19.VI.1999. A total of about 20 ex. Rare, local. Remark. The species occurs on chalk slopes.

Hadenidae

Acosmetia caliginosa (Hübner, 1813): Verbljushka 30.V–02.VI.1998 2♂, 10–12.VI.1998 1♂. Rare.

Caradrina morpheus (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Chalk Hills 10–11.VI.2001; Ekaterinburg 25–28.VI.2001; Ekaterinburg Biol. St. 21.VI.1998; Iremel 23–27.VI.1996; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 29.V.2001, 18–24.VI.2001; Moskovo 10.VII.1997; Suleimanovo 14.VI.2001. Rather common.

Platyperigea montana (Bremer, 1861): Chalk Hills 31.VIII.2000; Ekaterinburg 27.VII.1998. Rare.

Platyperigea albina (Eversmann, 1848): Ajat river 24–25.VII.1998, 04–05.IX.2000; Bajmak 17.VI.1998; Burannoe 20.VI.1999, 29.VIII.2000, 12.VI.2001; Chalk Hills 03–07.VI.1998, 21–23.VI.1999, 30–31.VIII.2000, 10–11.VI.2001; Kidriasovo 28–29.V.1998; Kizilskoye 03.IX.2000; Kuvandyk 13–15.VI.1998, 02.IX.2000; Miass 21–25.VIII.2000; Moskovo 26.VIII.2000; Novoiletzk 09.VI.1998; Shkunovka 01.IX.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999; Zesnokovka 09.VI.2001. Common. Remark. The type locality of the species is S Urals.

Platyperigea grisea (Eversmann, 1848): Ekaterinburg 27.VII.1998 1♂; Miass 15.VII.1997 1 ex., 24–31.VII.1999 1♂. Very rare. (Fig. 18; genitalia: Figs 44, 44a). Remarks. The type locality of *P. grisea* is Urals. The species occurs in the forest steppe

region, often close to old conifer forests. However, one specimen was collected by light on a balcony in the center of Ekaterinburg city.

Platyperigea terrea (Freyer, 1840): Ajat river 25.VII.1998; Burannoe 29.VIII.2000; Kuvandyk 02.IX.2000; Kuvandyk II 03.VIII.2000; Miass 08–14.VIII.1999, 15–23.VIII.1999, 25.VII–04.VIII.2000, 05–15.VIII.2000, 26–30.VIII.2000; Sanarskii Bor 26.VII.1998; Verbljushka 15.VII.1998. Rather rare.

Paradrina selini (Boisduval, 1840): Chalk Hills 04.VI.1998 1♂. Very rare.

Paradrina clavipalpis (Scopoli, 1763): Arkaim 14.VI.1996; Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Kosmokovo 19.VI.2000; Kuvandyk 02.IX.2000; Miass 28.VI.1996, 21–25.VIII.2000, 30.V–17.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 28.VII.2000. Rather common.

Paradrina wulschlegeli (Püngeler, 1903): Kidriasovo 28.V.1998 1♀; Kizilskoye 27.V.1998 1♂. Genitalia slide: M. Fibiger prep. no. 3997. Very rare.

Eremodrina vicina (Staudinger, 1870): Shkunovka 01.IX.2000 8 ex. Rare, local.

Hoplodrina octogenaria (Goeze, 1781): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 28.VII.1998; Miass 26–29.VI.1997, 15.VII.1997, 22–23.VI.2001; Zirgan 24.VI.1999. Rather rare.

Hoplodrina blanda (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Bishtiryak 13.VII.1998; Kizilskoye 26.VII.2000; Miass 15.VII.1997, 05–15.VIII.2000; Moskovo 11.VII.1998; Uchaly 25.VII.2000; Verbljushka 29.VII.2000. Rather rare.

Hoplodrina superstes (Ochsenheimer, 1816): Verbljushka 27–29.VII.2000 15 ex. Rather rare, local.

Hoplodrina ambigua (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Moskovo 10.VII.1997, 18.VI.1998. Rather rare.

Atypha pulmonaris (Esper, 1790): Bishtiryak 13.VII.1998 1♀; Kizilskoye 26.VII.2000 1♀; Verbljushka 16.VII.1998 1♂. Rare.

Spodoptera exigua (Hübner, 1808): Arkaim 14–19.VI.1996 1 ex.; Chalk Hills 31.VII–01.VIII.2000 1 ex. Very rare, migrant.

Chilodes maritima (Tauscher, 1806): Ajat river 03–05.VII.1997. Rare.

Chilodes distracta (Eversmann, 1848): Kosmokovo 19.VI.2000 5♂. Very rare, local. Remark. The habitat of *C. distracta* is a waterside meadow where *Phragmites* is abundant.

Athetis furvula (Hübner, 1808): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Miass 26–29.VI.1997, 15.VII.1997; 01–16.VII.1999, 01–07.VIII.1999, 22–23.VI.2001; Moskovo 10.VII.1997, 11.VII.1998, 26.VIII.2000; Sanarskii Bor 26.VII.1998; Uchaly 25.VII.2000; Verbljushka 29.VII.2000. Rather common.

Athetis pallustris (Hübner, 1808): Arkaim 14–19.VI.1996; Kandrykul 30.V.2001; Kuvandyk 13–15.VI.1998; Miass 13.VI.1996, 26–29.VI.1997, 15–28.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Sakmara river 21.VI.1996; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 18.VI.1999. Rather common.

Proxenus lepigone (Möschler, 1860): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Burannoe 30.VII.2000; Chalk Hills 31.VII.2000; Verbljushka 17–19.VI.1999, 27–29.VII.2000. Rather common.

Dipterygia scabriuscula (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 29–30.VI.1999, 18–24.VI.2001. Rather common.

Rusina ferruginea (Esper, 1785): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Iremel 23–27.VI.1996; Miass 26–29.VI.1997, 29–30.VI.1999, 18–24.VI.2001; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Zirgan 24.VI.1999. Rather common.

Trachea atriplicis (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Burannoe 20.VI.1999, 12.VI.2001; Chalk Hills 10–11.VI.2001; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 15–27.VI.1999, 28.VI.1999, 20.VI.2001; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 18.VI.1999, 27.VII.2000; Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Rather common.

Euplexia lucipara (Linnaeus, 1758): Ekaterinburg 25–28.VI.2001; Iremel 23–27.VI.1996, 25–27.VI.1999, 16.VI.2001; Miass 26–29.VI.1997, 29–30.VI.1999, 18–24.VI.2001; Tratau 15.VI.2001. Rather common.

Hyppa rectilinea (Esper, 1788): Iremel 23–27.VI.1996, 25–27.VI.1999; Miass 26–29.VI.1997. Rather common.

Xylomoia graminea (Graeser, 1889): Ajat river 03–05.VII.1997; Berlin 30.VI–01.VII.1997; Ekaterinburg Biol. St. 21.VI.1998; Miass 26–29.VI.1997, 15–28.VI.1999, 20.VI.2001. A total of about 25 ex. Rare. (Fig. 19). Remark. The species occurs in wetland habitats with *Phragmites* as a dominant plant.

Xylomoia retinax Mikkola, 1998: Miass 28.VI.1997 1♀. Very rare. (Fig. 20). Distribution. E Siberia, Ural. Remarks. This specimen is included in the type series (Mikkola 1998), but erroneously stated as a male in the original description. New to Europe.

Actinotia polyodon (Clerck, 1759): Iremel 23–27.VI.1996, 25–27.VI.1999, 16.VI.2001; Miass 30.V–17.VI.2001, 18.VI.2001. Rare.

Actinotia radiosa (Esper, 1804): Kuvandyk 19.VII.1998 4♂; Miass 29.V.2001 1♂ 1♀. Very rare.

Eucarta amethystina (Hübner, 1803): Ekaterinburg Biol. St. 20.VI.1998 1♂; Miass 28.VI.1997 1♂, 15–28.VI.1999 2♂ 1♀, 01–11.VII.1999 1♂. Rather rare.

Eucarta virgo (Treitschke, 1835): Verbljushka 30.V–02.VI.1998 1♂, 18.VI.1999 1♂. Very rare.

Ipinorpha retusa (Linnaeus, 1761): Ajat river 05.IX.2000; Burannoe 30.VII.2000; Ekaterinburg 28.VII.1998; Miass 21–25.VIII.2000; Uchaly 25.VII.2000; Verbljushka 28–29.VII.2000. A total of 7 ex. Rather rare.

Ipinorpha subtusa (Denis & Schiffermüller, 1775): Ekaterinburg 28.VII.1998; Miass 25.VII–04.VIII.2000; Tavatui 28–29.VII.1998; Verbljushka 27–29.VII.2000. Rather rare.

Enargia paleacea (Esper, 1788): Ajat river 04–05.IX.2000; Burannoe 30.VII.2000, 29.VIII.2000; Ekaterinburg 27–28.VII.1998; Kizilskoye 26.VII.2000; Miass 24–31.VII.1999, 25.VII–04.VIII.2000, 16–20.VIII.2000; Moskovo 04.VIII.2000, 26.VIII.2000. Common.

Enargia abluta (Hübner, 1808): Burannoe 30.VII.2000; Verbljushka 16.VII.1998, 27–29.VII.2000. Rather common, local.

Parastichtis suspecta (Hübner, 1817): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 27–28.VII.1998; Miass 26–29.VI.1997, 15.VII.1997, 25.VII–04.VIII.2000; Verbljushka 27–28.VIII.2000. Common.

Mesogona acetosellae (Denis & Schiffermüller, 1775): Kuvandyk 02.IX.2000 15 ex.; Moskovo 26.VIII.2000 2 ex.; Verbljushka 27.VIII.2000 1 ex. Rather rare.

Mesogona oxalina (Hübner, 1803): Ajat river 04–05.IX.2000; Burannoe 29.VIII.2000; Miass 31.VIII–05.IX.2000; Verbljushka 27.VIII.2000. A total of about 30 ex. Rather common.

Cosmia diffinis (Linnaeus, 1767): Bishtiryak 13.VII.1998; Kuvandyk 19.VII.1998; Verbljushka 14–16.VII.1998, 27–29.VII.2000. Locally very common.

Cosmia affinis (Linnaeus, 1767): Ajat river 24–25.VII.1998; Arkaim 22–23.VII.1998; Bishtiryak 13.VII.1998; Kizilskoye 26.VII.2000; Miass 25.VII–04.VIII.2000, 05–15.VIII.2000; Verbljushka 14–16.VII.1998, 27–29.VII.2000. Rather rare.

Cosmia pyralina (Denis & Schiffermüller, 1775): Miass 29–30.VI.1999 1 ex.; Verbljushka 16.VII.1998 1♂. Rare.

Cosmia trapezina (Linnaeus, 1758): Ekaterinburg 28.VII.1998; Kizilskoye 26.VII.2000; Kuvandyk 02.VIII.2000; Miass 25.VII–04.VIII.2000; Verbljushka 14–16.VII.1998. Rather common.

Xanthia togata (Esper, 1788): Miass 21–25.VIII.2000, 26–30.VIII.2000, 31.VIII–05.IX.2000, 06.IX.2000. Rather common.

Xanthia ictertia (Hufnagel, 1766): Ajat river 04–05.IX.2000; Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Kuvandyk 02.IX.2000; Miass 21–25.VIII.2000, 26–30.VIII.2000, 31.VIII–05.IX.2000, 06.IX.2000; Verbljushka 27–28.VIII.2000. Common.

Xanthia ocellaris (Borkhausen, 1792): Ajat river 04–05.IX.2000; Kuvandyk 02.IX.2000; Miass 06.IX.2000; Verbljushka 27–28.VIII.2000. A total of 12 ex. Rather rare.

Xanthia citrigo (Linnaeus, 1758): Miass 21–25.VIII.2000; Verbljushka 27.VIII.2000. Rather rare, local.

Agrochola circellaris (Hufnagel, 1766): Miass 26–30.VIII.2000, 31.VIII–05.IX.2000, 06.IX.2000; Verbljushka 27–28.VIII.2000. Common.

Agrochola lota (Clerck, 1759): Ajat river 04.IX.2000 2♂. Rare.

Agrochola helvola (Linnaeus, 1758): Miass 26–30.VIII.2000, 31.VIII–05.IX.2000, 06.IX.2000. Rather common.

Eupsilia transversa (Hufnagel, 1766): Miass 11.V.1999, 18–20.V.1999. Rather common.

Conistra vaccinii (Linnaeus, 1761): Kuvandyk 02.IX.2000; Miass 25.V.1998, 11.V.1999, 18–20.V.1999; Verbljushka 12–14.V.1999, 28.VIII.2000. Very common.

Conistra rubiginea (Denis & Schiffermüller, 1775): Miass 25.V.1998 11.V.1999, 18–20.V.1999. Common.

Orbona fragariae (Vieweg, 1790): Miass 06.IX.2000 1♀. Very rare.

Episema glaucina (Esper, 1789): Burannoe 29.VIII.2000 1♂; Chalk Hills 30.VIII.2000 2♂ 2♀, 31.VIII.2000 4♂ 1♀; Shkunovka 01.IX.2000 1♂ 1♀. Rare.

Episema tersa (Denis & Schiffermüller, 1775): Burannoe 29.VIII.2000 2♂; Kuvandyk 02.IX.2000 3♂; Verbljushka 27.VIII.2000 2♂, 28.VIII.2000 1♂. Very rare.

Lencochlaena fallax (Staudinger, 1870): Chalk Hills 30–31.VIII.2000 6♂ 3♀; Shkunovka 01.IX.2000 2♂; Verbljushka 27–28.VIII.2000 2♂ 1♀. Very rare.

Dasyptilia templi (Thunberg, 1792): Miass 06.IX.2000; Moskovo 26.VIII.2000. Rather common.

Brachyloimia viminalis (Fabricius, 1776): Bishtiryak 13.VII.1998 1♂; Moskovo 10.VII.1997 1♂. Very rare.

Brachyloimia uralensis (Warren, 1910): Ajat river 04–05.IX.2000 65♂♂ 1♀. Rather common, very local. Remarks. The type locality of *B. uralensis* is Urals. The habitat is a steep slope with wetlands on the riverside.

Lithomoia solidaginis (Hübner, 1803): Miass 21–25.VIII.2000, 31.VIII–05.IX.2000, 06.IX.2000. Rather common.

Lithophane socia (Hufnagel, 1766): Ajat 04–05.IX.2000; Kandrykul 30.V.2001; Miass 13.VI.1996, 25.V.1998, 11.V.1999, 18–20.V.1999, 31.VIII–05.IX.2000; Moskovo 26.VIII.2000. Common.

Lithophane furcifera (Hufnagel, 1766): Burannoe 29.VIII.2000 2♂; Kuvandyk 02.IX.2000 4 ex. Rather rare.

Lithophane consocia (Borkhausen, 1792): Kuvandyk 02.IX.2000; Miass 25.V.1998, 11.V.1999, 18–20.V.1999, 31.VIII–05.IX.2000, 06.IX.2000; Moskovo 26.VIII.2000. Common.

Xylena vetusta (Hübner, 1813): Ajat river 04–05.IX.2000; Miass VI.1996 (larva); Moskovo 26.VIII.2000. Rather common.

Xylena exsoleta (Linnaeus, 1758): Arkaim ex larva 1996 1♂ (larva 16.VI.1996); Berlin 30.VI–02.VII.1997 (larva); Miass 26–29.VI.1997 (larva). Rather rare.

Allophytes oxyacanthae (Linnaeus, 1758): Ajat river 04–05.IX.2000; Miass 31.VIII–05.IX.2000, 06.IX.2000. Common.

Antitype chi (Linnaeus, 1758): Miass 05–15.VIII.2000, 21–25.VIII.2000, 26–30.VIII.2000. Rather rare.

Ammonoconia caecimacnla (Denis & Schiffermüller, 1775): Ajat river 04–05.IX.2000; Kizilskoye 03.IX.2000 1♂; Miass 21–25.VIII.2000, 31.VIII–05.IX.2000, 06.IX.2000; Moskovo 26.VIII.2000. Common.

Blepharita satnra (Denis & Schiffermüller, 1775): Miass 21–25.VIII.2000, 26–30.VIII.2000, 31.VIII–05.IX.2000, 06.IX.2000; Moskovo 26.VIII.2000; Verbljushka 27–28.VIII.2000. Common.

Blepharita amica (Treitschke, 1825): Miass 26–30.VIII.2000, 31.VIII–05.IX.2000, 06.IX.2000. Rather common.

Mniotype adnsta (Esper, 1790): Miass 29.V.2001 3 ex. Rare.

Mniotype bathensis (Lutzu, 1901): Ekaterinburg 26.VI.2001; Miass 13.VI.1996; Iremel 23–27.VI.1996, 11–14.VII.1997, 17.VI.2001, 29.V.2001, 30.V–17.VI.2001, 22–23.VI.2001; Kosmokovo 19.VI.2000; Nurgush 23.VI.2001. Rather rare.

Apamea monoglypha (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 28.VII.1998; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997; Moskovo 10.VII.1997; Uchaly 25.VII.2000. Common.

Apamea crenata (Hufnagel, 1766): Iremel 23–27.VI.1996; Kuvandyk 13–15.VI.1998; Miass 19.VI.1998, 29–30.VI.1999, 29.V.2001, 18–24.VI.2001. Common.

Apamea lateritia (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000; Ekaterinburg 27–28.VII.1998; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998, 02.VIII.2000; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 29–30.VI.1999, 25.VII–04.VIII.2000; Moskovo 04.VIII.2000; Uchaly 25.VII.2000; Verbljushka 14–16.VII.1998, 27–29.VII.2000. Common.

Apamea furva (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 22–23.VII.1998; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Miass 26–29.VI.1997, 15.VII.1997; Moskovo 10.VII.1997, 04.VIII.2000; Verbljushka 14–16.VII.1998. Rather common.

Apamea rubrivena (Treitschke, 1825): Iremel 23–27.VI.1996, 11–14.VII.1997; Miass 26–29.VI.1997, 15.VII.1997; Moskovo 10.VII.1997. Rare.

Apamea oblonga (Haworth, 1809): Ajat river 03–05.VII.1997, 25.VII.1998, 04–05.IX.2000; Arkaim 23.VII.1998; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000; Kizilskoye 26.VII.2000; Moskovo 10.VII.1997; Verbljushka 27.VII.2000. A total of about 20 ex. Rather rare.

Apamea remissa (Hübner, 1809): Miass 20–21.VI.2001 2 ex. Rare.

- Apamea unanimitis* (Hübner, 1813): Verbljushka 17.VI.1999 2♀. Very rare.
- Apamea illyria* Freyer, 1846: Iremel 23–27.VI.1996, 25–27.VI.1999, 17.VI.2001; Miass 29–30.VI.1999, 29.V.2001; Nurgush 23.VI.2001. Rather rare.
- Apamea leucodon* (Eversmann, 1837): Chalk Hills 03–07.VI.1998, 10–11.VI.2001; Kidriasovo 28–29.V.1998; Verbljushka 30.V–02.VI.1998. Rare.
- Apamea anceps* (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998, 10–11.VI.2001; Moskovo 22.VI.1996, 10.VII.1997; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998; Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Rather common.
- Apamea sordens* (Hufnagel, 1766): Arkaim 14–19.VI.1996; Chalk Hills 10–11.VI.2001; Ekaterinburg 25–28.VI.2001; Iremel 23–27.VI.1996, 16–17.VI.2001; Kandrykul 30.V.2001; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 29–30.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 22.VI.1996; Verbljushka 10–12.VI.1998; Zesnokovka 09.VI.2001. Common.
- Apamea ferrago* (Eversmann, 1837): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Bishiryak 13.VII.1998; Burannoe 20.VI.1999; Chalk Hills 17–18.VII.1998, 31.VII.2000; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998, 02.VIII.2000; Kuvandyk II 03.VIII.2000; Miass 26–29.VI.1997; Moskovo 11–13.VII.1998, 04.VIII.2000; Uchaly 25.VII.2000; Verbljushka 14–16.VII.1998, 27–28.VII.2000. Rather common.
- Apamea scolopacina* (Esper, 1788): Ekaterinburg 28.VII.1998 1 ex. Very rare.
- Apamea ophiogramma* (Esper, 1794): Berlin 30.VI–02.VII.1997 1 ex. Very rare.
- Eremobina pabulatricula* (Brahm, 1791): Bishiryak 13.VII.1998; Kuvandyk 02.VIII.2000; Kuvandyk II 03.VIII.2000; Miass 01–07.VIII.1999, 06.IX.2000; Sanarskii Bor 26.VII.1998; Verbljushka 15.VII.1998. Rather rare.
- Oligia strigilis* (Linnaeus, 1758): Ekaterinburg 28.VI.2001; Iremel 23–27.VI.1996; Miass 19.VI.1998, 29–30.VI.1999, 22–23.VI.2001; Sakmara river 20–21.VI.1996; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998, 14–16.VII.1998; Zirgan 24.VI.1999. Genitalia slide: M. Fibiger prep. no. 4182. Rather common.
- Oligia latruncula* (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Iremel 23–27.VI.1996; Kuvandyk 19–21.VII.1998; Miass 28.VI.1996, 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 18–24.VI.2001; Moskovo 10.VII.1997; Sakmara river 20–21.VI.1996. Genitalia slide: M. Fibiger prep. no. 4179, 4180. Common. Remark. In the Urals occurs ssp. *erewani* Reser.
- Mesoligia furuncula* (Denis & Schiffermüller, 1775): Miass 01–16.VII.1999, 25.VII–04.VIII.2000. Rather rare.
- Mesoligia literosa* (Haworth, 1809): Miass 26–29.VI.1997, 15.VII.1997, 29–30.VI.1999; Uchaly 25.VII.2000. Rather common.
- Mesapamea secalis* (Linnaeus, 1758): Miass 28.VI.1996; Moskovo 11–13.VII.1998; Suleimanovo 14.VI.2001. Genitalia slide: M. Fibiger prep. no. 4002. Rare.
- Mesapamea hedeni* (Graeser, 1888): Ajat river 03–05.VII.1997, 24–25.VII.1998, 04–05.IX.2000; Arkaim 14–19.VI.1996, 22–23.VII.1998; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999, 30.VII.2000, 12.VI.2001; Chalk Hills 30.VIII.2000; Iremel 11–14.VII.1997; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Miass 28.VI.1997, 19.VI.1998, 15–28.VI.1999, 01–16.VII.1999, 30.V–17.VI.2001, 21–23.VI.2001; Moskovo 22.VI.1996, 10.VII.1997; Tavatui 29.VII.1998; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 28–29.VII.2000. Common. Remark. The species was recently reported as new to Europe (Anikin *et. al.* 2000a).

Luperina zollikoferi (Freyer, 1836): Ajat river 03.VII.1997 1♂, 04.VII.1997 2♂, 04.IX.2000 2♀, 05.IX.2000 3♂ 6♀. Very rare, local. Remarks. The habitat is a steep slope with wetlands on the riverside, surrounded by a large *Artemisia* steppe. The moth comes to artificial light. Usually it does not come to the lamp but stays sitting on warm rocks far (>10 m) from the lamp, where it is rather easy to find it by a flashlight. The taxon might have a summer diapause, as we did not record any specimens in the locality at the end of July, despite very good weather conditions.

Rhizedra Intosa (Hübner, 1803): Ajat river 04–05.IX.2000; Kizilskoye 03.IX.2000; Kuvandyk 02.IX.2000; Miass 31.VIII–05.IX.2000. Rather rare.

Sidemia spilogramma (Rambur, 1871): Ajat river 05.IX.2000 2♂; Kuvandyk 02.IX.2000 1♂. Very rare. (Fig. 21).

Ecolemia misella (Püngeler, 1907): Chalk Hills 31.VIII.2000 1♂. Genitalia slide: M. Fibiger prep. no. 3808. Very rare. (Fig. 22). Distribution. Caucasus, E Turkey eastwards to C Asia. Remark. New to Europe and Russia.

Pseudohadena immunda (Eversmann, 1842): Ajat river 03–05.VII.1997; Arkaim 15.VI.1999; Bajmak 17.VI.1998; Burannoe 12.VI.2001; Chalk Hills 03–07.VI.1998, 30.VIII.2000, 10–11.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997; Miass 21.VI.2001; Moskovo 10.VII.1997. Locally common. Remark. The species is abundant on rocky slopes in the mountain tundra region and rather rare in lowland steppes.

Pseudohadena stenoptera Boursin, 1970: Chalk Hills 21–22.VI.1999 4♀, 30–31.VIII.2000 common, 10–11.VI.2001 common. Very local. (Fig. 23). Distribution. North of Caspian Sea (Astrahan region) eastwards to C Asia. Remarks. *P. stenoptera* occurs on chalk slopes. The moth is active at night but practically does not react to artificial light at all. The moth is sitting on vertical chalk walls after dark and it is possible to find it by a flashlight (see also Remarks of *Autophila chamaephanes* above). During daylight it is hiding under the rocks. The taxon seems to have a summer diapause, as we did not record any specimens in the locality at the middle part of the summer. New to Europe.

Amphipoea ocullea (Linnaeus, 1761): Ajat river 04–05.IX.2000; Ekaterinburg 28.VII.1998 1♂; Miass 16–20.VIII.2000, 21–25.VIII.2000, 06.IX.2000. Rather rare.

Amphipoea fucosa (Freyer, 1830): Ekaterinburg 27–28.VII.1998; Miass 15.VII.1997, 24–31.VII.1999, 16–20.VIII.2000, 21–25.VIII.2000, 26–30.VIII.2000; Moskovo 04.VIII.2000, 26.VIII.2000; Uchaly 25.VII.2000; Verbljushka 27–29.VII.2000. Rather common.

Amphipoea lucens (Freyer, 1845): Miass 25.VII–04.VIII.2000 1♂. Rare.

Hydraecia micacea (Esper, 1789): Miass 24–31.VII.1999, 25.VII–04.IX.2000, 05–15.VIII.2000. Rather common.

Hydraecia ultima Holst, 1965: Kizilskoye 26.VII.2000 1♀; Miass 25.VII–04.VIII.2000 1♂; Tavatui 29.VII.1998 1♀; Uchaly 25.VII.2000 1♀. Very rare.

Hydraecia nordstroemi Horke, 1952: Ajat river 25.VII.1998 2♂, 04–05.IX.2000 25♂ 1♀; Miass 05–15.VIII.2000, 16–20.VIII.2000; Moskovo 26.VIII.2000 1♂. Rather rare, local.

Hydraecia osseola (Staudinger, 1882): Burannoe 29.VIII.2000 1♂. Very rare.

Gortyna flavago (Denis & Schiffermüller, 1775): Ajat river 05.IX.2000 2 ex.; Burannoe 29.VIII.2000 1 ex.; Miass 21–25.VIII.2000 1 ex. Rather rare.

Gortyna cervago Eversmann, 1844: Ajat river 04.IX.2000 2♂, 05.IX.2000 1♂; Moskovo 26.VIII.2000 2♂ 1♀. Very rare. Remarks. The type locality of *G. cervago* is Urals. The specimens were collected by artificial light on steppe slopes located close to wet meadows.

Calamia tridens (Hufnagel, 1766): Ajat river 05.VII.1997; Burannoe 30.VII.2000; Chalk Hills 31.VII–01.VIII.2000; Kizilskoye 26.VII.2000; Kuvandyk 02.VIII.2000, 02.IX.2000; Moskovko 04.VIII.2000, 26.VIII.2000; Uchaly 25.VII.2000; Verbljushka 27–29.VII.2000. Rather common.

Staurophora celsia (Linnaeus, 1758): Miass 21–25.VIII.2000, 31.VIII–05.IX.2000; Moskovko 26.VIII.2000. Rather rare.

Celaena haworthii (Curtis, 1829): Ajat river 25.VII.1998 1♂; Burannoe 30.VII.2000 1♂, 29.VIII.2000 1♂. Rare.

Celaena leucostigma (Hübner, 1808): Ajat river 04–05.IX.2000; Burannoe 30.VII.2000; Ekaterinburg 27–28.VII.1998; Miass 25.VII–04.VIII.2000, 05–15.VIII.2000; Uchaly 25.VII.2000. Rather rare.

Nonagria typhae (Thunberg, 1784): Ajat river 24–25.VII.1998, 04–05.IX.2000; Burannoe 30.VII.2000, 29.VIII.2000; Miass 05–15.VIII.2000. Rather rare.

Archanaara dissoluta (Treitschke, 1825): Sanarskii Bor 26.VII.1998 1♀; Verbljushka 14.VII.1998 1♀. Very rare.

Archanaara sparganii (Esper, 1790): Arkaim 23.VII.1998 1♀; Burannoe 30.VII.2000 1♂ 1♀. Rather rare.

Chortodes extrema (Hübner, 1809): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999; Chalk Hills 21–23.VI.1999. Rather common.

Chortodes fluxa (Hübner, 1809): Berlin 30.VI–02.VII.1997; Miass 01–16.VII.1999, 25.VII–04.VIII.2000; Uchaly 25.VII.2000. Rare.

Chortodes stigmatica (Eversmann, 1855): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Ekaterinburg Biol. St. 21.VI.1998; Sanarskii Bor 26.VII.1998; Verbljushka 28.VII.2000. Rare. Remark. The type locality of the species is Urals, E Siberia and Irkutsk.

Argyrospila succinea (Esper, 1798): Berlin 30.VI–02.VII.1997; Chalk Hills 21–23.VI.1999; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Moskovko 10.VII.1997, 18.VI.1998, 11–13.VII.1998; Verbljushka 17–19.VI.1999. Rather rare.

Hadula colletti (Sparre-Schneider, 1876): Moskovko 26.V.1998 16♂ 1♀. Very rare. Remarks. New to the European part of Russia. The report of *D. furca* (Eversmann) from Saratov district (Anikin *et. al.* 2000a) probably concerns this species.

Hadula trifolii (Hufnagel, 1766): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 14–19.VI.1996, 07–10.VII.1997, 15.VI.1999; Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999, 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 21–23.VI.1999, 30.VIII.2000, 10–11.VI.2001; Ekaterinburg 27–28.VII.1998; Kandrykul 30.V.2001; Kidriasovo 28.V.1998; Kizilskoye 27.V.1998, 26.VII.2000; Kuvandyk 02.VIII.2000, 02.IX.2000; Miass 26–29.VI.1997, 15.VII.1997, 19.VI.1998, VII.1999; Moskovko 10.VII.1997, 18.VI.1998, 11–13.VII.1998, 26.VIII.2000; Sakmara river 20–21.VI.1996; Shkunovka 01.IX.2000; Uchaly 25.VII.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 12–14.V.1999, 17–19.VI.1999, 27–29.VII.2000; Zesnokovka 09.VI.2001. Very common.

Hadula nupponenorum Hacker & Fibiger, 2002: Chalk Hills 06.VI.1998 1♀. Gen. Prep. Hacker 1919. Very rare, local. Remarks. This specimen is the holotype. For further information, see Noctuidae Europaeae, vol. 4 (2002).

Hadula dianthi (Tauscher, 1809): Arkaim 22.VII.2000; Burannoe 30.VII.2000, 29.VIII.2000; Chalk Hills 03–07.VI.1998, 17.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 30.VIII.2000, 11.VI.2001; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Kuvandyk 13–15.VI.1998, 19.VII.1998; Miass 18–20.V.1999; Moskovko *Phegea* 30 (4) (1.XII.2002): 154

26.V.1998; Shkunovka 01.IX.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 12–14.V.1999, 17–19.VI.1999, 27–28.VII.2000. Common.

Hadula stigmosa (Christoph, 1887): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI.1997; Burannoe 30.VII.2000; Chalk Hills 03–07.VI.1998; Kizilskoye 27.V.1998; Novoiletzk 09.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Genitalia slide: M. Fibiger prep. no. 4210. Rare.

Lacanobia w-latinum (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Chalk Hills 21–23.VI.1999, 10–11.VI.2001; Iremel 23–27.VI.1996; Kandrykul 30.V.2001; Kidriasovo 28.V.1998, 16.VI.1999; Kizilskoye 27.V.1998; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 29–30.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 18.VI.1998; Sakmara river 20–21.VI.1996; Suleimanovo I4.VI.2001; Tratau I5.VI.2001; Verbljushka 17–19.VI.1999; Zirgan 24.VI.1999. Rather common.

Lacanobia aliena (Hübner, 1808): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Burannoe I2.VI.2001; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 29–30.VI.1999, 29.V.2001, 30.V–17.VI.2001; Moskovo 22.VI.1996; Sakmara river 20–21.VI.1996; Suleimanovo I4.VI.2001; Tratau I5.VI.2001; Verbljushka 18.VI.1999. Rather rare.

Lacanobia splendens (Hübner, 1808): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Tratau I5.VI.2001. Rare.

Lacanobia blenna (Hübner, 1824): Arkaim 09.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000; Chalk Hills 03–07.VI.1998, 31.VII.2000, 11.VI.2001; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Kuvandyk 13–15.VI.1998, 20.VII.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 27–29.VII.2000. A total of about 25 ex. Rare.

Lacanobia oleracea (Linnaeus, 1758): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Ekaterinburg 25–27.VI.2001; Kandrykul 30.V.2001; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 21–25.VIII.2000, 30.V–17.VI.2001; Suleimanovo I4.VI.2001. Rather common.

Lacanobia thalassina (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Chalk Hills 10–11.VI.2001; Ekaterinburg 28.VII.1998, 25–28.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997, 25–27.VI.1999; Kizilskoye 27.V.1998; Kuvandyk I3–I5.VI.1998; Miass 26–29.VI.1997, 25.V.1998, 19.VI.1998, 29–30.VI.1999, 30.V–17.VI.2001; Moskovo 10.VII.1997, 18.VI.1998; Suleimanovo I4.VI.2001; Tratau I5.VI.2001; Verbljushka I7–I9.VI.1999, 27.VIII.2000; Zirgan 24.VI.1999. Common.

Lacanobia contigua (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 25–28.VI.2001; Iremel 23–27.VI.1996; Miass I3.VI.1996, 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 29–30.VI.1999, 30.V–I7.VI.2001; Moskovo I0.VII.1997, 18.VI.1998; Tratau I5.VI.2001; Verbljushka I0–I2.VI.1998. Common.

Lacanobia suasa (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 31.VII.2000, 30–31.VIII.2000; Ekaterinburg 27–28.VII.1998, 25–28.VI.2001; Kizilskoye 27.V.1998, 26.VII.2000, 03.IX.2000; Kuvandyk 02.VIII.2000, 02.IX.2000; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 21–25.VIII.2000, 30.V–17.VI.2001; Moskovo 26.V.1998, 18.VI.1998, 04.VIII.2000; Shkunovka 01.IX.2000; Verbljushka 17–19.VI.1999, 27–29.VII.2000; Zirgan 24.VI.1999. Common.

Hada plebeja (Linnaeus, 1761): Bajmak 17.VI.1998; Ekaterinburg 25–28.VI.2001; Iremel 11–14.VII.1997, 25–27.VI.1999, 16–17.VI.2001; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 29–30.VI.1999, 19–21.VI.2001; Moskovo 22.VI.1996, 18.VI.1998. Rather common.

Aetheria dysodea (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997, 24–25.VII.1998, 04–05.IX.2000; Arkaim 14–19.VI.1996, 07–10.VII.1997, 22–23.VII.1998; Burannoe 20.VI.1999; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 31.VII–01.VIII.2000, 30–31.VIII.2000; Miass 22–23.VI.2001; Moskovo 10.VII.1997; Sakmara river 20–21.VI.1996; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 27–29.VII.2000. Common.

Aetheria bicolorata (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Chalk Hills 10–11.VI.2001; Kandrykul 30.V.2001; Kizilskoye 26.VII.2000; Miass 29–30.VI.1999, 21–25.VIII.2000; Moskovo 22.VI.1996; Verbljushka 27.VII.2000; Zesnokovka 09.VI.2001. Rather common.

Aetheria cappa (Hübner, 1809): Chalk Hills 30–31.VIII.2000 9♂, 10.VI.2001 2♂; Verbljushka 29.VII.2000 1♂, 27.VIII.2000 1♀. Rare.

Hadena cypsincola (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999; Kidriasovo 28–29.V.1998; Miass 26–29.VI.1997, 15–28.VI.1999, 30.V–17.VI.2001; Moskovo 26.VIII.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 16.VII.1998. Common.

Hadena literata (Fischer von Waldheim, 1840): Arkaim 14–19.VI.1996; Chalk Hills 03–07.VI.1998; Kidriasovo 28–29.V.1998; Kuvandyk 13–15.VI.1998; Moskovo 26.V.1998; Verbljushka 30.V–02.VI.1998. Rare.

Hadena luteago (Denis & Schiffermüller, 1775): Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998, 10–11.VI.2001; Kandrykul 30.V.2001; Kidriasovo 28–29.V.1998; Kuvandyk 13–15.VI.1998; Kosmokovo 19.VI.2000; Kuvandyk II 16.VI.1998; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 30.V–17.VI.2001; Moskovo 22.VI.1996; Suleimanovo 14.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17–19.VI.1999; Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Common.

Hadena picturata (Alphéraky, 1882): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 07–10.VII.1997, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999; Chalk Hills 03–07.VI.1998, 17–18.VII.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 29.VII.2000. A total of about 30 ex. Rare.

Hadena compta (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 22–23.VII.1998; Chalk Hills 31.VII–01.VIII.2000, 10–11.VI.2001; Miass 26–29.VI.1997, 19.VI.1998, 28.VI.1999, 25.VII–04.VIII.2000, 30.V–17.VI.2001; Moskovo 10.VII.1997; Verbljushka 27–29.VII.2000. Rather rare.

Hadena confusa (Hufnagel, 1766): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 14–19.VI.1996; Chalk Hills 10–11.VI.2001; Kidriasovo 28–29.V.1998; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 30.V–17.VI.2001; Uchaly 25.VII.2000; Verbljushka 16.VII.1998. Common.

Hadena albimacula (Borkhausen, 1792): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Chalk Hills 31.VII.2000, 10–11.VI.2001; Kidriasovo 29.V.1998; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Miass 13.VI.1996, 26–29.VI.1997, 29–30.VI.1999; Moskovo 10.VII.1997; Verbljushka 27.VII.2000. Rather common.

Hadena magnoli (Boisduval, 1829): Chalk Hills 21–23.VI.1999, 10.VI.2001; Kidriasovo 28–29.V.1998. Rather rare, local.

Hadena filigrana (Esper, 1788): Arkaim 14–19.VI.1996, 07–10.VII.1997; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998, 18.VII.1998, 21–23.VI.1999, 10–11.VI.2001; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 20.VII.1998; Miass 26–29.VI.1997, 22–23.VI.2001; Moskovo 10.VII.1997, 18.VI.1998, 11.VII.1998; Suleimanovo 14.VI.2001; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 17–19.VI.1999. Rather common.

Hadena rivularis (Fabricius, 1775): Arkaim 14–19.VI.1996; Ekaterinburg 25–28.VI.2001; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 15–28.VI.1999, 26–30.VIII.2000, 30.V–17.VI.2001; Moskovo 10.VII.1997; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Common.

Hadena perplexa (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 09.VII.1997, 23.VII.1998; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 21–23.VI.1999; Kuvandyk 13–15.VI.1998, 20.VII.1998; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 30.V–17.VI.2001; Moskovo 22.VI.1996, 18.VI.1998, 11–12.VII.1998; Suleimanovo 14.VI.2001; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998; Zirgan 24.VI.1999. Very common.

Hadena persinilis Hacker, 1996: Berlin 01.VII.1997; Chalk Hills 07.VI.1998, 21–23.VI.1999, 11.VI.2001; Kuvandyk 13–15.VI.1998, 19.VII.1998; Miass 26–29.VI.1997, 19.VI.1998, 15–27.VI.1999, 29.V.2001, 22–23.VI.2001; Moskovo 10.VII.1997, 18.VI.1998, 11–13.VII.1998; Verbljushka 10–12.VI.1998, 14.VII.1998; Zesnokovka 09.VI.2001. Rather rare.

Hadena christophi (Möschler, 1862): Ajat river 03–05.VII.1997, 24–25.VII.1998; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 10–11.VI.2001; Kidriasovo 28–29.V.1998; Kuvandyk 13–15.VI.1998; Moskovo 18.VI.1998; Verbljushka 30.V–02.VI.1998. A total of about 35 ex. Rare.

Hadena irregularis (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Bajmak 17.VI.1998; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 31.VII–01.VIII.2000, 10–11.VI.2001; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 30.V–17.VI.2001, 19–21.VI.2001; Moskovo 22.VI.1996; Novoil'tsk 09.VI.1998; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 27–29.VII.2000; Zirgan 24.VI.1999. Rather common.

Hadena laudeti (Boisduval, 1840): Chalk Hills 03–07.VI.1998 1♂, 10.VI.2001 1♂. Very rare.

Sideridis lampra (Schawerda, 1913): Arkaim 14–19.VI.1996, 07–10.VII.1997; Bajmak 17.VI.1998; Kizilskoye 27.V.1998, 26.VII.2000; Kuvandyk 13–15.VI.1998; Moskovo 22.VI.1996, 26.V.1998, 12.VII.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather rare.

Sideridis albicolon (Hübner, 1813): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997, 23.VII.1998, 15.VI.1999; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Chalk Hills 03–07.VI.1998, 21–22.VI.1999, 31.VII–01.VIII.2000, 10–11.VI.2001; Kandrykul 30.V.2001; Kizilskoye 27.V.1998, 26.VII.2000; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 19.VI.1998, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997, 18.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 13.V.1999, 17–19.VI.1999, 27–29.VII.2000; Zesnokovka 09.VI.2001. Common.

Sideridis egena (Lederer, 1853): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 15.VI.1996, 07–10.VII.1997; Chalk Hills 18.VII.1998, 21–23.VI.1999, 10.VI.2001;

Kuvandyk 13–15.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17.VI.1999. Rare.

Heliophobus reticulata (Goeze, 1781): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 10–11.VI.2001; Ekaterinburg Biol. St. 21.VI.1998; Kandrykul 30.V.2001; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19.VII.1998; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 19.VI.1998, 15–28.VI.1999, 01–16.VII.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovko 22.VI.1996, 10.VII.1997, 18.VI.1998; Sakmara river 20–21.VI.1996; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 17–19.VI.1999; Zirgan 24.VI.1999. Very common.

Heliophobus kitti (Schawerda, 1914): Miass 26.VI.1997 1♀, 30.V–17.VI.2001 1♀, 18.VI.2001 2♂, 22–23.VI.2001 1♀, 24.VI.2001 2♂. Very rare.

Conisania leineri (Freyer, 1836): Chalk Hills 03–07.VI.1998, 21–23.VI.1999, 10.VI.2001; Novoiletzka 09.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17.VI.1999. Rather rare.

Conisania arida nupponenorum Hacker & Fibiger, 2002: Ajat river 03–04.VII.1997; Arkaim 17.VI.1996 1♂, 07–10.VII.1997. A total of about 30 ex. Rare. Distribution. E Palaearctic; from W Siberia to Amur. Remarks. *C. arida* occurs in large lowland steppes. New to Europe. For further information, see Noctuidae Europaeae, vol. 4 (2002).

Saragossa siccanorum (Staudinger, 1870): Burannoe 30.VII.2000 1♂ 1♀; Chalk Hills 31.VII.2000 6♂ 1♀; Verbljushka 29.VII.2000 1♂. Very rare.

Saragossa porosa (Eversmann, 1854): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997, 22–23.VII.1998; Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999; Chalk Hills 03–07.VI.1998, 21–23.VI.1999; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17–19.VI.1999. Rather rare. Remark. The type locality of the species is SW Urals and Orenburg.

Saragossa uralica Hacker & Fibiger, 2002: Chalk Hills 03–07.VI.1998 7♂ 4♀, 10.VI.2001 1♂ 1♀, 11.VI.2001 1♂. Genitalia slides: Fibiger 4211(♂), Hacker 11916 (♂), 11918 (♂), 12627(♀). Very rare, local. Remarks. The type material; occasionally some of the specimens were not included in the type series. New to Europe. For further information, see Noctuidae Europaeae, vol. 4 (2002).

Melanchnra persicariae (Linnaeus, 1761): Ekaterinburg 26.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 29–30.VI.1999, 18–24.VI.2001; Moskovko 10.VII.1997; Tratau 15.VI.2001; Uchaly 25.VII.2000; Verbljushka 27–29.VII.2000; Zirgan 24.VI.1999. Rather common.

Melanchnra pisi (Linnaeus, 1758): Ekaterinburg 25–28.VI.2001; Iremel 23–27.VI.1996, 25–27.VI.1999, 16.VI.2001; Miass 26–29.VI.1997, 29–30.VI.1999, 29.V.2001, 30.V–17.VI.2001; Moskovko 10.VII.1997; Suleimanovo 14.VI.2001. Rather common.

Mamestra brassicae (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Burannoe 29.VIII.2000; Ekaterinburg 25–27.VI.2001; Kizilskoye 27.V.1998; Kuvandyk 13–15.VI.1998, 02.IX.2000; Miass 26–29.VI.1997, 29–30.VI.1999, 21–25.VIII.2000, 30.V–17.VI.2001; Moskovko 10.VII.1997, 12.VII.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 17–19.VI.1999, 27–29.VII.2000. Rather rare.

Papestra biren (Goeze, 1781): Iremel 23–27.VI.1996, 11–14.VII.1997; Miass 29.V.2001, 30.V–17.VI.2001, 24.VI.2001; Zirgan 24.VI.1999. Rather rare.

Polia bombycina (Hufnagel, 1766): Arkaim 14–19.VI.1996; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998; Miass 29–30.VI.1999, 25.VII–04.VIII.2000; Suleimanovo 14.VI.2001; Zirgan 24.VI.1999. Rather common.

Polia nebulosa (Hufnagel, 1766): Iremel 23–27.VI.1996, 11–14.VII.1997; Kuvandyk 13–15.VI.1998; Kuvandyk II 16.VI.1998; Miass 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999; Suleimanovo 14.VI.2001; Verbljushka 10–12.VI.1998, 27–29.VII.2000. Common.

Polia serratilinea Ochsenheimer, 1816: Bajmak 17.VI.1998; Chalk Hills 21–23.VI.1999; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998; Miass 19.VI.1998; Moskovko 22.VI.1996, 10.VII.1997, 18.VI.1998, 11–13.VII.1998; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 18.VI.1999, 27–29.VII.2000. Rather common.

Polia malchani (Draudt, 1934): Miass 13.VI.1996 3♂, 26–27.VI.1997 1♀, 19.VI.1998 1♀, 15–27.VI.1999 1♂, 29.V.2001 1♂, 30.V–17.VI.2001 1♂. Very rare. Distribution. E Palaearctic; W Siberia, Baikal region, Habarovsk region, Sakhalin. Remarks. The species occurs in the forest steppe region. New to Europe. For further information, see Noctuidae Europaeae, vol. 4 (2002).

Polia vespertilio (Draudt, 1934): Miass 27.VI.1997 2♂. Very rare. Distribution. E Palaearctic; W Siberia, Baikal region, Habarovsk region, Chukotka. Remarks. The species occurs in the forest steppe region. New to Europe. For further information, see Noctuidae Europaeae, vol. 4 (2002).

Polia altaica (Lederer, 1853): Bajmak 17.VI.1998; Iremel 13.VII.1997; Kizilskoye 26.VII.2000; Moskovko 10.VII.1997, 18.VI.1998, 11–13.VII.1998; Uchaly 25.VII.2000. A total of about 15 ex. Rare. Distribution. W Siberia, Altai, Baikal region. Remarks. New to Europe. For further information, see Noctuidae Europaeae, vol. 4 (2002).

Mythimna turca (Linnaeus, 1761): Bajmak 17.VI.1998; Ekaterinburg Biol. St. 20–21.VI.1998; Kosmokovo 19.VI.2000; Miass 26–29.VI.1997, 19.VI.1998, 01–16.VII.1999, 18–24.VI.2001. Rather rare.

Mythimna conigera (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Kizilskoye 26.VII.2000; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 01–16.VII.1999, 25.VII–04.VIII.2000; Moskovko 10.VII.1997, 04.VIII.2000; Uchaly 25.VII.2000; Verbljushka 27–29.VII.2000. Common.

Mythimna ferrago (Fabricius, 1787): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000; Chalk Hills 31.VII.2000; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998, 02.VIII.2000; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 01–16.VII.1999; Moskovko 10.VII.1997, 04.VIII.2000; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 27–29.VII.2000. Common.

Mythimna albipuncta (Denis & Schiffermüller, 1775): Ajat river 04.IX.2000; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 31.VII–01.VIII.2000, 10–11.VI.2001; Kandrykul 30.V.2001; Kizilskoye 03.IX.2000; Kuvandyk 02.IX.2000; Miass 26–29.VI.1997, 21–25.VIII.2000; Moskovko 12.VII.1998, 26.VIII.2000; Shkunovka 01.IX.2000; Tratau 15.VI.2001; Verbljushka 13.V.1999, 17–19.VI.1999, 27–28.VII.2000, 27.VIII.2000; Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Rather common.

Mythimna opaca (Staudinger, 1899): Arkaim 14–19.VI.1996; Miass 13.VI.1996; Moskovko 22.VI.1996, 26.V.1998. Rare, local. Distribution. W Siberia, Altai, Baikal region, Russian Far East. Remarks. *M. opaca* occurs in steppe slopes located close to wet meadows. The species has a very early flight period: it is the earliest *Mythimna*

species in the Urals together with *M. andereggii* (Boisd.). New to Europe. For further information, see Noctuidae Europaeae, vol. 4 (2002).

Mythimna vitellina (Hübner, 1808): Chalk Hills 07.VI.1998 1♂, 30.VIII.2000 1♂. Very rare, possibly migrant.

Mythimna pudorina (Denis & Schiffermüller, 1775): Ajat river 03.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Chalk Hills 23.VI.1999, 10.VI.2001; Miass 26–29.VI.1997, 29–30.VI.1999; Verbljushka 18.VI.1999. Locally rather common.

Mythimna straminea (Treitschke, 1825): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Miass 29–30.VI.1999. Rare.

Mythimna impura (Hübner, 1808): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 12.VI.2001; Chalk Hills 31.VII.2000, 30–31.VIII.2000, 10–11.VI.2001; Ekaterinburg 27–28.VII.1998; Kizilskoye 26.VII.2000; Miass 29–30.VI.1999; Moskovo 10.VII.1997; Shkunovka 01.IX.2000; Verbljushka 27–29.VII.2000. Common.

Mythimna pallens (Linnaeus, 1758): Ajat river 03–05.VII.1997, 04.IX.2000; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 29.VIII.2000, 12.VI.2001; Chalk Hills 03–07.VI.1998, 31.VII.2000, 30–31.VIII.2000, 10–11.VI.2001; Miass 29–30.VI.1999; Moskovo 10.VII.1997; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 18.VI.1999, 27–28.VIII.2000. Common.

Mythimna obsoleta (Hübner, 1803): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998; Miass 26–29.VI.1997; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather common.

Mythimna comma (Linnaeus, 1761): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Chalk Hills 21–23.VI.1999; Ekaterinburg 26.VI.2001; Iremel 16.VI.2001; Kidriasovo 28.V.1998; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998; Miass 13.VI.1996, 28.VI.1996, 19.VI.1998, 29–30.VI.1999, 22–23.VI.2001; Moskovo 22.VI.1996, 10.VII.1997, 18.VI.1998; Sakmara river 20–21.VI.1996; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998; Zirgan 24.VI.1999. Common.

Mythimna flammea (Curtis, 1828): Berlin 30.VI–02.VII.1997; Kosmokovo 19.VI.2000; Miass 26–29.VI.1997, 15–28.VI.1999; Verbljushka 10–12.VI.1998. Locally rather common.

Mythimna l-album (Linnaeus, 1767): Burannoe 29.VIII.2000, 12.VI.2001; Chalk Hills 30–31.VIII.2000, 10.VI.2001; Kuvandyk 02.IX.2000; Novoieltzk 09.VI.1998; Shkunovka 01.IX.2000; Verbljushka 17.VI.1999, 27–29.VII.2000. Rather common.

Mythimna velutina (Eversmann, 1846): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Kizilskoye 26.VII.2000; Moskovo 10.VII.1997, 11–13.VII.1998, Uchaly 25.VII.2000, Verbljushka 27–29.VII.2000. Locally common. Remark. The type locality of the species is Urals and Orenburg.

Mythimna deserticola (Bartel, 1903): Ajat river 03–05.VII.1997; Arkaim 15.VI.1996; Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999, 12.VI.2001; Chalk Hills 03–07.VI.1998, 21–23.VI.1999, 10–11.VI.2001; Kuvandyk 13–15.VI.1998; Novoieltzk 08–09.VI.1998; Verbljushka 10–12.VI.1998, 17–19.VI.1999. Rather common.

Mythimna andereggii (Boisduval, 1840): Arkaim 14–19.VI.1996; Chalk Hills 21–23.VI.1999, 11.VI.2001; Kandrykul 30.V.2001; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Moskovo 26.V.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 12–14.V.1999. Genitalia slide: M. Fibiger prep. no. 4171. Rather rare. Remarks. The taxon *M. lineata* (Eversmann, 1852), described from southern Urals, has been considered as a junior synonym of *M. andereggii* (Marton Hreblay pers. comm., see Noctuidae Europaeae, vol. 4 (2002)). The taxon occurring in S Ural is generally a superficially *Phegea* 30 (4) (1.XII.2002): 160

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constant species and quite different from the central European specimens of *M. andereggii*. However, we recorded 3 ex. in a single locality that externally resemble *C. andereggii* and are easy to separate from a typical taxon from Ural. Both types were collected simultaneously (Moskovo 26.V.1998) and no intermediate forms were recorded. The genitalia of both types are very similar to each other and no diagnostic characters between them were found. Further material is needed to make a final conclusion, but for the moment we agree with Hreblay's opinion that the taxon in S Urals is *M. andereggii*.

Mythinna alopecuri (Boisduval, 1840): Chalk Hills 31.VII.2000 1 ♂. Genitalia slide: M. Fibiger prep. no. 4169. Very rare. Remark. New to Russia.

Mythinna albiradiosa (Eversmann, 1852): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Kizilskoye 27.V.1998. A total of about 25 ex. Very rare.

Orthosia incerta (Hufnagel, 1766): Kizilskoye 27.V.1998; Miass 25.V.1998, 11.V.1999, 18–20.V.1999; Verbljushka 12–14.V.1999. Rather common.

Orthosia gothica (Linnaeus, 1758): Miass 25.V.1998, 11.V.1999, 18–20.V.1999; Verbljushka 12–14.V.1999. Common.

Orthosia opima (Hübner, 1809): Miass 25.V.1998, 11.V.1999, 18–20.V.1999. Common.

Orthosia populeti (Fabricius, 1775): Miass 25.V.1998. Common.

Orthosia cerasi (Fabricius, 1775): Miass 25.V.1998. Rather rare.

Orthosia gracilis (Denis & Schiffermüller, 1775): Arkaim 17.V.1999; Miass 25.V.1998, 11.V.1999, 18–20.V.1999. A total of 5 ex. Rare.

Orthosia munda (Denis & Schiffermüller, 1775): Verbljushka 12.V.1999 1 ♂. Rare.

Panolis flammea (Denis & Schiffermüller, 1775): Miass 13.VI.1996 1 ex. Rare.

Egira conspicularis (Linnaeus, 1758): Kidriasovo 28.V.1998; Kizilskoye 27.V.1998, 18.V.1999; Miass 25.V.1998, 11.V.1999, 18–20.V.1999; Moskovo 26.V.1998; Verbljushka 12–14.V.1999. Rather common.

Perigrapha circumducta (Lederer, 1855): Berlin 30.VI–02.VII.1997 (larva); Miass 11.V.1999, 18–20.V.1999; Verbljushka 12–14.V.1999. A total of about 15 ex. Rare. Remark. The species occurs in forest steppes.

Hyssia cavernosa (Eversmann, 1842): Ajat river 03–05.VII.1997, 24.VII.1998; Arkaim 07–10.VII.1997, 23.VII.1998; Berlin 30.VI–02.VII.1997; Burannoe 20.VI.1999; Chalk Hills 03.VI.1998, 18.VII.1998; Miass 30.V–17.VI.2001; Moskovo 22.VI.1996, 18.VI.1998; Verbljushka 14–16.VII.1998. A total of about 20 ex. Rare. Remark. The type locality of the species is Urals and Casan.

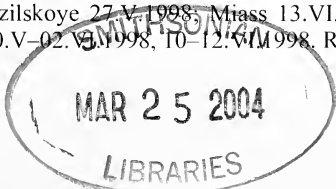
Cerapteryx graminis (Linnaeus, 1758): Miass 15.VII.1997 1 ♂ 1 ♀. Rather rare.

Tholera cespitis (Denis & Schiffermüller, 1775): Burannoe 29.VIII.2000; Kizilskoye 03.IX.2000 1 ♂; Kuvandyk 02.IX.2000; Miass 25.VII–04.VIII.2000, 21–25.VIII.2000, 31.VIII–05.IX.2000; Verbljushka 27–28.VIII.2000. Rather common.

Tholera decimalis (Poda, 1761): Burannoe 29.VIII.2000; Chalk Hills 31.VIII.2000; Miass 15–23.VIII.1999, 21–25.VIII.2000. Rather rare.

Tholera hilaris (Staudinger, 1901): Ajat river 04–05.IX.2000; Chalk Hills 30–31.VIII.2000; Kizilskoye 03.IX.2000; Kuvandyk 02.IX.2000; Shkunovka 01.IX.2000. A total of about 30 ex. Rare.

Pachetra sagittigera (Hufnagel, 1766): Iremel 23–27.VI.1996; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Miass 13.VI.1996, 29.V.2001; Moskovo 26.V.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather rare.



Eriopygodes imbecilla (Fabricius, 1794): Arkaim 14–19.VI.1996; Ekaterinburg 25–28.VI.2001; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 01–16.VII.1999; Sakmara river 20–21.VI.1996; Suleimanovo 14.VI.2001; Zesnokovka 09.VI.2001. Rather rare.

Eriopygodes impar (Staudinger, 1870): Arkaim 14–19.VI.1996; Chalk Hills 03–07.VI.1998; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Verbljushka 30.V–02.VI.1998. Rare. Remarks. Usually a very rare species, but occasionally it can be abundant: we recorded over 200 ex. during one night in Kidriasovo, 29.V.1998. There are 5 females in our material. As the male, the female is also active at night, but it does not fly much; the collected specimens were running on the ground towards the lamp.

Lasionycta proxima (Hübner, 1809): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997; Moskovo 10.VII.1997, 18.VI.1998, 11–13.VII.1998; Uchaly 25.VII.2000. Common.

Noctuidae

Axylia putris (Linnaeus, 1761): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Chalk Hills 30.VIII.2000, 10–11.VI.2001; Ekaterinburg 25–28.VI.2001; Kandykul 30.V.2001; Miass 28.VI.1996, 26–29.VI.1997, 15–28.VI.1999, 06.IX.2000, 19–21.VI.2001; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999; Zirgan 24.VI.1999. Rather common.

Ochropleura plecta (Linnaeus, 1761): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 25–28.VI.2001; Miass 26–29.VI.1997, 29–30.VI.1999, 21.VI.2001. Common.

Diarsia mendica (Fabricius, 1775): Iremel 23–27.VI.1996, 11–14.VII.1997; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997; Tratau 15.VI.2001. Rather common.

Diarsia dahliei (Hübner, 1813): Ekaterinburg 27–28.VII.1998; Miass 24–31.VII.1999, 25.VII–04.VIII.2000. Rather common.

Diarsia brunnea (Denis & Schiffermüller, 1775): Miass 28.VI.1996, 26–29.VI.1997, 01–16.VII.1999, 18–24.VI.2001. Rather common.

Diarsia rubi (Vieweg, 1790): Bajmak 17.VI.1998; Verbljushka, 10–12.VI.1998. Rather rare.

Noctua pronuba Linnaeus, 1758: Chalk Hills 30.VIII.2000 1 ex. Rare.

Noctua orbona (Hufnagel, 1766): Chalk Hills 03–07.VI.1998, 17–18.VII.1998; Kuvandyk 13–15.VI.1998, 19–21.VII.1998; Verbljushka 10–12.VI.1998, 14–16.VII.1998; Zirgan 24.VI.1999. Rather rare.

Noctua interposita (Hübner, 1790): Ajat river 03–05.VII.1997, 04–05.IX.2000; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 03–07.VI.1998, 30–31.VIII.2000, 10–11.VI.2001; Kizilskoye 26.VII.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998, 02.IX.2000; Miass 27.VI.1997, 01–16.VII.1999, 21–25.VIII.2000; Moskovo 22.VI.1996, 10.VII.1997, 18.VI.1998, 11–13.VII.1998, 04.VIII.2000, 26.VIII.2000; Shkunovka 01.IX.2000; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 18.VI.1999, 29.VII.2000, 27–28.VIII.2000. Common.

Chersotis andereggii (Boisduval, 1832): Moskovo 10.VII.1997 3♂, 11.VII.1998 3♂ 3♀, 04.VIII.2000 1♂. Very rare, local.

Chersotis transiens (Staudinger, 1897): Ajat river 24–25.VII.1998; Arkaim 22–23.VII.1998; Chalk Hills 17–18.VII.1998; Kizilskoye 26.VII.2000; Kuvandyk 19–21.VII.1998, 02.VIII.2000, 02.IX.2000; Moskovo 11–13.VII.1998, 04.VIII.2000, 26.VIII.2000; Sanarskii Bor 26.VII.1998; Uchaly 25.VII.2000; Verbljushka 14–

16.VII.1998, 29.VII.2000. Rather common. Remarks. According to the recent examination of large materials, *C. transiens* is a species complex and more than one of the taxa occur also in the Urals. The *C. transiens* species group is very difficult to identify correctly, and calls for further studies before a final conclusion can be made. However, we can already now publish that *Chersotis stridula* occurs in the Urals (see below).

Chersotis stridula (Hampson, 1903): S Ural VII.1998, VII.2000. Genitalia slides: M. Fibiger prep. no. 3868 (♂), 3965 (♀), 4032 (♂). Rare. Remarks. Type locality: C Asia. New to Europe. See Remarks of *C. transiens* above. The data and distribution of species belonging to the *C. transiens* complex will be published later in a separate paper (M. Fibiger *in prep.*).

Chersotis capnistis (Lederer, 1872): Chalk Hills 17–18.VII.1998; Kuvandyk 19–21.VII.1998; Verbljushka 14–16.VII.1998, 27.VII.2000. Rather rare, local.

Chersotis deplanata (Freyer, 1831): Miass 15.VII.1997, 08–14.VIII.1999, 15–23.VIII.1999, 25.VII–04.VIII.2000, 05–15.VIII.2000. A total of 12 ex. Rare. Remark. The type locality of the species is Urals.

Chersotis elegans (Eversmann, 1837): Chalk Hills 30.VIII.2000 3♂, 31.VIII.2000 1♂. Rare.

Chersotis cuprea (Denis & Schiffermüller, 1775): Miass 24–31.VII.1999, 25.VII–04.VIII.2000; Moskovko 04.VIII.2000. Rather rare.

Rhyacia simlans (Hufnagel, 1766): Bajmak 17.VI.1998; Chalk Hills 23.VI.1999; Kuvandyk 13–15.VI.1998; Verbljushka 10–12.VI.1998, 14–16.VII.1998, 17–19.VI.1999, 27.VIII.2000. Rather common.

Paradiarsia punicea (Hübner, 1803): Ekaterinburg 25–28.VI.2001; Ekaterinburg Biol. St. 20–21.VI.1998; Kuvandyk 13–15.VI.1998; Miass 28.VI.1996, 26–29.VI.1997, 29–30.VI.1999, 18–24.VI.2001; Nurgush 23.VI.2001. Rather rare.

Netrocerocora quadrangula (Eversmann, 1844): Arkaim 14–19.VI.1996, 07–10.VII.1997; Chalk Hills 03–07.VI.1998; Kidriasovo 28–29.V.1998; Kuvandyk 13–15.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather rare. Remarks. The type locality of *N. quadrangula* is Urals. There are 17 females in our material. They were collected by artificial light, 11 of them during one very warm night (Kuvandyk 13.VI.1998). The female usually comes to light just after dark. It is a rapid flyer and flies close to the ground over the low vegetation.

Enrois occulta (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Ekaterinburg 27–28.VII.1998; Kizilskoye 26.VII.2000; Miass 15.VII.1997, VII.1999, 25.VII–04.VIII.2000, 22–23.VI.2001; Moskovko 10.VII.1997; Nurgush 23.VI.2001; Verbljushka 27–29.VII.2000. Rather common.

Spaelotis ravida (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 07–10.VII.1997; Bajmak 17.VI.1998; Berlin 02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000, 12.VI.2001; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 31.VI–01.VIII.2000, 30–31.VIII.2000, 10–11.VI.2001; Ekaterinburg 27.VII.1998; Iremel 11–14.VII.1997; Kizilskoye 03.IX.2000; Kuvandyk 13–15.VI.1998, 19–21.VII.1998, 02.IX.2000; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 19.VI.1998, 29–30.VI.1999, 21–25.VIII.2000; Moskovko 10.VII.1997, 26.VIII.2000; Novoletzk 09.VI.1998; Shkunovka 01.IX.2000; Tavatui 28–29.VII.1998; Verbljushka 17–19.VI.1999, 27–29.VII.2000. Very common.

Spaelotis sneicia (Aurivillius, 1889): Ekaterinburg 27.VII.1998; Miass 26–29.VI.1997, 15.VII.1997, 19.VI.1998, 21–25.VIII.2000, 06.IX.2000. Rare.

Spaelotis deplorata (Staudinger, 1897): Verbljushka 10–12.VI.1998 1♂. Very rare. Remark. This record is the second one known from Europe.

Opigena polygona (Denis & Schiffermüller, 1775): Ajat river 24–25.VII.1998; Burannoe 29.VIII.2000; Bishtiryak 13.VII.1998; Kuvandyk 02.IX.2000; Moskovo 10.VII.1997, 04.VIII.2000; Miass 21–25.VIII.2000; Verbljushka 14–16.VII.1998, 27–29.VII.2000. Rather rare.

Graphiphora augur (Fabricius, 1775): Burannoe 12.VI.2001 1♂. Very rare.

Eugnorisma chaldaica (Boisduval, 1840): Chalk Hills 30–31.VIII.2000; Kizilskoye 03.IX.2000; Kuvandyk 02.IX.2000; Shkunovka 01.IX.2000; Verbljushka 27–28.VIII.2000. A total of about 45 ex. Genitalia slides: M. Fibiger prep. no. 4007, 4008. Rather rare.

Eugnorisma insignata (Lederer, 1853): Chalk Hills 30–31.VIII.2000; Kizilskoye 03.IX.2000; Kuvandyk 02.IX.2000; Verbljushka 27–28.VIII.2000. Rather common.

Eugnorisma depuncta (Linnaeus, 1761): Burannoe 29.VIII.2000 2♂; Verbljushka 28.VIII.2000 1♀. Rare.

Xestia wockei (Möschler, 1862): Iremel 23–27.VI.1996 (pupa). (Fig. 24). Distribution. Holarctic; in the Palaearctic region from Altai to NE Russia. Remarks. The pupa was found under a stone in the mountain tundra at an elevation of 1400 m. The specimen (male) emerged on 01.VII.1996. The report of the occurrence of *X. wockei* in Europe (Fibiger 1997) is based on this specimen. New to Europe.

Xestia speciosa (Hübner, 1813): Iremel 11–14.VII.1997. Common.

Xestia rhaetica (Staudinger, 1871): Iremel 12.VII.1997 1♂. Very rare.

Xestia borealis (Nordström, 1933): Iremel 13.VII.1997 1♂. Very rare. Distribution. Eurosiberian, boreal; from N Scandinavia to C Siberia. Remarks. A northern species having a restricted population in the Iremel Mountains, far from its northern distribution range. This record is the southernmost known.

Xestia sincera (Herrich-Schäffer, 1851): Iremel 11.VII.1997 1♂; Nurgush 23.VI.2001 2♂. Rare.

Xestia albuncula (Eversmann, 1851): Iremel 12.VII.1997 1♂, 13.VII.1997 3♂. Very rare. (Fig. 25). Distribution. Holarctic; in the Palaearctic region from Ural to Russian Far East and Magadan region. Remark. This is the second record from Europe and the southernmost one known (see Fibiger 1997).

Xestia atrata (Morrison, 1875): Iremel 12.VII.1997 1♂. Very rare. (Fig. 26). Remarks. New to the European part of Russia. A holarctic species; in the Palaearctic region known from E Siberia (westwards to Baikal area) and in two localities in N Scandinavia (Sweden, Finland). The habitat in the Urals is a boulder soil surrounded by a taiga forest. The moth flies after dark high on the tree tops, but it does not willingly come to artificial light or sugar ropes. The genitalia of the single male specimen has been studied (genitalia slide: M. Fibiger prep. no. 4208; Figs. 45, 45a). The shape of the valve is similar to that of *X. atrata filipjevi* Sheljuzhko, 1926, not to the Scandinavian ssp. *haraldi* Fibiger, 1997. However, the clasper is much longer and narrower than that of both ssp. *filipjevi* (the shortest) and ssp. *haraldi*. Examination of further specimens, preferably of both sexes, may tell to which subspecies the Ural population belongs.

Xestia c-nigrum (Linnaeus, 1758): Ajat river 03–05.VII.1997, 04–05.IX.2000; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 29.VIII.2000, 12.VI.2001; Chalk Hills 31.VII.2000, 30–31.VIII.2000, 10–11.VI.2001; Iremel 11–14.VII.1997; Kizilskoye 26.VII.2000, 03.IX.2000; Kuvandyk 02.IX.2000; Miass 28.VI.1996, 26–29.VI.1997, 19.VI.1998, 29–30.VI.1999, 21–25.VIII.2000; Moskovo 10.VII.1997, 11–13.VII.1998, 04.VIII.2000, 26.VIII.2000; Tratau 15.VI.2001; Verbljushka 27–29.VII.2000, 27–28.VIII.2000; Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Common.

Xestia ditrapezium (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 26.VI.2001; Iremel 11–*Phegea* 30 (4) (1.XII.2002): 164

14.VII.1997; Miass 28.VI.1996, 26–29.VI.1997, 19.VI.1998, 15–28.VI.1999, 30.V–17.VI.2001; Moskovo 10.VII.1997; Uchaly 25.VII.2000. Rather rare.

Xestia triangulum (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 28.VII.1998, 25–28.VI.2001; Iremel 11–14.VII.1997; Miass 28.VI.1996, 26–29.VI.1997, 29–30.VI.1999, 18–24.VI.2001; Moskovo 10.VII.1997; Uchaly 25.VII.2000. Common.

Xestia kollari (Lederer, 1853): Moskovo 04.VIII.2000 2♂. Very rare. Remark. The species has its western boundary of the distribution range in the Urals.

Xestia ashworthii (Doubleday, 1855): Bajmak 17.VI.1998; Moskovo 10.VII.1997, 18.VI.1998, 12.VII.1998, 04.VIII.2000. A total of 5 ex. Very rare.

Xestia baja (Denis & Schiffermüller, 1775): Arkaim 07–10.VII.1997; Ekaterinburg 27–28.VII.2000; Kizilskoye 26.VII.2000; Kuvandyk 02.VIII.2000; Miass 15.VII.1997, 01–16.VII.1999, 25.VII–04.VIII.2000; Moskovo 10.VII.1997, 04.VIII.2000; Uchaly 25.VII.2000; Verbljushka 27–29.VII.2000. Rather common.

Xestia collina (Boisduval, 1840): Iremel 23–27.VI.1996. Rather rare.

Xestia sexstrigata (Haworth, 1809): Ajat river 25.VII.1998 1♂. Very rare.

Eugraphe sigma (Denis & Schiffermüller, 1775): Chalk Hills 03–07.VI.1998; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 19.VI.1998, 01–16.VII.1999, 13–24.VII.1999, 30.V–17.VI.2001, 18–24.VI.2001; Tratau 15.VI.2001. Rather common, local.

Coenophila miniago (Freyer, 1839): Ajat river 04–05.IX.2000; Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Kizilskoye 03.IX.2000; Kuvandyk 02.IX.2000; Moskovo 26.VIII.2000; Shkunovka 01.IX.2000. Common.

Cerastis rubricosa (Denis & Schiffermüller, 1775): Miass 25.V.1998, 11.V.1999, 18–20.V.1999; Moskovo 26.V.1998. Common.

Cerastis leucographa (Denis & Schiffermüller, 1775): Miass 25.V.1998, 11.V.1999, 18–20.V.1999; Moskovo 26.V.1998. Common.

Anaplectoides prasina (Denis & Schiffermüller, 1775): Iremel 23–27.VI.1996, 11–14.VII.1997; Miass 26–29.VI.1997, 15.VII.1997, 01–16.VII.1999; Nurgush 22–23.VI.2001. Very common.

Cryptocala chardiniyi (Boisduval, 1829): Berlin 30.VI–02.VII.1997 1 ex.; Miass 28.VI.1996 1 ex.; Uchaly 25.VII.2000 1 ex. Very rare.

Protolampra sobrina (Duponchel, 1843): Miass 25.VII–04.VIII.2000, 05–15.VIII.2000; Uchaly 25.VII.2000. Rather rare.

Protexarnis squalida (Guenée, 1852): Ajat river 03–05.VII.1997; 25.VII.1998; Arkaim 23.VII.1998; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Burannoe 29.VIII.2000; Iremel 23–27.VI.1996, 11–14.VII.1997; Chalk Hills 21.VI.1999, 30–31.VIII.2000, 10.VI.2001; Kizilskoye 26.VII.2000, 03.IX.2000; Kuvandyk 13–15.VI.1998, 02.IX.2000; Kuvandyk II 16.VI.1998; Miass 19.VI.1998, 26–30.VIII.2000; Moskovo 18.VI.1998, 11.VII.1998, 26.VIII.2000; Suleimanovo 14.VI.2001; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 17–19.VI.1999, 29.VII.2000, 27–28.VIII.2000. Common.

Dichagyris vallesiaca (Boisduval, 1837): Chalk Hills 17–18.VII.1998, 31.VII–01.VIII.2000, 30.VIII.2000; Kuvandyk 19–21.VII.1998; Verbljushka 14–15.VII.1998, 27–29.VII.2000. Genitalia slides: M. Fibiger prep. no. 3810, 3968, 3969, 3970. Rather common, local. Remark. In the S Urals occurs ssp. *subsqualorum* Kozhanchikov, 1930.

Dichagyris duskei Moberg & Fibiger, 1990: Chalk Hills 17.VII.1998 1♂, 30.VIII.2000 1♀, 31.VIII.2000 1♂. Genitalia slide: M. Fibiger prep. no. 3648. Very rare. (Figs. 27, 28). Distribution. S Russia (Sarepta). Remarks. The species was previously known only by the type series from Sarepta. The habitat in the Urals is a chalk

slope. Our specimens are much paler coloured than the type specimens, probably because of the pale coloured ground in the locality (see also Remarks of *Euxoa adumbrata* above and *Dichagyris lux* below). However, the genitalia are identical with those of the specimens from Sarepta (Figs. 46, 46a).

Dichagyris squalorum (Eversmann, 1856): Bishtiryak 13.VII.1998 1♂; Kuvandyk 15.VI.1998 1♂; Verbljushka 12.VI.1998 1♂, 27–29.VII.2000 a few ex. Genitalia slides: M. Fibiger prep. no. 3811, 3967, 3971. Rare.

Dichagyris eremicola (Standfuss, 1888): Chalk Hills 31.VII–01.VIII.2000, 30–31.VIII.2000; Verbljushka 14–15.VII.1998, 27–28.VIII.2000. Genitalia slides: M. Fibiger prep. no. 3809 (♂), 3812 (♀), 3813 (♂). Rather rare, local.

Dichagyris lux Fibiger & K. Nupponen, **sp. n.**: Type material. Holotype: ♂ (Fig. 29): Russia, southern Urals, 50°40–45′N 54°26–28′E, 220 m, Orenburg oblast, Pokrovka village 20 km S, Schibendy valley, 23.VI.1999, T. & K. Nupponen leg. Genitalia slide: M. Fibiger prep. no. 3647. In coll. T. & K. Nupponen.

Diagnosis. *Dichagyris lux* **sp. n.** belongs to the *Dichagyris vallesiaca* species-group. Because of the ground colour of the moth, the new species might be misinterpreted to belong to the *Dichagyris melanura* species-group, but the forewing is apically more pointed and the ventral bar in the aedeagus lacks the heavily sclerotized crest. *D. lux* differs from all other *Dichagyris* species by the shape of the vesica, the position of the subbasal-premedial diverticulum and the prominent subapical diverticulum.

Description of male. Wingspan 39 mm. Antennae double ciliate. Labial palp: Segments I and II of equal length, ovid, narrow with long hair-scales downwards; segment III round, 0.25 length of segment II. The moth is all dominating creamish-white: antennae, head, patagia, tegulae, thorax, abdomen, legs, fringe and ground colour of fore- and hindwing including underside. Forewing: all stigmata invisible; cross-lines likewise, except for narrow greyish-black postmedian line visible on lower half of wing until ventral margin. Dominant pattern is broad, grey subterminal band on both fore- and hindwings including underside.

Male genitalia (Figs. 47, 47a). Uncus long, medially flattened, apically with small, spine-like setae ventrally. Tegumen, vinculum and saccus broad. Valve medially broadest; costa concave subapically; ventral margin slightly rounded. Corona with 10/11 long, pointed spines. Ampulla rather weak, shorter than clasper. Clasper long, narrow, almost straight, digitate with long splitted base (altogether Y-like). Clavus small, narrow, membranous with narrow setae. Juxta pointed anteriorly, straight posteriorly, 3× wider than high. Aedeagus short, broad, with heavily sclerotized ventro-lateral bar on the apical half on right side. This bar continues, coiling in vesica to ductus ejaculatorius, which arises on right side. Vesica coiling 360°, membranous, 2× length of aedeagus. Subbasally – almost medially on left side elongate diverticulum with small, spine-like cornutus at tip. Vesica subapically broadest, here with large, 2× longer than wide, slightly two-topped diverticulum.

Bionomy. The only known specimen was collected by artificial light in late June. The habitat is one of the extreme localities in the southern Ural area, and therefore highly attractive for specialised moths (but for humans exhaustingly hot, dusty and with unpleasant sharp white-reflecting daylight).

Distribution. Russia (S Ural). Only known from the type locality.

Etymology. Lat. *lux* = light. The species name refers to the pale coloration of the moth.

Remarks. The almost pure creamish-white colour of *D. lux* reflects the pure creamish-white ground colour of the biotope (see the description of the biotope above and *Phegea* 30 (4) (1.XII.2002): 166

Fig. 4). The corresponding colour forms exist also in the other species of noctuids in this locality: *Dichagyris duskei* Moberg & Fibiger and the whitish *Euxoa adumbrata* (Eversmann) (Figs. 32, 33). If *D. lux* will be found in other localities in the Russian or Kazakh steppe zone, the moth is predicted to have a ground colour much more like the other species in the *Dichagyris vallesiaca*-group.

Yigoga signifera (Denis & Schiffermüller, 1775): Bishtiryak 13.VII.1998; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 29–30.VI.1999, 25.VII–04.VIII.2000; Moskovko 11–13.VII.1998, 04.VIII.2000; Sakmara river 20–21.VI.1996; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998. Rather common.

Yigoga orientis (Alphéraky, 1882): Kuvandyk 14.VI.1998 1♂. Very rare.

Yigoga lutescens (Eversmann, 1844): Burannoe 30.VII.2000 1♂; Kizilskoye 26.VII.2000 1♀; Verbljushka 29.VII.2000 2♀. Very rare. Remark. The type locality of the species is Urals and Orenburg.

Yigoga forcipula (Denis & Schiffermüller, 1775): Kuvandyk 13–15.VI.1998; Sakmara river 20–21.VI.1996; Verbljushka 10–12.VI.1998, 17–19.VI.1999. A total of about 20 ex. Rather rare.

Yigoga trunculenta (Lederer, 1853): Chalk Hills 30–31.VIII.2000; Kuvandyk 20.VII.1998, 27.VII.2000, 02.IX.2000; Verbljushka 27–28.VIII.2000. Rather common.

Albocosta musiva (Hübner, 1803): Ajat river 24–25.VII.1998; Arkaim 22–23.VII.1998; Bishtiryak 13.VII.1998; Kizilskoye 26.VII.2000; Kuvandyk 19–21.VII.1998; Miass 24–31.VII.1999, 25.VII–04.VIII.2000, 16–20.VIII.2000; Moskovko 11.VII.1998, 04.VIII.2000; Uchaly 25.VII.2000; Verbljushka 14–16.VII.1998, 27–29.VII.2000. Common.

Trichosilia nigrita (Graeser, 1892): Miass 26–29.VI.1997 4♂ 1♀, 19.VI.1998 1♂. Genitalia slides: M. Fibiger prep. no. 4230 (♂), 423 (♀). Very rare. (Fig. 30). Distribution. E Palaearctic; from Altai to Magadan region, Russian Far East, Sakhalin and Mongolia. Remarks. *T. nigrita* was reported for the first time from Europe (Urals, Miass, 20.VI.1946, V. Stepanov leg.) by Sviridov & Lagunov (1987) as *Agrotis nigrita* Graeser. However, the taxon is not listed as European by Novacki & Fibiger (1996a).

Euxoa adumbrata (Eversmann, 1842) (= *E. friedeli* Pinker, 1980, **syn. n.**): Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 22–23.VII.1998; Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21–23.VI.1999, 11.VI.2001; Moskovko 10.VII.1997, 11–13.VII.1998. Rather common. Remarks. The type locality of the species is Urals and Casan. In the southern Urals, which is the type locality of *E. adumbrata*, most of the specimens represent the typical blackish or blackish-brown forms (Fig. 31). However, an extremely beautiful whitish local form occurs on the white chalk slopes in the Schibendy valley, prov. Orenburg (Figs. 32, 33). This ecological form, which male and female genitalia are carefully examined, naturally led to further studies of the taxon *E. friedeli* Pinker, 1980, described from Central Anatolia by Gürün, and having a same flight period (June – July) as *E. adumbrata* in the Urals. Gürün shares the chalk-white earth with the Schibendy valley and reflects that colour also on the ground colour of the forewing of *E. friedeli*. The white forms occur only on chalk slopes (see above), typical dark forms being absent in such localities. No intermediate colour forms have been recorded between dark and white *E. adumbrata*. However, the genitalia of the white form both from Schibendy valley and Gürün exactly coincide with those of the dark *E. adumbrata* from S Ural. The studies of a lot of material of both taxa from S Ural and Turkey, including 17 specimens examined by the genitalia, lead to a synonymization of *E. friedeli* with *E. adumbrata*, **syn. n.**

Euxoa recussa (Hübner, 1817): Bishtiryak 13.VII.1998; Kuvandyk 02.VIII.2000; Miass 24–31.VII.1999, 25.VII–04.VIII.2000, 05–15.VIII.2000; Moskovo 11–13.VII.1998, 04.VIII.2000; Tavatui 28–29.VII.1998; Uchaly 25.VII.2000. Rather common.

Euxoa mustelina (Christoph, 1877): Chalk Hills 30.VIII.2000 6♂, 31.VIII.2000 2♂; Shkunovka 01.IX.2000 4♂ 2♀. Genitalia slides: M. Fibiger prep. no. 3849, 3853. Rare.

Euxoa aquilina (Denis & Schiffermüller, 1775): Ajat river 24–25.VII.1998; Arkaim 22–23.VII.1998; Bishtiryak 13.VII.1998; Chalk Hills 17–18.VII.1998; Kuvandyk 19–21.VII.1998; Verbljushka 14–16.VII.1998, 27–29.VII.2000. Genitalia slides: M. Fibiger prep. no. 3848, 4034, 4156. Common.

Euxoa dsheiron Brandt, 1938: Verbljushka 27.VIII.2000 3♂, 28.VIII.2000 1♂. Genitalia slides: M. Fibiger prep. no. 3807, 3846 (Figs. 48, 48a). Very rare. (Fig. 34). Distribution. Type locality: Iran. Further known only from central Anatolia (Gürün and Tuz Gölü) in Turkey. Remarks. The habitat is a hot, steep, calcareous steppe slope. New to Europe and Russia. We refer to the nice illustration in Hacker & Miatleuski (2001), where this species is published as *Euxoa zernyi* Hacker & Miatleuski, 2001.

Euxoa christophi (Staudinger, 1870): Ajat river 05.IX.2000; Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Shkunovka 01.IX.2000. Genitalia slides: M. Fibiger prep. no. 3854 (♂), 4028 (♂), 4029 (♀). Rare.

Euxoa distinguenda (Lederer, 1857): Ajat river 04–05.IX.2000; Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Kizilskoye 03.IX.2000; Kuvandyk 02.IX.2000; Shkunovka 01.IX.2000; Verbljushka 27–28.VIII.2000. Genitalia slide: M. Fibiger prep. no. 4027. Common.

Euxoa hastifera (Donzel, 1847): Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Kuvandyk 02.IX.2000; Verbljushka 27–28.VIII.2000. Rather common.

Euxoa basigramma (Staudinger, 1870): Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Kuvandyk 19–21.VII.1998, 02.VIII.2000; Shkunovka 01.IX.2000; Verbljushka 28.VII.2000. Genitalia slide: M. Fibiger prep. no. 4158. Common.

Euxoa nigricans (Linnaeus, 1761): Arkaim 23.VII.1998; Bishtiryak 13.VII.1998; Ekaterinburg 27–28.VII.1998; Kizilskoye 26.VII.2000; Kuvandyk 19–20.VII.1998; Miass 21–25.VIII.2000; Moskovo 26.VIII.2000; Tavatui 28–29.VII.1998; Uchaly 25.VII.2000; Verbljushka 27.VIII.2000. Genitalia slide: M. Fibiger prep. no. 4128. Rather common.

Euxoa diaphora Boursin, 1928: Burannoe 29.VIII.2000 1♂. Genitalia slide: M. Fibiger prep. no. 3847. Very rare. Remark. The type locality of the species is Urals and S Russia.

Euxoa tritici (Linnaeus, 1761) (= *E. crypta* auct.): Ajat river 03–05.VII.1997, 24–25.VII.1998; Bishtiryak 13.VII.1998; Kizilskoye 26.VII.2000; Kuvandyk 20.VII.1998; Miass 25.VII–04.VIII.2000; Verbljushka 14–15.VII.1998. Genitalia slides: M. Fibiger prep. no. 3792, 3793, 3794, 3795, 3796, 3797, 3850, 4041, 4157, 4158b, 4160, 4161. Rather common.

Euxoa eruta (Hübner, 1827): Sanarskii Bor 26.VII.1998 1♂. Genitalia slide: M. Fibiger prep. no. 4188. Very rare. Remarks. New to the European part of Russia. The species is also known from W Siberia (Zolotarenko 1970; see Fibiger 1997 in Noctuidae Europaeae, vol. 3).

Euxoa obelisca (Denis & Schiffermüller, 1775): Arkaim 23.VII.1998; Bishtiryak 13.VII.1998; Chalk Hills 30–31.VIII.2000; Kizilskoye 03.IX.2000; Kuvandyk 20.VII.1998, 02.VIII.2000, 02.IX.2000; Miass 16–20.VIII.2000; Moskovo 26.VIII.2000; Shkunovka 01.IX.2000; Verbljushka 27–28.VIII.2000. Common.

Euxoa vitta (Esper, 1789): Moskovo 04.VIII.2000 1♂, 26.VIII.2000 4♂ 2♀. Genitalia slide: M. Fibiger prep. no. 4033 (Figs. 49, 49a). Rare. (Fig. 35). Remarks. The *Phegasa* 30 (4) (1.XII.2002): 168

surprising record of *E. vitta* from the southern Urals represents the ultimate north-east distribution. The previously easternmost record of this taxon is from western Turkey and represents ssp. *hercegoviniensis*. The Ural specimens are not identified subspecifically.

Euxoa ochrogaster (Guenée, 1852): Ajat river 24–25.VII.1998; Arkaim 22–23.VII.1998; Bajmak 17.VI.1998; Kizilskoye 26.VII.2000; Moskovo 04.VIII.2000, 26.VIII.2000; Uchaly 25.VII.2000; Verbljushka 14–16.VII.1998, 27.VIII.2000. A total of about 25 ex. Genitalia slides: M. Fibiger prep. no. 4030, 4035, 4133. Rather rare.

Euxoa phautoma (I. Kozhanchikov, 1928): Ajat river 25.VII.1998 1♂ 1♀. Genitalia slides: M. Fibiger prep. no. 4155 (♂), 4159 (♀). Very rare. Remark. This record is the second one known in Europe (see Noctuidae Europaeae, vol. 3).

Euxoa sabuletorum (Boisduval, 1840): Chalk Hills 30–31.VIII.2000; Kuvandyk 02.IX.2000; Verbljushka 27–28.VIII.2000. Rather common, local.

Euxoa tristis (Staudinger, 1898): Kizilskoye 26.VII.2000 2♂ 2♀; Moskovo 11.VII.1998 3♂ 1♀. Very rare.

Agrotis murinoides Poole, 1989: Chalk Hills 30–31.VIII.2000 6♂ 5♀. Genitalia slides: M. Fibiger prep. no. 3852 (♂), 3964 (♀). Very rare, local. (Figs. 36, 37). Distribution. Steppe area of western C Asia: Syr-Darja district (Kazakhstan), Aulie-Ata (the type locality). Remark. The habitat is a chalk slope. New to Europe and Russia.

Agrotis desertorum Boisduval, 1840: Ajat river 03–05.VII.1997, 24–25.VII.1998; Burannoe 30.VII.2000; Chalk Hills 03–07.VI.1998, 17–18.VII.1998, 21.VI.1999, 10–11.VI.2001; Novoiletzka 09.VI.1998; Verbljushka 17.VI.1999, 27.VII.2000. Genitalia slides: M. Fibiger prep. no. 3959; 2 further genitalia examined. Rather common. (Figs. 38, 39). Remarks. *A. desertorum* is externally a very variable species both by the shape and the coloration of the forewings. See also Remarks of *A. ripae* below.

Agrotis ripae (Hübner, 1823): Chalk Hills 07.VI.1998; Novoiletzka 09.VI.1998. Genitalia slide: M. Fibiger prep. no. 3960; 2 further genitalia examined. Rare. Remarks. The genitalia differences between the species in several species groups of the genus *Agrotis* are similar and often intra-specific variable, especially in the valve. It was therefore very welcome that a typical *A. desertorum* and a typical *A. ripae* ssp. *albovenosa* were found to occur sympatrically in the southern Urals. So it is confirmed that *A. ripae albovenosa* is a 'good' subspecies, occurring in Europe (see also Fibiger 1990, 1997).

Agrotis ipsilon (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000; Chalk Hills 30–31.VIII.2000, 10–11.VI.2001; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 29–30.VI.1999, 29.V.2001, 30.V–17.VI.2001; Moskovo 26.VIII.2000; Shkunovka 01.IX.2000; Verbljushka 10–12.VI.1998, 17–19.VI.1999. Rather common.

Agrotis exclamatiouis (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 12.VI.2001; Chalk Hills 10–11.VI.2001; Ekaterinburg 25–28.VI.2001; Kandrykul 30.V.2001; Kizilskoye 26.VII.2000; Miass 26–29.VI.1997, 15.VII.1997, 29–30.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 10.VII.1997; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Uchaly 25.VII.2000; Verbljushka 10–12.VI.1998, 14–16.VII.1998; Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Very common.

Agrotis sp. Fibiger & Ahola *in prep.*: Ajat river 03–05.VII.1997, 24–25.VII.1998; Arkaim 07–10.VII.1997, 22.VII.1998; Berlin 30.VI–02.VII.1997; Kizilskoye 26.VII.2000; Miass 28.VI.1996; Moskovo 10.VII.1997, 11–13.VII.1998; Uchaly 25.VII.2000. Rather common. Remarks. An undescribed taxon close to *A. clavis* (Hufnagel, 1766). The description will be published in a separate paper.

Agrotis segetum (Denis & Schiffermüller, 1775): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000; Chalk Hills 31.VII.2000; Ekaterinburg 25–28.VI.2001; Iremel 23–27.VI.1996; Miass 01–16.VII.1999, 06.IX.2000; Moskovo 10.VII.1997; Verbljushka 27.VIII.2000. Rather common.

Agrotis trifurca Eversmann, 1837: Ekaterinburg 28.VII.1998; Miass 25.VII–04.VIII.2000, 05–15.VIII.2000; Moskovo 04.VIII.2000; Uchaly 25.VII.2000. A total of about 45 ex. Rather rare. Remarks. The type locality of the species is Ufa (Bashkiria) and W of Orenburg. The species occurs in forest steppes and seems to be absent in the southern lowland steppe region.

Agrotis vestigialis (Hufnagel, 1766): Ajat river 24–25.VII.1998; Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Shkunovka 01.IX.2000. Rather rare.

Agrotis cinerea (Denis & Schiffermüller, 1775): Arkaim 14–19.VI.1996; Chalk Hills 03–07.VI.1998; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Moskovo 26.V.1998; Verbljushka 30.V–02.VI.1998, 12–14.V.1999. Rather common.

Agrotis iremeli K. Nupponen, Ahola & Kullberg, 2001: Iremel 14.VII.1997 (pupae), 26–27.VI.1999 (larvae & pupae), 17.VI.2001 (larvae & pupae); Nurgush 23.VI.2001 (larvae & pupae). Very rare, local. (Figs. 40, 41). Distribution. The species is only known from two isolated mountain tundra localities in the southern Ural Mountains. Remark. A large, dark reddish brown taxon that is closely related to *A. ruta* (Eversmann, 1851). For further information, see Nupponen, Ahola & Kullberg (2001).

Agrotis characteristica Alphéraky, 1892: Chalk Hills 31.VIII.2000 2♂. Very rare.

Pantheidae

Panthea coenobita (Esper, 1785): Iremel 11–14.VII.1997; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 19.VI.1998, 01–16.VII.1999, 18–24.VI.2001. Rather common.

Trichosea ludifica (Linnaeus, 1758): Iremel 23–27.VI.1996 5 ex, 16.VI.2001 2♀. Rare.

Colocasia coryli (Linnaeus, 1758): Arkaim 14–19.VI.1996; Iremel 23–27.VI.1996, 25–28.VI.1999, 16–17.VI.2001; Kandrykul 30.V.2001; Kizilskoye 27.V.1998; Miass 26–29.VI.1997, 25.V.1998, 19.VI.1998, 19.V.1999, 29.V.2001, 30.V–17.VI.2001; Nurgush 23.VI.2001; Verbljushka 17–19.VI.1999, 27–29.VII.2000. Common. Remarks. There occurs a pale coloured form of *C. coryli* in S Ural (Fig. 42). The occurrence of that form is not connected to calcareous localities.

Lymantriidae

Lymantria monacha (Linnaeus, 1758): Miass 24–31.VII.1999; Sanarskii Bor 26.VII.1998; Verbljushka 14–16.VII.1998. Rather common.

Lymantria dispar (Linnaeus, 1758): Ajat river 03–05.VII.1997; Bishtiryak 13.VII.1998; Iremel 11–14.VII.1997; Kuvandyk 02.VIII.2000; Verbljushka 14–16.VII.1998, 27–29.VII.2000. Rather common.

Calliteara pudibunda (Linnaeus, 1758): Iremel 25–28.VI.1999, 16.VI.2001; Miass 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999, 29.V.2001, 30.V–17.VI.2001; Suleimanovo 14.VI.2001. Common.

Calliteara abietis (Denis & Schiffermüller, 1775): Nurgush 23.VI.2001 2♂. Rare.

Dicallomera fascelina (Linnaeus, 1758): Kuvandyk 02.VIII.2000 1♀, 02.IX.2000 1♂ 1♀; Moskovo 04.VIII.2000 1♂; Uchaly 25.VII.2000 1♂. Rare.

Orgyia antiqua (Linnaeus, 1758): Iremel 25–28.VI.1999 (larvae); Suleimanovo 14.VI.2001 (larva); Verbljushka 28.VII.2000 1♂. Rather rare.

Orgyia antiquoides (Hübner, 1822): Chalk Hills 31.VIII.2000 1♂; Kuvandyk 19.VII.1998 1♂, 02.VIII.2000 1♂; Moskovo 11.VII.1998 1♂; Verbljushka 27–29.VII.2000 1♂. Rather rare.

Orgyia dubia (Tauscher, 1806): Burannoe 20.VI.1999 (larva); Novoiletzk 09.VI.1998 (larvae); Shkunovka 02.IX.2000 a few ♂♂. Rather rare.

Enproctis similis (Fuessly, 1775): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Iremel 23–27.VI.1996, 11–14.VII.1997; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999; Moskovo 10.VII.1997; Uchaly 25.VII.2000. Common.

Leucoma salicis (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Ekaterinburg 28.VI.2001; Iremel 11–14.VII.1997; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999; Moskovo 10.VII.1997; Zirgan 24.VI.1999. Common.

Arctornis l-nigrum (Müller, 1764): Miass 26–29.VI.1997, 19.VI.1998. Rather rare.

Nolidae

Meganola strigula (Denis & Schiffermüller, 1775): Kuvandyk 13.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998. Rather rare.

Meganola albula (Denis & Schiffermüller, 1775): Berlin 30.VI–02.VII.1997. Rather rare.

Nola cucullatella (Linnaeus, 1758): Miass 19.VI.1998. Rare.

Nola confusalis (Herrich-Schäffer, 1847): Miass 25.V.1998, 20.VI.2001. Rather rare.

Nola aerugula (Hübner, 1793): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999; Moskovo 10.VII.1997; Uchaly 25.VII.2000. Common.

Nycteola degenerana (Hübner, 1799): Ekaterinburg 27.VI.2001; Iremel 25–28.VI.1999, 16.VI.2001; Miass 25.V.1998, 21–25.VIII.2000, 26–30.VIII.2000, 31.VIII–05.IX.2000, 06.IX.2000; Nurgush 22–23.VI.2001; Uchaly 25.VII.2000. Rather common.

Nycteola asiatica (Krulikovsky, 1904): Ajat river 03–05.VII.1997; Kizilskoye 27.V.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998. Rare.

Nycteola sicilana (Fuchs, 1899): Ajat river 03–05.VII.1997 about 30 ex., 04–05.IX.2000 3 ex.; Chalk Hills 23.VI.1999 2 ex., 31.VII–01.VIII.2000 1 ex., 30–31.VIII.2000 1 ex. Rather rare, local.

Pseudoips prasinana (Linnaeus, 1758): Ekaterinburg 25–28.VI.2001; Iremel 25–28.VI.1999; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 30.V–17.VI.2001; Nurgush 23.VI.2001; Tratau 15.VI.2001; Zesnokovka 09.VI.2001. Rather common.

Earias clorana (Linnaeus, 1761): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000; Ekaterinburg 25–28.VI.2001; Miass 26–29.VI.1997, 19.VI.1998, 15–28.VI.1999, 01–16.VII.1999, 30.V–17.VI.2001; Moskovo 18.VI.1998; Verbljushka 28.VII.2000. Rather common.

Earias vernana (Fabricius, 1787): Bishtiryak 13.VII.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 18.VI.1999. Rather rare.

Arctiidae

Thumatha senex (Hübner, 1808): Berlin 30.VI–02.VII.1997; Chalk Hills 22.VI.1999; Miass 26–29.VI.1997. Rather common.

Miltochrista miniata (Forster, 1771): Iremel 11–14.VII.1997; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999. Rather common.

Cybosia mesomella (Linnaeus, 1758): Ajat river 03–05.VII.1997; Berlin 30.VI–02.VII.1997; Iremel 17.VI.2001; Kuvandyk 13–15.VI.1998; Miass 13.VI.1996,

28.VI.1996, 26–29.VI.1997, 19.VI.1998, 15–28.VI.1999, 01–16.VII.1999, 18–24.VI.2001; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998; Zirgan 24.VI.1999. Common.

Pelosiä muüscerda (Hufnagel, 1766): Ajat river 03–05.VII.1997; Miass 26–29.VI.1997. Rather rare.

Pelosiä obtusa (Herrich-Schäffer, 1847): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Burannoe 30.VII.2000; Miass 13.VI.1996, 28.VI.1996, 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999; Verbljushka 28.VII.2000. Locally common.

Atoluis rubricollis (Linnaeus, 1758): Ekaterinburg 27.VI.2001; Iremel 23–27.VI.1996, 11–14.VII.1997; Miass 26–29.VI.1997, 19.VI.1998, 15–28.VI.1999, 01–16.VII.1999, 18–24.VI.2001. Rather common.

Eilema depressa (Esper, 1787): Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999. Rather common.

Eilema griseola (Hübner, 1803): Arkaim 07–10.VII.1997; Berlin 01.VII.1997; Kuvandyk 02.VIII.2000; Miass 01–16.VII.1999, 25.VII–04.VIII.2000; Moskovö 10.VII.1997; Uchaly 25.VII.2000; Verbljushka 27–29.VII.2000. Rather rare.

Eilema lurideola (Zincken, 1817): Berlin 30.VI–02.VII.1997; Sakmara river 20–21.VI.1996. Rather common.

Eilema complana (Linnaeus, 1758): Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000; Kizilskoye 26.VII.2000; Kuvandyk 02.VIII.2000; Miass 28.VI.1996, 26–29.VI.1997, 15.VII.1997, 01–16.VII.1999, 24–31.VII.1999, 25.VII–04.VIII.2000; Moskovö 10.VII.1997, 04.VIII.2000. Common.

Eilema palliatella (Scopoli, 1763): Chalk Hills 31.VII.2000; Verbljushka 27.VII.2000, 27–28.VIII.2000. Rather rare, local.

Eilema pygmaeola (Doubleday, 1847): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Chalk Hills 31.VII.2000; Kizilskoye 26.VII.2000; Kuvandyk 19–21.VII.1998, 02.VIII.2000; Moskovö 10.VII.1997, 04.VIII.2000; Uchaly 25.VII.2000; Verbljushka 14–16.VII.1998, 27–29.VII.2000. Common.

Eilema lutarella (Linnaeus, 1758): Arkaim 07–10.VII.1997; Miass 01–16.VII.1999, 24–31.VII.1999; Moskovö 10.VII.1997. Common.

Eilema sororcula (Hufnagel, 1766): Kuvandyk 13–15.VI.1998; Miass 25.V.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998; Zirgan 24.VI.1999. Common.

Setina irrorella (Linnaeus, 1758): Miass 25.VII–04.VIII.2000; Sakmara river 20–21.VI.1996; Uchaly 25.VII.2000. Rather common.

Setina roscida (Denis & Schiffermüller, 1775): Arkaim 14–19.VI.1996. Rather rare.

Amata nigricornis Alphéraky, 1883: Burannoe 20.VI.1999; Miass 26.VI.1997, 15.VII.1997, 19.VI.1998, 28.VI.1999; Sakmara river 20–21.VI.1996; Soliletzk 10.VI.2001; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998, 14.VII.1998. Rather common. Remarks. *A. nigricornis* is not listed as European by Stadel Nielsen (1996). However, Anikin *et. al.* (2000) consider it as a common species everywhere in S Russia and represent that the old records of *nigricornis* from that region are misidentified as *A. phegea* (Linnaeus, 1758). According to their opinion, we present our specimens as *nigricornis*.

Dysauxes aucilla (Linnaeus, 1767): Chalk Hills 22.VI.1999. Rare.

Dysauxes punctata (Fabricius, 1781): Chalk Hills 17–18.VII.1998; Kuvandyk 19.VII.1998; Verbljushka 14.VII.1998, 28.VII.2000. Rather common.

Spiris striata (Linnaeus, 1758): Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Miass 26–29.VI.1997, 15.VII.1997; Moskovö 12.VII.1998; Suleimanovo 14.VI.2001; Verbljushka 14.VII.1998, 28.VII.2000. Rather common.

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Coscinia cribraria (Linnaeus, 1758): Arkaim 07–10.VII.1997; Kidriasovo 28–29.V.1998; Kizilskoye 26.VII.2000; Kuvandyk 02.VIII.2000, 02.IX.2000; Moskovо 10.VII.1997; Suleimanovo 14.VI.2001. Rather common.

Chelis macnosa (Gerning, 1780): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 12.VI.2001; Chalk Hills 10–11.VI.2001; Kandrykul 30.V.2001; Kizilskoye 26.VII.2000; Kuvandyk 13.VI.1998; Moskovо 22.VI.1996, 10.VII.1997, 18.VI.1998; Sakmara river 20–21.VI.1996; Suleimanovo 14.VI.2001; Zirgan 24.VI.1999. Rather rare.

Watsonarctia casta (Esper, 1785): Arkaim 14–19.VI.1996; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998; Kuvandyk 13–15.VI.1998; Miass 25.V.1998, 12–18.V.1999, 19.V.1999; Moskovо 22.VI.1996, 26.V.1998; Verbljushka 12–14.V.1999. Locally common.

Phragmatobia fuliginosa (Linnaeus, 1758): Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000, 29.VIII.2000; Ekaterinburg 26.VI.2001; Miass 15–28.VI.1999, 25.VII–04.VIII.2000; Moskovо 04.VIII.2000; Tavatui 28–29.VII.1998; Uchaly 25.VII.2000. Rather common.

Parasemia plantaginis (Linnaeus, 1758): Iremel 23–27.VI.1996; Nurgush 23.VI.2001. Rare.

Holoarctia puengeleri (Bang-Haas, 1927): Iremel 23–27.VI.1996 (a few larvae), 13.VII.1997 18 ♂♂ 4 ♀♀, 14.VII.1997 1 ♂, 26–27.VI.1999 (pupae, emerged 17 ♂♂ 1 ♀), 17.VI.2001 (1 larva, emerged ♂); Nurgush 23.VI.2001 (old pupae). Very rare, local. (Fig. 43). Remarks. The occurrence of *H. puengeleri* in the S Urals has been considered doubtful (Anikin *et. al.* 2000). However, the species has permanent, but extremely isolated populations in the mountain tundra region of the southern Urals (Iremel, Nurgush), where it was found for the first time on the top of Iremel at 11.VII.1984 (1 ex.) and 20.VII.1985 (1 ex.), V. Olschwang leg.. These records have been published under the name *H. cervini* (Olschwang & Malozemov 1987) and the specimens are currently as a loan in the Siberian Zoological Museum, Novosibirsk, Russia.

Spilosoma lutea (Hufnagel, 1766): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996; Berlin 30.VI–02.VII.1997; Ekaterinburg 25–28.VI.2001; Iremel 25–28.VI.1999, 17.VI.2001; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 18–24.VI.2001; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Verbljushka 10–12.VI.1998; Zirgan 24.VI.1999. Very common.

Spilosoma lubricipeda (Linnaeus, 1758): Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Ekaterinburg 25–28.VI.2001; Iremel 23–27.VI.1996, 25–28.VI.1999, 16–17.VI.2001; Kandrykul 30.V.2001; Miass 26–29.VI.1997, 15–28.VI.1999, 01–16.VII.1999, 30.V–17.VI.2001, 18–24.VI.2001; Suleimanovo 14.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998; Zirgan 24.VI.1999. Very common.

Spilosoma nrticae (Esper, 1789): Arkaim 14–19.VI.1996; Burannoe 12.VI.2001; Chalk Hills 22.VI.1999; Ekaterinburg Biol. St. 21.VI.1998; Kuvandyk 13.VI.1998; Miass 15–28.VI.1999, 01–16.VII.1999, 20–21.VI.2001; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998, 14–16.VII.1998, 18.VI.1999. Rather rare.

Diaphora mendica (Clerck, 1759): Burannoe 20.VI.1999, 12.VI.2001; Iremel 25–28.VI.1999; Kizilskoye 27.V.1998; Kuvandyk 13–15.VI.1998; Miass 25.V.1998, 19.VI.1998; Moskovо 26.V.1998, 18.VI.1998; Novoiletzk 08–09.VI.1998; Verbljushka 30.V–02.VI.1998, 10–12.VI.1998. Rather common.

Lacydes spectabilis (Tauscher, 1806): Burannoe 29.VIII.2000; Chalk Hills 30–31.VIII.2000; Shkunovka 01.IX.2000; Verbljushka 27–28.VIII.2000. Rather rare.

Rhyparia purpurata (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 14–19.VI.1996, 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 12.VI.2001; Chalk
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Hills 03–07.VI.1998, 17–18.VII.1998, 23.VI.1999, 10–11.VI.2001; Iremel 23–27.VI.1996; Kuvandyk 13–15.VI.1998; Miass 26–29.VI.1997, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 22.VI.1996, 18.VI.1998, 11–13.VII.1998; Suleimanovo 14.VI.2001; Verbljushka 12–14.V.1999 (larvae); Zesnokovka 09.VI.2001. Rather common.

Diacrisia sannio (Linnaeus, 1758): Bajmak 17.VI.1998; Berlin 30.VI–02.VII.1997; Iremel 16–17.VI.2001; Miass 28.VI.1996, 26–29.VI.1997, 19.VI.1998, 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999, 19.VI.2001; Nurgush 22–23.VI.2001; Suleimanovo 14.VI.2001; Tratau 15.VI.2001; Zirgan 24.VI.1999. Rather common.

Hyphoraia aulica (Linnaeus, 1758): Kidriasovo 28–29.V.1998. Rare, local.

Pericallia matronula (Linnaeus, 1758): Ekaterinburg Biol. St. 20–21.VI.1998; Miass 28.VI.1996, 26–29.VI.1997, 19.VI.1998, 15–28.VI.1999, 30.V–17.VI.2001, 18–24.VI.2001; Moskovo 22.VI.1996. Rather common.

Arctia caja (Linnaeus, 1758): Ajat river 03–05.VII.1997; Arkaim 07–10.VII.1997; Berlin 30.VI–02.VII.1997; Burannoe 30.VII.2000; Iremel 25–28.VI.1999 (larvae); Kizilskoye 26.VII.2000; Kuvandyk 02.VIII.2000; Miass 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999, 25.VII–04.VIII.2000, 06.IX.2000; Moskovo 10.VII.1997, 04.VIII.2000; Uchaly 25.VII.2000. Common.

Arctia flavia (Fuessly, 1779): Arkaim 07–10.VII.1997; Iremel 11–14.VII.1997; Uchaly 25.VII.2000. Rather rare.

Arctia villica (Linnaeus, 1758): Arkaim 14–19.VI.1996; Burannoe 12.VI.2001; Chalk Hills 03–07.VI.1998, 10–11.VI.2001; Kuvandyk 13–15.VI.1998; Miass 15–28.VI.1999, 29.VI.1999, 01–16.VII.1999; Suleimanovo 14.VI.2001; Verbljushka 12–14.V.1999 (larvae); Zesnokovka 09.VI.2001; Zirgan 24.VI.1999. Locally common.

Arctia festiva (Hufnagel, 1766): Arkaim 14–19.VI.1996, 07–10.VII.1997; Chalk Hills 03–07.VI.1998; Kidriasovo 28–29.V.1998; Kizilskoye 27.V.1998. Rather rare.

Euplagia quadripunctaria (Poda, 1761): Kuvandyk 19–21.VII.1998. Rather rare, local.

Tyria jacobaeae (Linnaeus, 1758): Chalk Hills 03–07.VI.1998, 10.VI.2001; Verbljushka 30.V–02.VI.1998. A total of about 10 ex. Rare.

5. Discussion

Altogether 624 species of noctuids, bombyces and sphinges were recorded during the expeditions. The material is divided into families as follows: Noctuidae 494 spp., Arctiidae 41 spp., Notodontidae 26 spp., Sphingidae 19 spp., Lasiocampidae 16 spp., Nolidae 11 spp., Lymantriidae 11 spp., Pantheidae 3 spp., Saturniidae 2 spp., Endromidae 1 sp.. The fauna during the periods of early spring, late autumn and end of June – beginning of July is poorly represented in the list, partly because of the unfavourable weather conditions during the expeditions and partly because we have not visited that area during the mentioned periods. We suspect that the total amount of the species in the 10 families that occur in the region surely exceeds 700 species and is possibly even more than 800 species.

The changes in the Lepidoptera fauna of the Volgo-Ural region during the last 150 years was recently examined by Anikin *et. al.* (2000, 2000a). The new material reported in their article was collected in the Southern Russia, but most of our records from the Urals fit well with their conclusions. Anikin *et. al.* did not have new material of some species typical for the southern foothill region of *Phega* 30 (4) (1.XII.2002): 174

the Urals (e.g. *Cucullia propinqua* (Eversmann) and *Oncocnemis nigricula* (Eversmann)). However, those species still have strong populations in their traditional localities. Extremely interesting is our record of *Hemaris croatica* in the Southern Urals (see above). The species was considered to be extinct in the Volga region and areas north from Caspian Sea already long time ago. This case clearly shows that it is necessary to be very careful when dooming a species to be extinct.

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Fig. 2. Ajat river, Sokolovskaja Gora. The habitat of *Clostera albosigma*, *Brachylomia uralensis*, *Gortyna cervago*, *Luperina zollikoferi*, *Comisania arida* and *Euxoa phantoma*.

Fig. 3. Burannoe. The habitat of *Catocala orientalis*, *Catocala detrita*, *Euxoa christopli*, *Euxoa diaphora* and *Yigoga lutescens*.



Fig. 4. Chalk Hills. The habitat of *Hemaris croatica*, *Antophila chamaeaphanes*, *Euclalcia siderifera*, *Ecboleamia misella*, *Pseudohadena stenoptera*, *Hadula nupponenorumi*, *Saragossa uralica*, *Dichagyris duskei*, *Dichagyris lux* sp. n., *Agrotis murinoides*, *Agrotis characteristica* and many other interesting noctuids.

Fig. 5. Iremel, 1100 m. The habitat of *Pseudohadena immunda*, *Xestia borealis*, *Xestia albuncula* and *Xestia atrata*.

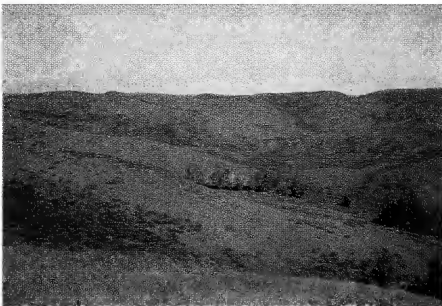


Fig. 6. Kidriasovo. The habitat of *Cnucullia boryphora*, *Shargacnucullia gozmanyi*, *Eriopygodes impar* and *Netrocerocora quadrangula*.

Fig. 7. Miass. The habitat of *Cnucullia lindei*, *Oncocnemis senica*, *Oncocnemis campicola*, *Platyperigea grisea*, *Polia malchani*, *Polia vespertilio*, *Perigrapha circumducta* and *Chersotis deplanata*.



Fig. 8. Miasovo lake. The habitat of *Eurchalcia uralensis*, *Xylomoia graminea*, *Xylomoia retinax* and *Trichosilia nigrita*.

Fig. 9. Moskovo. The habitat of *Gortyna cervago*, *Hadula colletti*, *Polia altaica*, *Mythimna opaca*, *Chersotis andereggii*, *Xestia kollari*, *Enxoa tristis*, *Agrotis* sp. n. and *Agrotis trifurca*.



Fig. 10. Verbljushka. The habitat of *Aedophron rhodites*, *Spaelotis deplorata*, *Enxoa dsheiron* and *Yigoga lutescens*.

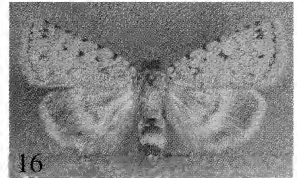
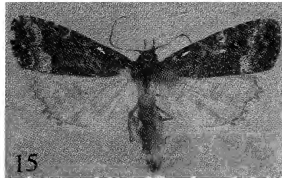
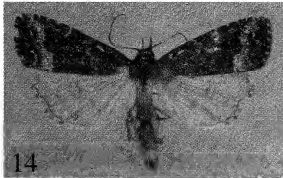
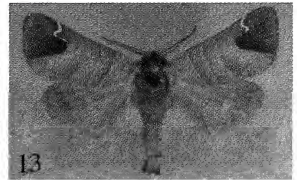
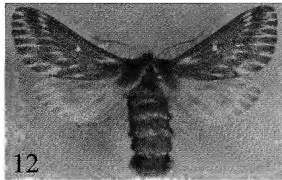


Fig. 11. *Eriogaster neogena* (F. v Waldh.): ♂, Shkunovka, 01.IX.2000, K. Nupponen leg.

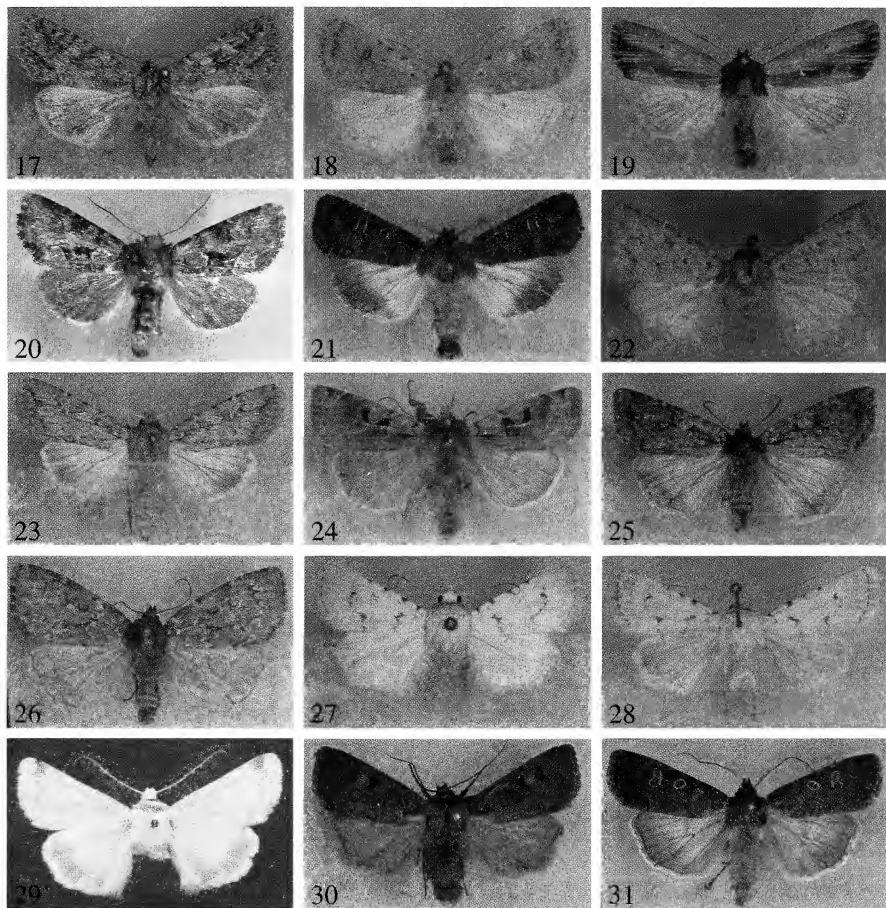
Fig. 12. *Eriogaster neogena* (F. v Waldh.): ♀, Kizilskoye, 03.IX.2000, K. Nupponen leg.

Fig. 13. *Clostera albosigma* (Fitch): ♂, Berlin, 30.VI.1997, K. Nupponen & J. Junnilainen leg.

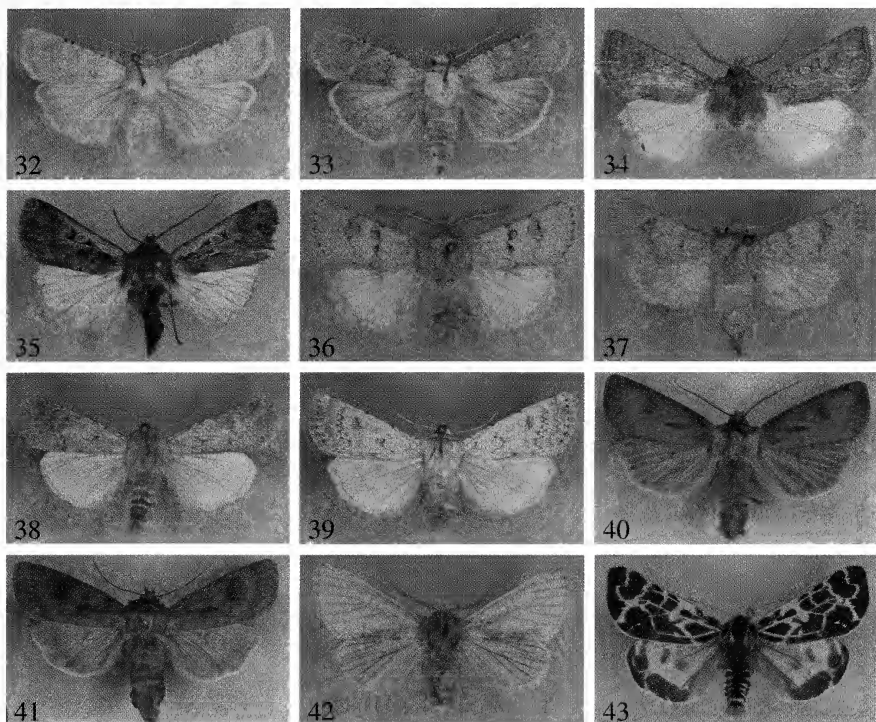
Fig. 14. *Acrionicta psi* (L.): ♂ (pale form), Ekaterinburg biol. st., 21.VI.1998, T. & K. Nupponen leg.

Fig. 15. *Schrankia bahneorum* (Alph.): ♂, Shkunovka, 01.IX.2000, K. Nupponen leg.

Fig. 16. *Autophila chamaephanes* (Bours.): ♂, Chalk Hills, Chalk Hills, 01.VIII.2000, T. Nupponen leg.



- Fig. 17. *Phidrimana amurensis* (Stgr.): ♀, Arkaim, 22.VII.1998, K. Nupponen leg.
 Fig. 18. *Platyperigea grisea* (Ev.): ♂, Ekaterinburg, 27.VII.1998, K. Nupponen leg.
 Fig. 19. *Xylomoia granitica* (Graes.): ♂, Miasovo lake, 29.VI.1997, K. Nupponen & J. Junnilainen leg.
 Fig. 20. *Xylomoia retinax* (Mikk.): ♀, Miasovo lake, 28.VI.1997, K. Nupponen & J. Junnilainen leg.
 Fig. 21. *Sidemia spilogramma* (Ramb.): ♂, Kuvandyk, 02.IX.2000, K. Nupponen leg.
 Fig. 22. *Ecbolemtia misella* (Püng.): ♂, Chalk Hills, 31.VIII.2000, K. Nupponen leg.
 Fig. 23. *Pseudohadena stenoptera* (Bours.): ♀, Chalk Hills, 10.VI.2001, K. Nupponen leg.
 Fig. 24. *Xestia wockei* (Mösch.): ♂, Iremel 1300 m, ex pupa 1997, Y. Mikhailov leg.
 Fig. 25. *Xestia albuncula* (Ev.): ♂, Iremel 1300 m, 13.VII.1997, K. Nupponen & J. Junnilainen leg.
 Fig. 26. *Xestia atrata* (Morr.): ♂, Iremel 1000 m, 12.VII.1997, J-P. Kaitila leg.
 Fig. 27. *Dichagyris duskei* Mob. & Fib.: ♂, Chalk Hills, 17.VII.1998, K. Nupponen leg.
 Fig. 28. *Dichagyris duskei* Mob. & Fib.: ♀, Chalk Hills, 30.VIII.2000, K. Nupponen leg.
 Fig. 29. *Dichagyris lux* Fibiger & K. Nupponen, sp. n.: ♂ (holotype), Chalk Hills, 23.VI.1999, T. & K. Nupponen leg.
 Fig. 30. *Trichosilia nigrita* (Graes.): ♂, Miasovo lake, ex ovo 1997, M. Ahola leg.
 Fig. 31. *Euxoa adumbrata* (Ev.): ♂ (normal dark form), Bajmak, 17.VI.1998, T. & K. Nupponen leg.



- Fig. 32. *Euxoa adumbrata* (Ev.): ♂ (white form), Chalk Hills, 22.VI.1999, T. & K. Nupponen leg.
 Fig. 33. *Euxoa adumbrata* (Ev.): ♀ (white form), Chalk Hills, 22.VI.1999, T. & K. Nupponen leg.
 Fig. 34. *Euxoa dsheiron* Brandt: ♂, Verbljushka, 28.VIII.2000, K. Nupponen leg.
 Fig. 35. *Euxoa vitta* (Esp.): ♂, Moskovo, 04.VIII.2000, T. Nupponen leg.
 Fig. 36. *Agrotis murinoides* (Poole): ♂, Chalk Hills, 30.VIII.2000, K. Nupponen leg.
 Fig. 37. *Agrotis murinoides* (Poole): ♀, Chalk Hills, 31.VIII.2000, K. Nupponen leg. .
 Fig. 38. *Agrotis desertorum* Boisid.: ♂ ('normal' form), Verbljushka, 18.VI.1999, T. & K. Nupponen leg.
 Fig. 39. *Agrotis desertorum* Boisid.: ♂, Chalk Hills, 07.VI.1998, T. & K. Nupponen leg.
 Fig. 40. *Agrotis iremeli* K.N., Ahola & Kullb.: ♂ (paratype), Iremel 1300 m, ex pupa VII.2001, K. Nupponen leg.
 Fig. 41. *Agrotis iremeli* K.N., Ahola & Kullb.: ♀ (paratype), Iremel 1300 m, ex pupa VII.2001, K. Nupponen leg.
 Fig. 42. *Colocasia coryli* (L.): ♂ (pale form), Arkaim, 17.VI.1996, K. Nupponen, J-P. Kaitila, J. Junnilainen & M. Ahola leg.
 Fig. 43. *Holoarctia puengeleri* (Bang-Haas): ♂, Iremel 1300 m, ex larva 03.VII.1999, T. & K. Nupponen leg.

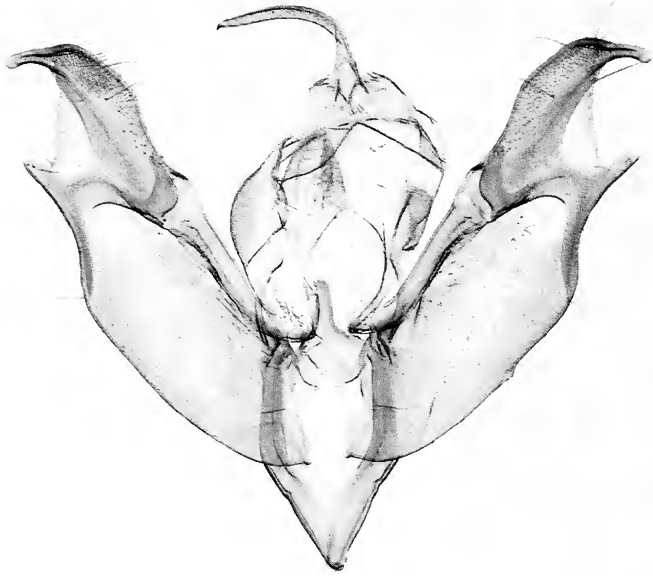


Fig. 44. *Platyperigea grisea* (Eversmann, 1848), male genitalia (without aedeagus). Russia, Altai Mnts, Kurai, 05.VII.2001, K. Nuipponen leg. Gen. prep. 4127 M. Fibiger.



Fig. 44a. *Platyperigea grisea* (Eversmann, 1848), aedeagus with everted vesica. Russia, Altai Mnts. Gen. prep. 4127 M. Fibiger.

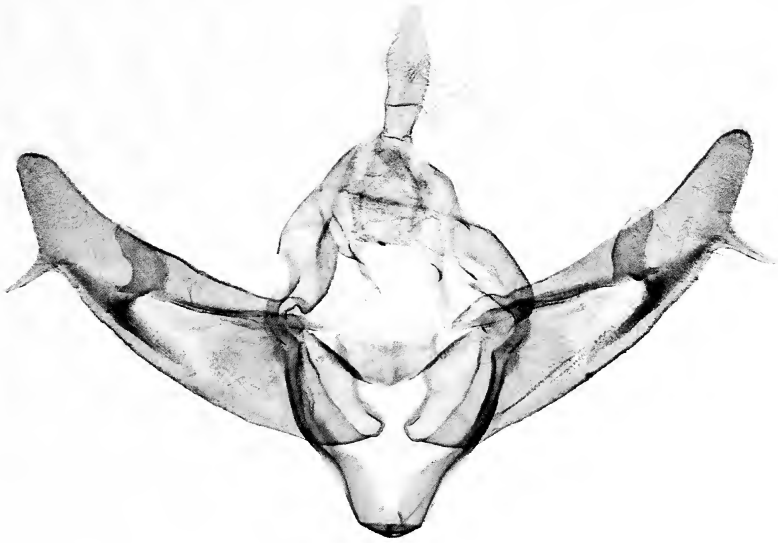


Fig. 45. *Xestia atrata* (Morrison, 1875), male genitalia (without aedeagus). Gen. prep. 4208 Fibiger.



Fig. 45a. *Xestia atrata* (Morrison, 1875), aedeagus with everted vesica. Gen. prep. 4208 M. Fibiger.



Fig. 46. *Dichagyris duskei* Moberg & Fibiger, 1990, male genitalia (without aedeagus). Gen. prep. 3648 M. Fibiger.



Fig. 46a. *Dichagyris duskei* Moberg & Fibiger, 1990, aedeagus with everted vesica. Gen. prep. 3648 M. Fibiger.



Fig. 47. *Dichagyris lux* Fibiger & K. Nupponen, sp. n., male genitalia (without aedeagus). Gen. prep. 3647 M. Fibiger.



Fig. 47a. *Dichagyris lux* Fibiger & K. Nupponen, sp. n., aedeagus with everted vesica. Gen. prep. 3647 M. Fibiger.



Fig. 48. *Euxoa dsheiron* Brandt, 1938, male genitalia (without aedeagus). Gen. prep. 3846 M. Fibiger.



Fig. 48a. *Euxoa dsheiron* Brandt, 1938, aedeagus with everted vesica. Gen. prep. 3846 M. Fibiger.
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Boekbespreking

Hacker, H., Ronkay, L. & Hreblay, M. (†): *Noctuidae Europaeae Volume 4, Hadeninae I.*

21 × 28 cm., 419 p., 15 kleurenplaten, talrijke tekstfiguren, verspreidingskaarten, Entomological Press, Sorø, te bestellen bij Apollo Books, Kirkeby Sand 19, DK-5771 Stenstrup, Denmark, apollobooks@vip.cybercity.dk, gebonden met stofomslag, 2002, DKK 1090,00 excl. porto (ISBN 87-89430-07-7).

Dit boek is het zevende in de reeks *Noctuidae Europaeae*, waarin in totaal 12 delen gepland zijn, en tevens het eerste deel van de subfamilie *Hadeninae*. Het tweede deel over deze subfamilie verscheen reeds in 2001. Het bevat de interessante en veel voorkomende soorten uit de genera *Hadena*, *Cardepiia*, *Polia*, *Hadula*, *Saragossa*, *Mamestra*, *Lacanobia*, *Hecatera*, *Lasionycta*, *Sideridis*, *Conisania*, *Tholera*, *Mythimna* en *Leucania*. Sommige van de behandelde soorten hebben een belangrijke, economische invloed op de land- en tuinbouw omdat ze schadelijk optreden aan verschillende gewassen.

Het doel en de opzet van het huidige boek is gelijk aan dat van de zes eerder verschenen delen, al is de tekst, net zoals bij het andere deel over de *Hadeninae*, uitsluitend in het Engels. In het totaal worden 208 taxa behandeld: 155 soorten en 44 ondersoorten. In dit boek worden 1 nieuw subgenus, 3 nieuwe soorten en 1 nieuwe ondersoort beschreven. Andere taxonomische nieuwigheden omvatten: 25 nieuwe synoniemen in de genusgroepenamen, 2 soorten worden nu als ondersoort en 2 ondersoorten als soort beschouwd, 8 taxa in de soortengroep worden nu tot een ander genus gerekend. Een tiental soorten worden voor het eerst uit Europa vermeld.

De genera en subgenera worden duidelijk omschreven en afgebakend t.o.v. verwante genera. Dikwijls wordt een checklist gegeven waarbij ook de synoniemen en subspecies worden opgesomd. Dit is uiteraard erg handig om snel een overzicht te krijgen van de samenstelling van zulk een genus. De tekst bij de individuele soorten is zoals gebruikelijk opgedeeld in een aantal vaste rubrieken: volledige naam met referentie naar de originele beschrijving en eventuele synoniemen, taxonomische notities, diagnostische kenmerken t.o.v. verwante soorten (uiterlijke morfologie, mannelijke en vrouwelijke genitalia), bionomie (vliegtijd, aantal generaties per jaar, biotoop, voedselplanten van de rups enz.), gedetailleerde verspreiding in Europa. Deze verspreiding wordt trouwens bij elke soort grafisch voorgesteld op een verspreidingskaartje.

Op de 15 kleurenplaten worden alle soorten en ondersoorten afgebeeld in niet minder dan 975 exemplaren, zodat de individuele variatie duidelijk getoond wordt. Deze kleurenplaten zijn van zeer goede kwaliteit en uiterst scherp en kleurecht. Het is zonder meer mogelijk om met behulp van deze platen de meeste exemplaren uit verzameld materiaal te determineren. Verder worden alle mannelijke en vrouwelijke genitalia afgebeeld, de mannelijke met uitgestulpte vesica. Deze afbeeldingen zijn nogal verschillend van kwaliteit. Soms gaat het om microfoto's, soms om pentekeningen en soms om foto's die achteraf bijgewerkt zijn met de tekenpen of met een tekenprogramma op de computer. De verschillen tussen de soorten zijn echter steeds duidelijk zichtbaar, ook omdat de afbeeldingen voldoende groot zijn weergegeven, meestal slechts 2 mannelijke of 3 vrouwelijke afbeeldingen per pagina.

Achteraan volgen een literatuurlijst en een alfabetische index. Deze index geeft in aparte kolommen aan waar de soort vermeld is (in vetjes waar de hoofdtekst staat), waar men afbeeldingen van het imago, van de mannelijke en de vrouwelijke genitalia kan vinden. Het boek is zoals de overige delen in deze reeks bijzonder verzorgd uitgegeven en het mag uiteraard niet ontbreken in de bibliotheek van liefhebbers van nachtvlinders, en zeker niet bij die mensen die speciaal in *Noctuidae* geïnteresseerd zijn. Het is een absolute aanrader! De prijs is zeker in verhouding tot hetgeen geboden wordt.

W. De Prins

Ptinella denticollis nieuw voor België (Coleoptera: Ptiliidae)

J. G. M. Cuppen & O. Vorst

Abstract: *Ptinella denticollis* new to Belgium (Coleoptera: Ptiliidae)

Ptinella denticollis is recorded for the first time from Belgium. Some information about its distribution and biology is presented and the characteristic spermatheca of the female is figured.

Résumé. *Ptinella denticollis* espèce nouvelle pour la Belgique (Coleoptera: Ptiliidae)

Ptinella denticollis est mentionnée ici pour la première fois de Belgique. Des informations concernant la distribution et la biologie sont données et la spermatheque caractéristique de la femelle est figurée.

Key words: *Ptinella denticollis* – Belgium – new record – faunistics.

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Inleiding

De vertegenwoordigers van de familie Ptiliidae zijn over het algemeen zeer klein (0,5–1,5 mm) en vaak alleen op basis van het vrouwelijk genitaal (spermatheca) betrouwbaar te determineren. Door de meeste coleopterologen wordt om deze redenen slechts weinig aandacht besteed aan deze familie, die daardoor meestal behoort tot de slechtst onderzochte groepen van de keverfauna. Dit geldt zeker ook in België.

Ptiliidae worden vooral aangetroffen in de strooisellaag op vochtige plaatsen als bossen, waterkanten, schimmelende gras- en bladhopen, waar decompositie van organisch materiaal optreedt. Enkele soorten zijn aangepast aan het leven in de ondergrondse nesten van mollen en muizen dan wel mierenhopen. De kevers kunnen dan vooral verzameld worden door het zeven van bodemmateriaal, en het plaatsen van raam- of malaisevallen voor vliegende exemplaren. Een klein aantal soorten leeft uitsluitend achter de schors van dode bomen, waaronder de meeste vertegenwoordigers van de geslachten *Ptinella* en *Pteryx*. Deze kunnen verzameld worden door de molm en het vraatmeel achter de schors mee te nemen en, onder goede belichting, te onderzoeken. De ervaring leert dat de dieren in het veld slechts zelden ontdekt worden door hun geringe grootte en kleur (bruin).

Tijdens een korte vakantie in de provincie Henegouwen werd door de eerste auteur op 14 april 2001 bij het zeven van schors en molm van een dode eik (*Quercus* sp.) *Ptinella denticollis* (Fairmaire, 1857) verzameld. De soort is nieuw voor België (Lucht 1987).

In het navolgende wordt een korte beschrijving van de vindplaats gegeven, de determinatie toegelicht en enige informatie over verspreiding en biologie verstrekt.

Vindplaats

De vindplaats is gelegen in de gemeente Sivry-Rance (provincie Henegouwen) in de nabijheid van de Ferme d'Ostène langs het beekje Eau

d'Eppe (31UER914532). Op de zuidhelling aan de rand van een eikenhaagbeukenbos stond hier een dode en door het kloppen van spechten gedeeltelijk reeds ontschorste eik. De molm en het aan de boom vastklevende vfaatmeel benevens dat achter de losgetrokken schors werd verzameld in een linnen zak en thuis onderzocht. Uit het uitgezeefde materiaal werden 12 exemplaren van *Ptinella denticollis* (2 mannetjes, 2 vrouwtjes en 8 exemplaren) verzameld. Daarnaast werden nog de ptiliiden *Ptinella aptera* (Guérin-Ménéville, 1839) (5 ex.) en *Pteryx suturalis* (Heer, 1841) (2 ex.) aangetroffen.

Naast deze Ptiliidae werden nog de volgende aan dood hout gebonden soorten aangetroffen: de boktor *Rhagium mordax* (De Geer, 1775) (1 imago, meerdere larven), de spiegelkevers *Paromalus flavicornis* (Herbst, 1792) (1 ex.) en *Plegaderus dissectus* Erichson, 1839 (1 ex.), de pselaphiden *Bibloporus bicolor* (Denny, 1825) (1 ex.) en *Euplectus piceus* Motschulsky, 1835 (13 ex.), en de kortschilden *Phloeocharis subtilissima* Mannerheim, 1830 (2 ex.), *Phyllocrepa ioptera* (Stephens, 1834) (2 ex.), *Gabrius splendidulus* (Gravenhorst, 1802) (6 ex.), *Sepedophilus bipunctatus* (Gravenhorst, 1802) (1 ex.), *Sepedophilus testaceus* (Fabricius, 1792) (3 ex.), *Phloeopora testacea* (Mannerheim, 1830) (1 ex.), *Leptusa fumida* (Erichson, 1839) (1 ex.) en *Dinaraea linearis* (Gravenhorst, 1802) (1 ex.).

Determinatie

Ondanks de geringe grootte (0,8 mm) is de determinatie van *Ptinella denticollis* betrekkelijk eenvoudig met behulp van de sleutel in Besuchet & Sundt (1971). Het genus *Ptinella* wordt gekenmerkt door verkorte dekschilden (1,5–2× zo lang als het halsschild), de geelbruine tot bruine kleur en doordat het halsschild naar achteren sterker versmald is dan naar voren. Bij *P. denticollis* zijn de achterhoeken van het halsschild hoekig (zoals bij de algemene *Ptinella aptera*). De spermatheca van het vrouwtje (fig. 1) is zeer kenmerkend en niet te verwarren met die van enige andere soort. Mannetjes zijn nauwelijks met zekerheid te determineren.

Verspreiding

Ptinella denticollis behoort tot de soorten met een Zuid-Europees (mediterraan) en Atlantisch verspreidingspatroon (Köhler 2000) met enkele vindplaatsen in Scandinavië. Ze is bekend van de volgende landen: Finland, Zweden, Denemarken, Ierland, Groot-Brittannië, Duitsland, Polen, Oostenrijk, Zwitserland, Frankrijk, Italië, het voormalige Joegoslavië en Marokko (Horion 1949, Besuchet & Sundt 1971, Lucht 1987, Sörensson 1994, Anderson *et al.* 1997, Angelini & Sörensson 1997, Köhler 2000). De soort is kennelijk overal zeldzaam en het verspreidingsgebied is dan ook niet goed bekend. *Ptinella denticollis* was tot nu toe niet bekend uit de Benelux-landen (Brakman 1966, Vorst & Huijbregts 2001, Lucht 1987). De Deense vondsten worden samengevat door Hansen (1996), de Zweedse door Sörensson (1994, 2000). Uit Duitsland is de soort slechts bekend van vijf (van de 18) regio's: Nedersachsen, Hessen, Bayern, Westfalen (Köhler & Klausnitzer 1998) en het Rheinland (Köhler 2000).

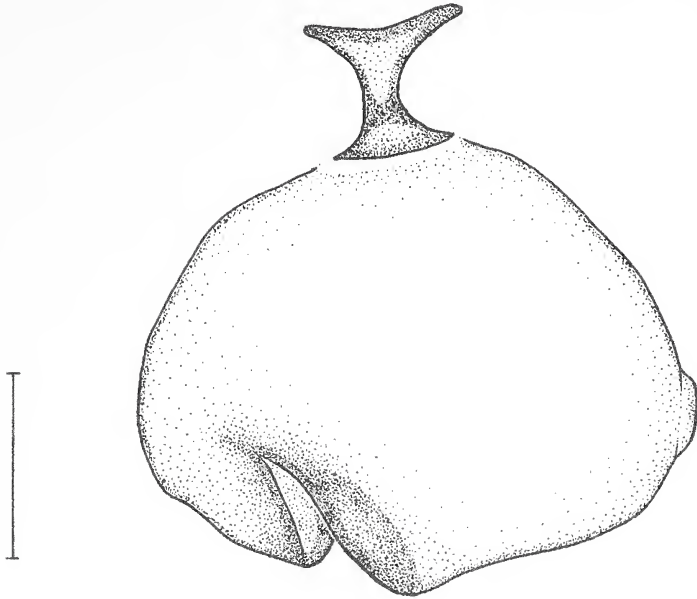


Fig. 1. Spermatheca van *Ptinella denticollis* (maatstreek: 100 μ m).

Biologie

De vertegenwoordigers van het geslacht *Ptinella* worden gekenmerkt door het voorkomen van ongeveugelde (forma aptera) en geveugelde (forma alata) vormen, waarbij de ogen in de ongeveugelde vorm sterk gereduceerd of zelfs afwezig zijn. Uitsluitend de geveugelde vorm kan een bijdrage leveren aan de kolonisatie van nieuwe geschikte habitats, de ongeveugelde vorm kan zich slechts binnen een geschikte habitat (één boom) verplaatsen. Normaal gesproken is de ongeveugelde vorm het meest voorkomend. Over de omstandigheden waaronder geveugelde vormen optreden, is ons niets bekend. Door Köhler (2000) werden 27 juli 1991 drie geveugelde vrouwtjes van *Ptinella denticollis* verzameld in een raamval die een maand lang had gestaan. Alle door ons verzamelde Ptiliidae waren ongeveugeld.

Ptinella denticollis komt vooral voor in loofbossen, met name achter de schors van eik, zoals ook in dit geval. Voor Noord-Europa, waar de eik nagenoeg ontbreekt, worden berk (*Betula* sp.) en ratelpopulier (*Populus tremula*) genoemd (Sörensson 1994, 2000). Daarnaast noemen Hyman & Parsons (1994) voor Groot-Brittannië nog lijsterbes (*Sorbus aucuparia*), populier (*Populus* sp.) en wilg (*Salix* sp.). Op Sicilië werd de soort onder de schors van een den (*Pinus* sp.) verzameld (Angelini & Sörensson 1997). Een enkele keer werd *P. denticollis* ook in de mofm van spar (*Picea* sp.) aangetroffen (Köhler 1997). Het

is een xylo-detriticole soort, die leeft in de molm en het vrotmeel tussen de schors en hout van dode bomen. Hierbij dient de schors nog vrij stevig om de boom te zitten daar de kevertjes zeer sterk gebonden zijn aan een relatief hoge vochtigheid. Zelfs bij een relatieve vochtigheid van 95% blijven de dieren minder dan 8 uur in leven (Taylor 1980). Onder losse schors met uitgedroogd vrotmeel worden dan ook geen *Ptinella*'s gevonden. De kevers staan bekend als mycetofaag, wat betekent dat ze leven van draadvormige schimmels en schimmelsporen.

Discussie

De verspreiding van *Ptinella denticollis* is (nog) onvoldoende bekend. Op basis van gepubliceerde vindplaatsen lijkt het er echter op dat de soort in onze streken zeer zeldzaam is en slechts bekend is van wijd uiteengelegen locaties. Op grond van haar zeldzaamheid is de soort in diverse Europese landen op de Rode Lijst geplaatst. Zo is *P. denticollis* in Duitsland geplaatst in de categorie 1 (Geiser 1998), in Zweden wordt de soort als kwetsbaar ("vulnerable") beschouwd (Gärdenfors 2000), terwijl in Groot-Brittannië de soort is geplaatst in de categorie "notable" (Hyman & Parsons 1994). Ook in België is *P. denticollis* waarschijnlijk zeer zeldzaam.

Een obstakel bij het schrijven van dit artikel bleek het ontbreken van een (recent) overzicht van de Belgische kevers. Navraag bij enkele Belgische collegae met betrekking tot ptiliiden en het voorkomen van *P. denticollis* in het bijzonder had geen resultaat. Met enige aarzeling hebben wij —op basis hiervan en het ontbreken van deze soort in de kolom Benelux van de catalogus van die "Die Käfer Mitteleuropas" (Lucht 1987)— gemeend de soort als nieuw voor België te moeten melden. Moge het ook een aansporing vormen voor de Belgische coleopterologen om de recent gestarte "Enumeratio Coleopterorum Belgicae" met voortvarendheid voort te zetten.

Dankwoord

Wij bedanken Luc Crevecoeur voor zijn inspanningen in verband met het natrekken van de status van *P. denticollis* in België.

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Scrobipalpa nitentella, nieuw voor de Belgische fauna (Lepidoptera: Gelechiidae)

M. G. M. Jansen

Abstract. *Scrobipalpa nitentella*, new for the Belgian fauna (Lepidoptera: Gelechiidae)

On 14 August 2001, some young leaf mines on *Atriplex prostrata* and a worn adult of *Scrobipalpa nitentella* (Fuchs, 1902) were found near Nieuwpoort (Belgium, prov. of West-Flanders). The species is mentioned here for the first time from Belgium.

Résumé. *Scrobipalpa nitentella*, espèce nouvelle pour la faune belge (Lepidoptera: Gelechiidae)

Le 14 août 2001 à Nieuwpoort (Belgique, Flandre occidentale), quelques jeunes mines de *Scrobipalpa nitentella* (Fuchs, 1902) furent trouvées sur *Atriplex prostrata*, ainsi qu'un adulte frotté. Cette espèce est mentionnée ici pour la première fois de Belgique.

Key words: *Scrobipalpa nitentella* – faunistics – Belgium – new record.

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Tijdens een bezoek op 14 augustus 2001 aan schorren nabij Nieuwpoort die gelegen zijn in de monding van de IJzer (West-Vlaanderen), werden jonge bladmineurs aangetroffen van *Scrobipalpa nitentella* (Fuchs, 1902) op *Atriplex prostrata*. Tevens werd één adult verzameld die vrijwel geheel was afgevlogen. Deze soort is bekend uit de omringende landen en was daarom te verwachten. De belangrijkste voedselplanten zijn *Atriplex prostrata*, *A. portulacoides*, *Salicornia* spec. en *Suaeda maritima*. Er is één generatie per jaar die vooral in juli en augustus vliegt en waarvan de rupsen eerst leven als bladmineerder en daarna in een los spinsel tussen de zaden. De soort wordt in Nederland eveneens langs de kust gevonden (Jansen 1999), al zijn ook enkele vindplaatsen bekend die ver van de kust vandaan liggen. Een recente vondst in de Nederlandse provincie Limburg bleek echter het gevolg van het verslepen van materiaal met bollen met aanhangende grond en onkruiden uit de kuststrook (van Stiphout *et al.* 2002).

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Aanvulling op de naamlijst van de Belgische sluipvliegen (Diptera: Tachinidae)

Guy Van de Weyer & Theo Zeegers

Abstract. Some additions to the checklist of Belgian tachinids (Diptera: Tachinidae) 34 species are added to the list of Belgian Tachinidae. *Euexorista obumbrata* is mentioned here for the first time from West Europe. The holotype of this species is discussed.

Résumé. Quelques additions à la liste des tachinidae belges (Diptera: Tachinidae) 34 espèces furent ajoutées à la liste des tachinidae belges. *Euexorista obumbrata* est mentionnée ici pour la première fois de l'Europe occidentale. Le holotype de cette espèce est commenté.

Key words: Tachinidae – *Euexorista obumbrata* – faunistics – Belgium – West Europe.

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Inleiding

In 1991 verscheen een naamlijst van de Belgische Tachinidae opgesteld door J. Gosseries en N. Wyatt in het studiedocument 70 van het KBIN: Catalogue of the Diptera of Belgium. Deze lijst werd opgesteld op basis van het aanwezige materiaal in het KBIN, aangevuld met de bemerkingen van B. Herting (Stuttgart). In het totaal kwamen de auteurs tot 270 soorten. De laatste decennia echter is er weinig onderzoek gedaan naar deze familie, mede door het feit dat de determinatie niet altijd even gemakkelijk is en dat daardoor jonge entomologen nogal eens afgeschrikt worden om eraan te beginnen. In het kader van het project "Fauna Europaea" hebben wij onze verzamelingen nog eens bekeken en we kunnen op deze manier 34 soorten toevoegen aan de Belgische lijst. Dit brengt het totaal op 304 wat zeer dicht in de buurt komt van Nederland (325).

Bij een nog grondiger onderzoek van het Belgisch grondgebied zou, zoals reeds aangegeven door Gosseries & Wyatt (1991) het totale aantal rond 350 kunnen liggen. In dat verband zou de eerste auteur alle mensen die zich bezig houden met het uitkweken van insecten, willen verzoeken de parasieten van poppen of larven te bezorgen aan iemand die zich met Tachinidae bezig houdt. Heel wat soorten kunnen praktisch niet in het veld gevangen worden en heel dikwijls is de gastheer nog onbekend.

Voor de nomenclatuur is de naamlijst van Herting & Dely-Draskovits (1993) aangehouden. Alle besproken exemplaren bevinden zich in de collectie van de eerste auteur of, indien aangegeven, in die van de medeauteur.

Subfamilie Dexiinae

Freraea gagatea Robineau-Desvoidy, 1830

Vindplaats: Hechtel 22.07.1992 1♀ leg. L. Crevecoeur (malaiseval). Deze zeer kleine soort was reeds gemeld uit alle ons omringende landen. Parasiet van keversoorten (Carabidae). Zeer moeilijk te vangen wegens zijn kleine gestalte, maar komt nogal eens voor in malaisevallen.

***Wagneria gagatea* Robineau-Desvoidy, 1830**

Vindplaatsen: Oud-Heverlee 27.04.1991 1♂ leg. GVdW, Dinant 13.05.1992 1♂ leg. GVdW, Belvaux 20.05.1998; 1♂ leg. GVdW, Marche-les-Dames 25.04.1999 1♂ leg. GVdW, 01.06.1999 1♀ leg. GVdW. Reeds gemeld uit onze buurlanden, maar steeds in zeer kleine aantallen (b.v. Nederland: 4 ex.). Deze soort is vooral in Midden-Europa lokaal talrijk en haar verspreidingsgebied reikt tot Nederland en Noord-Duitsland.

Subfamilie Exoristinae

***Admontia maculisquama* (Zetterstedt, 1859)**

Vindplaatsen: Buggenhout 24.06.1990 1♂ leg. GVdW, Opoeteren 15.06.1991 1♂ (malaiseval) leg. L. Crevecoeur. Vanaf 1985 vindt men deze soort sporadisch in Nederland en vermits ze ook in Frankrijk en Duitsland voorkomt, is het voorkomen bij ons normaal.

***Chetogena tschorsnigi* Ziegler, 1999**

Vindplaats: Bokrijk 01.05.1990 1♀ leg. GVdW. Deze soort werd door Ziegler (1999) beschreven op grond van materiaal uit de Franse Alpen. Evenals in Nederland (Zeegers *et al.*, 2001) hebben de vroegere waarnemingen van *Chetogena fasciata* (Egger, 1856) vermoedelijk betrekking op *C. tschorsnigi*. Uit alle gegevens blijkt dat *C. fasciata* beperkt is tot zuidoostelijk Europa en dus niet in België voorkomt.

***Hemimacqurtia paradoxa* Brauer & Bergenstamm, 1893**

Vindplaats: Wavreille 20.05.1998 1♀ leg. GVdW. Een zeer zeldzame soort met weinig en verspreide gegevens voor Europa (b.v. niet in Frankrijk). In Nederland slechts 3 waarnemingen.

***Phorocera grandis* (Rondani, 1859)**

Vindplaatsen: Marche-Les-Dames 15.05.1998 3♂ leg. GVdW, Belvaux 20.05.1998 1♂ leg. GVdW, Gendron (Houyet) 27.04.1999 1♂ leg. GVdW, Elewijt 10.04.2000 1♂ leg. GVdW. Deze voorjaarssoort wordt waarschijnlijk over het hoofd gezien wegens de gelijkenis met de zeer talrijke *Phorocera assimilis* (Fallén, 1810). In alle buurlanden.

***Staurochaeta albocingulata* (Fallén, 1820)**

Vindplaats: Belvaux 26.05.1990 1 ex. leg. & coll. T. Zeegers. Deze zeldzame soort wordt steeds in de onmiddellijke nabijheid van *Juniperus* gevonden, zo ook dit exemplaar. De vlieg parasiteert namelijk uitsluitend larven van bladwespen uit het genus *Monoctenus*, die uitsluitend op jeneverbes voorkomen.

***Vibrissina debilitata* (Pandellé, 1896)**

Vindplaatsen: Bokrijk 15.06.1992 1♀ leg. L. Crevecoeur (malaiseval), Niel 18.07.2000 1♀ leg. GVdW, Hechtel 15.09.1995 1♀ leg. L. Crevecoeur

(malaiseval), Nieuwenhoven 22.07.1999 1♀ leg. L. Crevecoeur (malaiseval). In zuidelijk Europa lokaal niet zelden, maar naar het Noorden toe steeds zeldzamer. Alhoewel de soort reeds gemeld is van Duitsland en Groot-Brittannië zijn dit de eerste waarnemingen voor de Benelux.

Subfamilie Goniinae

Bothria subalpina Villeneuve, 1910

Vindplaatsen: Dinant 12.04.1991 1♂ leg. GVdW, Belvaux 25.04.1993 1♀ leg. GVdW. Deze voorjaarssoort lijkt de laatste jaren in aantal toe te nemen, maar blijft toch zeldzaam. Waarschijnlijk ook in Vlaanderen te vangen.

Brachicheta strigata (Meigen, 1824)

Vindplaatsen: Niel 03.04.1988 1♀, 06.04.1988 1♀, 11.04.1988 2♀ leg. GVdW, Hemiksem 02.04.1989 1♀, 08.04.1993 1♀, 23.03.1991 1♀ leg. GVdW. Vroege voorjaarssoort, gewoonlijk op lange grassen. Gastheer nog steeds onbekend.

Elodia ambulatoria (Meigen, 1824)

Vindplaatsen: Reet 20.06.1997 1♀ leg. GVdW, Nieuwenhoven (St.-Truiden) 05.05.1999 1♀ leg. L. Crevecoeur (malaiseval), Hechtel 10.07.1995 2♀ leg. Crevecoeur (malaiseval). Deze soort is een parasiet van Tineidae in boomzwammen en is dus gemakkelijker te bekomen uit deze zwammen of malaisevallen.

Euexorista obumbrata (Pandellé, 1896)

Vindplaats: St.-Jan-in-Eremo (Oost-Vlaanderen) 25.05.1997 3♀ leg. G. Bonamie (kleurkom) coll. GVdW. Dit is ongetwijfeld de meest interessante vangst van de laatste decennia in België. Bij de determinatie werd in het KBIN Brussel ook het type-exemplaar van deze soort gevonden. Ze werd beschreven door Pandellé als *Exorista obumbrata* (Revue d'Entom. XV pag 7). In de collectie draagt ze drie labels:

"Coll. J. Villeneuve / *Myxexoristops obumbrata* Pand. R.M.H.N. Belg. 5.392. / *obumbrata* Typ. Pand. ♀ 6363".

Het nummer 6363 wijst in het dagboek van Pandellé naar Prussia orientale (huidige Polen). Verdere Europese vangsten zijn zeer zeldzaam: Bisamberg (Wien) 12.06.1933 leg. Roller (coll. Mesnil – Ottawa) - Arnsberger Wald 06.08.1955, 20.07.1956, 21.07.1956, 01.08.1956, 17.08.1956 leg. B. Herting - Dachau 26.08.1918 leg. Engel (SMNS – Stuttgart). Meer naar het oosten wordt *E. obumbrata* echter talrijker: Polen (Draber-Monko 1981) en Rusland, Mongolië en Kamtsjatka (Stackelberg 1962). De eerste waarneming voor België blijkt dan ook de eerste voor West-Europa.

Noot: Zowel Mesnil als Herting vonden geen verschillen met de Amerikaanse zustersoort *Euexorista futilis* Osten-Sacken. Vermits nu weer een

gat in het verspreidingsgebied opgevuld werd is het vermoeden dat beide soorten conspecifiek zijn een stuk versterkt.

***Gonia distinguenda* Herting, 1963**

Vindplaats: Hechtel 15.05.1992 1♀ leg. L. Crevecoeur (malaiseval). Ook gevonden in Nederland, maar toch verspreide waarnemingen.

***Lydella thompsoni* Herting, 1959**

Vindplaats: Hoboken 19.08.1996 1♀ gekweekt uit *Nonagria typhae* leg. T. Garrevoet. Door Tschorsnig & Herting (1994) wordt gezegd dat deze soort slechts voorkomt tot midden Frankrijk, maar recente waarnemingen (Nederland: 26 records van 13 locaties) wijzen erop dat ze meer noordelijk ook talrijker voorkomt en waarschijnlijk vroeger verward werd met andere *Lydella*-soorten. Opvallend is, dat gekweekte exemplaren uit het genus *Lydella* altijd tot deze soort behoren en nooit tot de in het veld veel talrijkere *L. griseascens* (waarvan de gastheer dus nog onbekend is).

***Myxexoristops stolidi* (Stein, 1924)**

Vindplaats: Nieuwenhoven (St.-Truiden) 08.07.1999 leg. L. Crevecoeur (malaiseval). Vermits deze soort nogal frequent voorkomt, werd ze in oude gegevens waarschijnlijk verward met aanverwante soorten.

***Nilea rufiscutellaris* (Zetterstedt, 1859)**

Vindplaats: Tellin 26.05.1990 1♀ leg. & coll. T. Zeegers. Gesleept van cipreswolfsmelk (*Euphorbia cyparissias*). Deze soort lijkt een meer noordelijk verspreidingsgebied te kennen, maar blijft toch zeldzaam. Zo is ze nog niet gemeld uit Nederland, Groot-Brittannië of Italië.

***Pales processioneae* (Ratzeburg, 1840)**

Vindplaats: Houthalen 18.08.2001 1♀ leg. GVdW. Vroeger was de verspreiding beperkt tot Midden-Duitsland, maar de laatste jaren is er een uitbreiding naar het noorden (Zeegers,1997). Deze is natuurlijk gebonden aan de verspreiding van de gastheer *Thaumetopoea processionea* L.

***Phebellia triseta* (Pandellé, 1896)**

Vindplaats: Houthalen 25.07.2001 1♀ leg. GVdW. Deze soort, waarvan de gastheer nog steeds onbekend is, wordt in West-Europa slechts zelden gevonden. In Nederland werd de eerste waarneming gedaan in 1993. Vermits ze nu ook in België gevonden is zou dit op een uitbreiding naar het westen kunnen wijzen. Nog niet in Groot-Brittannië.

***Senometopia separata* (Rondani, 1859)**

Vindplaats: Hallerbos 31.04.1994 1♂ leg. GVdW. Meestal gekweekt uit de gastheren en dus in het vrije veld moeilijk te vangen.

Subfamilie Tachinae

Actia infantula (Zetterstedt, 1844)

Vindplaats: Gendron (Houyet) 21.08.2001 1♀ leg. GVdW. Wordt gewoonlijk in malaisevallen gevangen, veel minder in het veld. De laatste jaren ook in Nederlands Limburg niet ongewoon.

Anthomyiopsis plagioderae Mesnil, 1972

Vindplaats: Hemiksem 31.08.1991 1♀ leg. GVdW. Dit zeer kleine vliegje wordt gewoonlijk bekomen door kweek uit de gastheer. Dit is de eerste handvangst voor de Benelux. Steeds in de buurt van wilgen.

Aphria longilingua Rondani, 1861

Vindplaats: Maasmechelen 03.07.1997 17♂, 13♀ leg. L. Crevecoeur. In zuidelijk Europa veel talrijker dan bij ons, maar toch verspreide waarnemingen in de Benelux. Van de vermelding van *Aphria longirostris* in België heb ik geen exemplaren gevonden, maar het zou wel eens kunnen gaan om bovenstaande soort.

Ernestia vagans (Meigen, 1824)

Vindplaatsen: Marche-les-Dames 26.04.2000 1♂ leg. GVdW, Belvaux 05.06.1993 1♀ leg. GVdW. Vroeger werd deze soort aanzien als synoniem van *Ernestia rudis*. Daarom bestaan er misschien geen vroegere waarnemingen. Toch vrij zeldzaam in het voorjaar.

Macquartia nudigena Mesnil, 1972

Vindplaatsen: Hechtel 22.07.1995 1♂, 1♀ leg. L. Crevecoeur (malaiseval), Dinant 13.05.1992 1♀ leg. GVdW, Belvaux 23.04.1995 1♀ leg. GVdW, Niel 02.08.2000 1♀ leg. GVdW. Vrij zeldzaam in gematigd Europa. Nog niet gevangen in Nederland.

Macquartia pubiceps (Zetterstedt, 1845)

Vindplaatsen: Dinant 07.08.1990 1♂ leg. GVdW, Bokrijk 01.05.1990 1♀ leg. GVdW. Alhoewel niet zo zeldzaam, was deze soort nog niet bekend uit België. Voor Nederland ook maar twee vindplaatsen.

Macquartia viridana Robineau-Desvoidy, 1863

Vindplaatsen: Opoeteren 15.06.1991 1♀ leg. GVdW, Bokrijk 15.06.1992 1♀ leg. GVdW, Belvaux 20.06.2001 1♀ leg. GVdW. Een van de meest zeldzame soorten van dit genus, die in onze streken de noordgrens van haar verspreiding kent (in Nederland slechts twee waarnemingen).

***Siphona boreata* Mesnil, 1960**

Vindplaats: Dinant 07.08.1990 1♂ leg. GVdW. Sinds de herziening van Andersen (1984) worden steeds meerdere *Siphona*-soorten gevonden. Deze soort blijkt in Noord-Europa talrijker dan in onze streken.

Subfamilie Phasiinae

***Catharosia pygmaea* (Fallén, 1815)**

Vindplaats: Chantemelle 24.05.1998 4♂ leg. & coll. T. Zeegers. Gevonden op een afgezaagde boomstam terwijl ze met hun vleugeltjes wapperden. Waarschijnlijk baltsgedrag.

***Dionaea flavisquamis* Robineau-Desvoidy, 1863**

Vindplaats: Belvaux 20.06.2001 1♂ leg. GVdW. Deze zeldzame soort werd niet eerder in de Benelux gevangen. Op een braakliggend terrein tussen bossen.

***Gymnosoma dolycoridis* Dupuis, 1961**

Vindplaats: Belvaux 27.07.2000 1♂ leg. GVdW. Een eerder zeldzame soort in dit genus. In Nederland gemeld in Zuid-Limburg.

***Phania curvicauda* (Fallén, 1820)**

Vindplaats: Hechtel 18.08.1992 2♂ leg. L. Crevecoeur (malaiseval). Dit is slechts de tweede waarneming voor de Benelux.

***Phania incrassata* Pandellé, 1894**

Vindplaatsen: Niel 20.05.1990 1♀ leg. GVdW, 25.05.1995 1♂ leg. GVdW, Forrières 20.05.1998 1♂ leg. GVdW, Marche-les-Dames 15.05.1998 1♀ leg. GVdW. Alhoewel Tschorsnig (1994) deze soort als lokaal niet zelden aangeeft, wordt ze toch weinig gevangen in de lage landen (Nederland: 1 waarneming).

***Phania speculifrons* (Villeneuve, 1919)**

Vindplaats: Belvaux 19.06.1995 1♂ leg. GVdW, 20.06.2001 1♂, 1♀ leg. GVdW. Deze zeldzame soort werd reeds door Zeegers (2001) gemeld uit België (Couvin 26.06.1993).

***Phasia barbifrons* (Girschner, 1887)**

Vindplaatsen: Genk 15.07.1993 1♂ leg. L. Crevecoeur (malaiseval), Belvaux 14.06.1994 1♂ leg. GVdW, Elewijt 05.08.2000 3♂ leg. GVdW, Genk 17.08.2000 3♂, 1♀ leg. GVdW, Houthalen 25.07.2001 4♂ leg. GVdW, Gendron 21.08.2001 1♂ leg. GVdW, Oud-Turnhout 21.08.1991 1♀ leg. GVdW (malaiseval), Niel 26.07.1998 1♀ leg. GVdW. Het is verwonderlijk dat deze soort niet eerder gevonden werd in België, want ze komt toch overal voor op schermbloemigen in de late zomer. Ook in Nederland dateert de oudste vondst van 1972 (Zeegers 1998). Mogelijk is hier een uitbreiding van het areaal naar het

noorden toe bezig want Tschorsnig & Herting (1994) geven een verspreiding tot Midden-Frankrijk.

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Boekbespreking

Brechtel, F. & Kostenbader, H.: *Die Pracht- und Hirschkäfer Baden-Württembergs.*

17,5 × 25 cm, 623 p., 306 kleurenfoto's, 180 tekstfiguren, 86 verspreidingskaarten, Verlag Eugen Ulmer GmbH & Co., Wollgrasweg 41, D-70599 Stuttgart (Hohenheim), info@ulmer.de, 2002, gebonden, 49,90€ (ISBN 3-8001-3526-4).

In de reeks over de flora en fauna van Baden-Württemberg zijn reeds vele delen verschenen. Na enkele families uit de Hymenoptera en haast alle Macrolepidoptera worden nu voor het eerst enkele kevergroepen behandeld en wel de families Buprestidae (prachtkevers) en Lucanidae (vliegende herten), resp. 77 en 7 soorten. Het boek is echter ruim meer dan een louter opsomming en bespreking van de soorten. Zeer veel aandacht wordt in de inleiding (meer dan 200 p.) besteed aan de ecologie van het onderzoeksgebied, het vroegere onderzoek naar de keverfauna in dit gebied, de morfologie en biologie van beide keverfamilies enz.

De rest van het boek bestaat uit een systematische bespreking van 84 soorten en dit op de gebruikelijke manier in deze reeks: volledige, wetenschappelijke naam met eventueel synoniemen, de verspreiding van de soort in de wereld en vooral de naburige landen, de zeer gedetailleerde verspreiding in Baden-Württemberg, het voorkomen in de hoogte, de waardplanten en details over de biotoop, de biologie (ontwikkeling van ei tot imago, vliegtijd, gedrag, samen voorkomende soorten, parasieten en predatoren, invloed op land- en bosbouw), bedreigingsfactoren en beschermingsmaatregelen.

De hele tekst is doorlopend geïllustreerd met prachtige opnamen van biotopen, pre-imaginale stadia en volwassen insecten, steeds in de natuur opgenomen en foto's van uitstekende kwaliteit. Diagrammen duiden de vliegtijd aan en verspreidingskaartjes geven een indruk van de verspreiding in Baden-Württemberg. Op deze kaartjes is met verschillende symbolen aangegeven of het gaat om waarnemingen in de periode vóór 1950, 1950–1975, 1976–1990 of sinds 1991.

Zoveel gedetailleerde informatie kan moeilijk door twee auteurs alleen bijeengebracht worden, en er heeft dan ook een hele reeks entomologen aan dit boek meegewerkt. Achteraan bevinden zich een literatuurlijst en een alfabetische index. Het boek is, zoals gebruikelijk in deze reeks, bijzonder keurig en luxueus uitgegeven en zeker zijn prijs waard. Het is een absolute aanrader voor elke coleopteroloog en natuurliefhebber.

W. De Prins

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