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## Macromoths (Insecta, Lepidoptera, Macroheterocera) in the Tumninsky Nature Reserve, North-Eastern Sikhote-Alin Mts., Khabarovsk Krai

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**Abstract.** The paper presents a list of Macroheterocera (*Hepialidae*, *Limacodidae*, *Thyatiridae*, *Drepanidae*, *Lasiocampidae*, *Saturniidae*, *Sphingidae*, *Notodontidae*, *Lymantriidae*, *Arctiidae*, *Nolidae*, *Erebidae*, *Noctuidae*, excluding *Geometridae*) from Tumninsky Nature Reserve (308 species). Of them, as many as 33 species (11%) were hitherto recorded neither from the Botchinsky Nature Reserve nor from the Amur River mouth. They penetrate the Tumnin River valley from the Amur River as a kind of an appendix. The 33 species include *Agnidra scabiosa*, *Gastropacha clathrata*, *Kentrochrysalis streckeri*, *Euhampsonia splendida*, *Fentonia ocypete*, *Peridea graeseri*, *Pheosiopsis cinerea*, *Gonoclostera timoniorum*, *Micromelalopha sieversi*, *Calliteara pseudabietis*, *Kidokuga piperita*, *Arctornis alba*, *Macrobrochis staudingeri*, *Manulea ussurica*, *Pelosia obtuse*, *Meganola bryophilalis*, *Evonima mandschuriana*, *Parhylophila buddhae*, *P. celsiana*, *Macrochtonia fervens*, *Earias pudicana*, *Mimachrostia fasciata*, *Araeopteron amoena*, *Lophomilia flaviplaga*, *Hadennia incongruens*, *Bryophilina mollicula*, *Gerbathodes paupera*, *Pyrrhia bifasciata*, *Callopietria albolineola*, *Balsa leodura*, *Cosmia moderata*, *C. trapezinula*, *Telorta divergens*.

**Keywords:** Macroheterocera, Tumninsky Nature Reserve, Khabarovsk Krai, Sikhote-Alin, Russia

## Macroheterocera (Insecta, Lepidoptera) заказника «Тумнинский», Северо-Восточный Сихотэ-Алинь (Хабаровский край)

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**Аннотация.** Приводится список Macroheterocera (*Hepialidae*, *Limacodidae*, *Thyatiridae*, *Drepanidae*, *Lasiocampidae*, *Saturniidae*, *Sphingidae*, *Notodontidae*, *Lymantriidae*, *Arctiidae*, *Nolidae*, *Erebidae*, *Noctuidae*, без *Geometridae*), найденных в Тумнинском заказнике, включающий 308 видов. Из них 33 вида (11%): *Agnidra scabiosa*, *Gastropacha clathrata*, *Kentrochrysalis streckeri*, *Euhampsonia splendida*, *Fentonia ocypete*, *Peridea graeseri*, *Pheosiopsis cinerea*, *Gonoclostera timoniorum*, *Micromelalopha sieversi*, *Calliteara pseudabietis*, *Kidokuga piperita*, *Arctornis alba*, *Macrobrochis staudingeri*, *Manulea ussurica*, *Pelosia obtusa*, *Meganola bryophilalis*, *Evonima mandschuriana*, *Parhylophila buddhae*, *P. celsiana*, *Macrochtonia fervens*, *Earias pudicana*, *Mimachrostia fasciata*, *Araeopteron amoena*, *Lophomilia flaviplaga*, *Hadennia incongruens*, *Bryophilina mollicula*, *Gerbathodes paupera*, *Pyrrhia bifasciata*, *Callopietria albolineola*, *Balsa leodura*, *Cosmia moderata*, *C. trapezinula*, *Telorta divergens* не известны ни из Ботчинского заповедника, ни с устья реки Амур, и проникают с Амурской долины в долину реки Тумнин в виде своеобразного аппендикса.

**Ключевые слова:** Macroheterocera, Тумнинский заказник, Хабаровский край, Сихотэ-Алинь, Россия

### Introduction

Up to date, the Lepidoptera of the North-Eastern Sikhote-Alin Mts. have been little studied. The most complete information has been published on the Botchinsky Nature Reserve, where the upper reaches of the Lower Amur became the most studied territory. Currently, materials have been processed and published on Papilionoidea (Dubatolov, Kostomarova 2019), Macroheterocera (Dubatolov 2015; 2016; 2019; 2020; Beljaev et al. 2022a; 2022b), as well as Pterophoridae and Alucitidae (Ustyuzhanin, Dubatolov 2017). The Microlepidoptera of this territory have also been analyzed but this information has not been published yet.

The lower course of the Amur River, located to the north, has also been studied in detail since the end of the 19<sup>th</sup> century, in particular, by L. Graeser (Graeser 1888–1892) in 1882 and 1884. At the beginning of the 21<sup>st</sup> century, the author of the present paper was engaged in the study of Lepidoptera of this territory and produced several relevant publications (Dubatolov, Streltsov 2008; Syachina, Dubatolov 2009; Dubatolov 2009; 2011a; 2011b; Dubatolov, Matov 2009; Vasilenko et al. 2013; Belyaev et al. 2013).

Nevertheless, the territory between the Botchi River Basin (with the Mulpa River as a part of this basin) and the mouth of the Amur River still remains understudied for Lepidoptera. Thanks to the support of the directorate of the Botchinsky Reserve and the staff of the Tuminsky Reserve, in 2017–2021, I studied insects, including Lepidoptera, in the lower reaches of the Tumnin River in Abua, and also collected few specimens in the village Koto. The material was collected in the following places:

1) *Abua (кордон Абуа)* (50°00'47–50"N, 139°56'18–44"E), floodplain larch forest with small-leaved trees; collecting on light and with light traps; in addition, collecting with light traps was carried out on the hill behind the stream near the ranger station on the edges of oak and larch-oak forests;

2) *Koto village (посёлок Кото)* (49°59'40"N, 139°52'30"E), the outskirts of a small village at the railway, a vegetable garden, a wasteland and a meadow in a mixed coniferous-small-leaved forest; collecting on light.

### Results

The list of Macrolepidoptera found in the Tumnin River Basin is published in the following table.

**Macroheterocera of the Tumnin River Basin**

**Table 1**

**Таблица 1**

**Macroheterocera бассейна р. Тумнин**

| Species / Вид   | Material / Материал          |
|---|------------------------------|
| 1   | 2                            |
| Hepialidae  |                              |
| <i>Gazoryctra macilentus</i> (Eversmann, 1851)              | Abua, 13–16.09.2018          |
| Limacodidae   |                              |
| <i>Heterogenea asella</i> ([Denis et Schiffermüller], 1775) | Abua, 6–7.07.2021            |
| <i>Kitanola uncula</i> (Staudinger, 1887)                   | Abua, 27–28.07.2021          |
| Thyatiridae   |                              |
| <i>Thyatira batis</i> (Linnaeus, 1758)                      | Abua, 6–9.07., 27–29.07.2021 |
| <i>Tethea ampliata</i> (Butler, 1878)                       | Abua, 6–9.07., 27–30.07.2021 |
| <i>Tethea ocularis</i> (Linnaeus, 1767)                     | Abua, 6–9.07., 27–29.07.2021 |
| <i>Tethea or</i> ([Denis et Schiffermüller], 1775)          | Abua, 6–9.07., 27–29.07.2021 |
| <i>Tetheella fluctuosa</i> (Hübner, [1803])                 | Abua, 6–9.07., 27–30.07.2021 |
| <i>Nemacerota tancrei</i> (Graeser, 1888)                   | Koto, 12–13.09.2018          |
| <i>Ochropacha duplaris</i> (Linnaeus, 1761)                 | Abua, 6–9.07., 27–28.07.2021 |
| <i>Habrosyne dieckmanni</i> (Graeser, 1888)                 | Abua, 6–9.07.2021            |
| <i>Habrosyne intermedia</i> (Bremer, 1864)                  | Abua, 6–7.07., 27–28.07.2021 |

Table 1. Continued  
Таблица 1. Продолжение

| 1   | 2  |
|---|--|
| Drepanidae  |  |
| <i>Agnidra scabiosa</i> (Butler, 1877)              | Abua, 6–9.07.2021  |
| <i>Nordstromia grisearia</i> (Staudinger, 1892)     | Abua, 6–9.07.2021  |
| <i>Falcaria lacertinaria</i> (Linnaeus, 1758)       | Abua, 20–21.06.2019; 6–7.07.2021                             |
| <i>Drepana curvatula</i> (Borkhausen, 1790)         | Abua, 6–9.07., 27–30.07.2021                                 |
| <i>Sabra harpagula</i> (Esper, [1786])              | Abua, 6–9.07.2021  |
| Lasiocampidae                                       |  |
| <i>Poecilocampa tenera</i> O.Bang-Haas, 1927        | Abua, 13–16.09.2018  |
| <i>Amurilla subpurpurea</i> (Butler, 1881)          | Abua, 7–8.07.2021  |
| <i>Euthrix potatoaria</i> (Linnaeus, 1758)          | Abua, 18–20.06.2019 ( <i>larva</i> ); 8–9.07., 27–30.07.2021 |
| <i>Cosmotriche lunigera</i> (Esper, 1784)           | Abua, 27–30.07.2021  |
| <i>Gastropacha clathrata</i> Bryk, [1949]           | Abua, 6–8.07.2021  |
| <i>Gastropacha orientalis</i> Sheljuzhko, 1943      | Abua, 6–9.07.2021  |
| <i>Gastropacha populifolia</i> (Esper, 1784)        | Abua, 8–9.07.2021  |
| <i>Gastropacha quercifolia</i> (Linnaeus, 1758)     | Abua, 7–8.07., 29–30.07.2021                                 |
| <i>Dendrolimus superans</i> (Butler, 1881)          | Abua, 6–9.07.2021  |
| <i>Odonestis pruni</i> (Linnaeus, 1758)             | Abua, 6–8.07.2021  |
| Saturniidae   |  |
| <i>Aglia tau</i> (Linnaeus, 1758)                   | Abua, 30.05.2017   |
| <i>Actias gnoma</i> (Butler, 1877)                  | Abua, 20–21.06.2019; 6–9.07.2021                             |
| <i>Caligula boisduvalii</i> (Eversmann, 1846)       | Abua, 13–16.09.2018  |
| Sphingidae  |  |
| <i>Laothoe amurensis</i> (Staudinger, 1892)         | Abua, 20–21.06.2019; 6–9.07., 27–28.07.2021                  |
| <i>Smerinthus caecus</i> Ménétriés, 1857            | Abua, 19–21.06.2019; 6–9.07., 27–30.07.2021                  |
| <i>Mimas christophi</i> (Staudinger, 1887)          | Abua, 19–20.06.2019; 7–8.07., 27–28.07.2021                  |
| <i>Kentrochrysalis streckeri</i> (Staudinger, 1880) | Abua, 20–21.06.2019; 6–9.07.2021                             |
| <i>Dolbina tancrei</i> Staudinger, 1887             | Abua, 27–30.07.2021  |
| <i>Sphinx ligustri</i> Linnaeus, 1758               | Abua, 18–19.06.2019; 6–9.07.2021                             |
| <i>Hyloicus morio</i> Rothschild et Jordan, 1903    | Abua, 7–9.07.2021  |
| <i>Deilephila elpenor</i> (Linnaeus, 1758)          | Abua, 7–8.07.2021; Koto, 6.07.2021                           |
| Notodontidae  |  |
| <i>Euhampsonia splendida</i> (Oberthür, 1880)       | Abua, 8–9.07.2021  |
| <i>Cerura erminea</i> (Esper, 1783)                 | Abua, 7–9.07.2021  |
| <i>Furcula bicuspis</i> (Borkhausen, 1790)          | Abua, 20–21.06.2019; 29–30.07.2021                           |
| <i>Furcula furcula</i> (Clerck, 1759)               | Abua, 18–21.06.2019; 6–9.07., 27–30.07.2021; Koto, 6.07.2021 |
| <i>Stauropus fagi</i> (Linnaeus, 1758)              | Abua, 30–31.05.2017; 6–9.07.2021                             |
| <i>Fentonia ocypete</i> (Bremer, 1861)              | Abua, 7–9.07., 27–28.07.2021                                 |
| <i>Drymonia dodonides</i> (Staudinger, 1887)        | Abua, 6–9.07., 27–30.07.2021                                 |
| <i>Notodonta dembowskii</i> Oberthür, 1879          | Abua, 6–9.07., 27–30.07.2021                                 |
| <i>Notodonta stigmatica</i> Matsumura, 1920         | Abua, 13–14.09.2018; 6–9.07., 27–30.07.2021                  |
| <i>Notodonta torva</i> (Hübner, [1803])             | Abua, 6–9.07., 27–30.07.2021                                 |
| <i>Peridea gigantea</i> Butler, 1877                | Abua, 29–30.07.2021  |
| <i>Peridea graeseri</i> (Staudinger, 1892)          | Abua, 27–30.07.2021  |
| <i>Peridea lativitta</i> (Wileman, 1911)            | Abua, 6–9.07.2021  |
| <i>Peridea oberthueri</i> (Staudinger, 1892)        | Abua, 6–9.07., 27–30.07.2021                                 |
| <i>Nerice davidi</i> (Oberthür, 1881)               | Abua, 6–9.07.2021  |

Table 1. Continued  
Таблица 1. Продолжение

| 1   | 2  |
|---|--|
| <i>Pheosia rimosa</i> Packard, 1864                           | Abua, 6–9.07., 27–30.07.2021                               |
| <i>Leucodonta bicoloria</i> ([Denis et Schiffermüller], 1775) | Abua, 6–9.07., 28–30.07.2021                               |
| <i>Pheosiopsis cinerea</i> (Butler, 1879)                     | Abua, 7–8.07.2021  |
| <i>Pterostoma griseum</i> (Bremer, 1861)                      | Abua, 20–21.06.2019; 6–9.07., 27–28.07.2021                |
| <i>Ptilodon capucina</i> (Linnaeus, 1758)                     | Abua, 6–9.07., 27–30.07.2021                               |
| <i>Ptilodon ladislai</i> (Oberthür, 1879)                     | Abua, 6–9.07.2021  |
| <i>Odontosia brinikhi</i> Dubatolov, 2006                     | Abua, 30–31.05.2017  |
| <i>Togepteryx velutina</i> (Oberthür, 1880)                   | Abua, 20–21.06.2019; 6–9.07.2021                           |
| <i>Allodonta leucodera</i> (Staudinger, 1887)                 | Abua, 8–9.07., 29–30.07.2021                               |
| <i>Spatalia dives</i> Oberthür, 1884                          | Abua, 29–30.07.2021  |
| <i>Gluphisia crenata</i> (Esper, 1785)                        | Abua, 6–9.07., 27–30.07.2021                               |
| <i>Gonoclostera timoniorum</i> (Bremer, 1864)                 | Abua, 6–9.07., 27–30.07.2021                               |
| <i>Pygaera timon</i> (Hübner, [1803])                         | Abua, 6–9.07.2021  |
| <i>Clostera albosigma</i> (Fitch, 1856)                       | Abua, 30–31.05.2017; 18–21.06.2019; 6–9.07., 27–30.07.2021 |
| <i>Clostera anachoreta</i> ([Denis et Schiffermüller], 1775)  | Abua, 19–20.06.2019; 8–9.07.2021                           |
| <i>Clostera anastomosis</i> (Linnaeus, 1758)                  | Abua, 6–9.07.2021  |
| <i>Micromelalopha sieversi</i> (Staudinger, 1892)             | Abua, 8–9.07., 27–28.07.2021                               |
| Lymantriidae  |  |
| <i>Lymantria dispar</i> (Linnaeus, 1758)                      | Abua, 27–28.07.2021  |
| <i>Lymantria monacha</i> (Linnaeus, 1758)                     | Abua, 15–16.09.2018; 27–30.07.2021                         |
| <i>Orgyia antiqua</i> (Linnaeus, 1758)                        | Abua, 14–15.09.2018  |
| <i>Calliteara abietis</i> ([Denis et Schiffermüller], 1775)   | Abua, 6–9.07.2021  |
| <i>Calliteara pseudabietis</i> Butler, 1885                   | Abua, 19–21.06.2019; 6–9.07.2021                           |
| <i>Calliteara pudibunda</i> (Linnaeus, 1758)                  | Abua, 19–20.06.2019; 8–9.07.2021                           |
| <i>Sphrageidus similis</i> (Fuessly, 1775)                    | Abua, 7–9.07., 27–30.07.2021                               |
| <i>Kidokuga piperita</i> Oberthür, 1880                       | Abua, 6–7.07.2021  |
| <i>Leucoma candida</i> Staudinger, 1892                       | Abua, 29–30.07.2021  |
| <i>Leucoma salicis</i> (Linnaeus, 1758)                       | Abua, 6–9.07., 27–30.07.2021                               |
| <i>Arctornis alba</i> (Bremer, 1861)                          | Abua, 8–9.07.2021  |
| Arctiidae   |  |
| <i>Macrobrochis staudingeri</i> (Alpheraky, 1897)             | Abua, 29–30.07.2021  |
| <i>Ghoria collitoides</i> (Butler, 1885)                      | Abua, 6–8.07., 28–30.07.2021                               |
| <i>Ghoria gigantea</i> (Oberthür, 1879)                       | Abua, 27–30.07.2021  |
| <i>Dolgoma cribrata</i> (Staudinger, 1887)                    | Abua, 7–9.07., 27–30.07.2021                               |
| <i>Katha depressa</i> (Esper, 1787)                           | Abua, 13–16.09.2018; 27–30.07.2021                         |
| <i>Collita griseola</i> (Hübner, [1803])                      | Abua, 8–9.07., 27–30.07.2021                               |
| <i>Collita vetusta</i> (Walker, 1854)                         | Abua, 6–9.07., 27–30.07.2021                               |
| <i>Manulea flavociliata</i> (Lederer, 1853)                   | Abua, 27–30.07.2021  |
| <i>Manulea lutarella</i> (Linnaeus, 1758)                     | Abua, 28–29.07.2021  |
| <i>Manulea ussurica</i> (Daniel, 1954)                        | Abua, 27–30.07.2021  |
| <i>Atolmis rubricollis</i> (Linnaeus, 1758)                   | Abua, 29–30.07.2021  |
| <i>Pelosia angusta</i> (Staudinger, 1887)                     | Abua, 27–30.07.2021  |
| <i>Pelosia muscerda</i> (Hufnagel, 1767)                      | Abua, 13–16.09.2018; 7–8.07., 27–30.07.2021                |
| <i>Pelosia obtusa</i> (Herrich-Schäffer, 1847)                | Abua, 27–30.07.2021  |
| <i>Lithosia quadra</i> (Linnaeus, 1758)                       | Abua, 29–30.07.2021; Koto, 12–13.09.2018                   |
| <i>Setina irrorella</i> (Linnaeus, 1758)                      | Abua, 15–16.09.2018  |
| <i>Stigmatophora micans</i> (Bremer et Grey, 1852)            | Abua, 27–30.07.2021  |



**Table 1. Continued**  
**Таблица 1. Продолжение**

| 1   | 2  |
|---|--|
| <i>Miltochrista calamina</i> Butler, 1877                   | Abua, 29–30.07.2021                                      |
| <i>Miltochrista miniata</i> (Forster, 1771)                 | Abua, 13–16.09. 2018; 6–9.07., 27–30.07.2021             |
| <i>Melanaema venata</i> Butler, 1877                        | Abua, 6–9.07., 27–30.07.2021                             |
| <i>Aemene altaica</i> (Lederer, 1855)                       | Abua, 27–28.07.2021                                      |
| <i>Dodia diaphana</i> (Eversmann, 1848)                     | Abua, 19–20.06.2019                                      |
| <i>Arctia caja</i> (Linnaeus, 1758)                         | Abua, 18–20.06.2019 (larva); 27–30.07.2021               |
| <i>Pericallia matronula</i> (Linnaeus, 1758)                | Abua, 7–8.07.2021  |
| <i>Diacrisia irene</i> Butler, 1881                         | Abua, 6–9.07.2021; Koto, 6.07.2021                       |
| <i>Spilarctia lutea</i> (Hufnagel, 1767)                    | Abua, 6–9.07., 29–30.07.2021                             |
| Noctuidae, s. l.  |  |
| Nolidae   |  |
| <i>Meganola bryophilalis</i> (Staudinger, 1887)             | Abua, 6–9.07.2021  |
| <i>Meganola fumosa</i> (Butler, 1878)                       | Abua, 7–9.07., 27–30.07.2021                             |
| <i>Evonima mandschuriana</i> (Oberthür, 1880)               | Abua, 29–30.07.2021                                      |
| <i>Nola aerugula</i> (Hübner, 1793)                         | Abua, 27–30.07.2021                                      |
| <i>Nola confusalis</i> (Herrich-Schäffer, 1847)             | Abua, 6–7.07.2021  |
| <i>Nycteola degenerana</i> (Hübner, [1799])                 | Abua, 19–21.06.2019; 27–28.07.2021                       |
| <i>Parhylophila buddhae</i> (Alpheraky, 1879)               | Abua, 6–9.07.2021  |
| <i>Parhylophila celsiana</i> (Staudinger, 1887)             | Abua, 29–30.07.2021                                      |
| <i>Pseudoips prasinana</i> (Linnaeus, 1758)                 | Abua, 6–9.07.2021  |
| <i>Earias pudicana</i> (Staudinger, 1887)                   | Abua, 15–16.09.2018                                      |
| <i>Macrochtonia fervens</i> Butler, 1881                    | Abua, 8–9.07., 28–30.07.2021                             |
| <i>Kerala decipiens</i> (Butler, 1878)                      | Abua, 6–9.07., 27–30.07.2021                             |
| Erebidae  |  |
| <i>Hadennia incongruens</i> (Butler, 1878)                  | Abua, 27–28.07.2021                                      |
| <i>Paracolax tristalis</i> (Fabricius, 1794)                | Abua, 7–9.07., 27–30.07.2021                             |
| <i>Hydrilloides morosa</i> (Butler, 1879)                   | Abua, 15–16.09.2018; 19–20.06.2019; 6–9.07.2021          |
| <i>Zanclognatha griselda</i> (Butler, 1879)                 | Abua, 7–8.07., 27–28.07.2021                             |
| <i>Zanclognatha lunalis</i> (Scopoli, 1763)                 | Abua, 6–9.07., 27–30.07.2021                             |
| <i>Zanclognatha tarsipennalis</i> (Treitschke, 1835)        | Abua, 6–9.07., 28–30.07.2021                             |
| <i>Zanclognatha tenuialis</i> Rebel, 1896                   | Abua, 27–30.07.2021                                      |
| <i>Pechipogo strigilata</i> (Linnaeus, 1758)                | Abua, 13–14.09.2018; 18–21.06.2019; 6–9.07.27–28.07.2021 |
| <i>Herminia grisealis</i> ([Denis et Schiffermüller], 1775) | Abua, 7–8.07.2021  |
| <i>Herminia tarsicrinalis</i> (Knoch, 1782)                 | Abua, 15–16.09. 2018; 6–9.07., 27–30.07.2021             |
| <i>Hypena conspersalis</i> Staudinger, 1888                 | Abua, 27–28.07.2021                                      |
| <i>Hypena crassalis</i> (Fabricius, 1787)                   | Abua, 8–9.07.2021  |
| <i>Hypena proboscidalis</i> (Linnaeus, 1758)                | Abua, 14–15.09. 2018; 6–9.07., 29–30.07.2021             |
| <i>Hypena tristalis</i> Lederer, 1857                       | Abua, 13–16.09.2018; 18–20.06.2019; 6–8.07.2021          |
| <i>Lophomilia flaviplaga</i> (Warren, 1912)                 | Abua, 6–7.07.2021  |
| <i>Rivula sericealis</i> (Scopoli, 1763)                    | Abua, 27–30.07.2021                                      |
| <i>Scoliopteryx libatrix</i> (Linnaeus, 1758)               | Abua, 29–30.07.2021                                      |
| <i>Calyptra lata</i> (Butler, 1881)                         | Abua, 29–30.07.2021                                      |
| <i>Calyptra thalictri</i> (Borkhausen, 1790)                | Abua, 27–28.07.2021                                      |
| <i>Mimachrostia fasciata</i> Sugi, 1982                     | Abua, 27–28.07.2021                                      |
| <i>Hypenodes humidalis</i> (Doubleday, 1850)                | Abua, 14–16.09.2018; 6–7.07., 27–30.07.2021              |

Table 1. Continued  
Таблица 1. Продолжение

| 1  | 2   |
|--|---|
| <i>Schrankia separatalis</i> (Herz, 1904)                      | Abua, 13–14.09.2018; 6–7.07., 27–30.07.2021     |
| <i>Hypostrotia cinerea</i> (Butler, 1878)                      | Abua, 27–30.07.2021                             |
| <i>Paragona cognata</i> (Staudinger, 1892)                     | Abua, 8–9.07., 27–30.07.2021                    |
| <i>Araeopteron amoena</i> Inoue, 1958                          | Abua, 15–16.09.2018                             |
| <i>Laspeyria flexula</i> ([Denis et Schiffermüller], 1775)     | Abua, 14–15.09.2018; 6–9.07., 27–30.07.2021     |
| <i>Aventiola pusilla</i> (Butler, 1879)                        | Abua, 27–28.07.2021                             |
| <i>Trisateles emortualis</i> ([Denis et Schiffermüller], 1775) | Abua, 6–9.07., 27–29.07.2021                    |
| <i>Colobochyla salicalis</i> ([Denis et Schiffermüller], 1775) | Abua, 29–30.07.2021                             |
| <i>Catocala adultera</i> Ménétriers, 1856                      | Abua, 14–16.09.2018                             |
| <i>Catocala bella</i> Butler, 1877                             | Abua, 27–30.07.2021                             |
| <i>Catocala deuteronympha</i> Staudinger, 1861                 | Abua, 13–14.09.2018; 29–30.07.2021              |
| <i>Catocala dissimilis</i> Bremer, 1861                        | Abua, 15–16.09.2018; 29–30.07.2021              |
| <i>Catocala doerriesi</i> Staudinger, 1888                     | Abua, 27–30.07.2021                             |
| <i>Catocala dula</i> Bremer, 1861                              | Abua, 15–16.09.2018; 27–30.07.2021              |
| <i>Catocala electa</i> (Vieweg, 1790)                          | Abua, 15–16.09.2018                             |
| <i>Catocala fraxini</i> (Linnaeus, 1758)                       | Abua, 13–16.09.2018                             |
| <i>Catocala fulminea</i> (Scopoli, 1763)                       | Abua, 15–16.09.2018; 27–30.07.2021              |
| <i>Catocala nupta</i> (Linnaeus, 1767)                         | Abua, 13–16.09.2018                             |
| <i>Thyas junco</i> (Dalman, 1823)                              | Abua, 15–16.09.2018                             |
| <i>Sypnoides picta</i> (Butler, 1877)                          | Abua, 27–28.07.2021                             |
| <i>Chrysorithrum flavomaculatum</i> (Bremer, 1861)             | Abua, 19–20.06.2019; 6–9.07.2021                |
| <i>Lygephila craccae</i> ([Denis et Schiffermüller], 1775)     | Abua, 15–16.09.2018                             |
| <i>Lygephila viciae</i> (Hübner, [1822])                       | Abua, 19–21.06.2019; 6–9.07., 27–28.07.2021     |
| <i>Abrostola korbi</i> Dufay, 1958                             | Abua, 6–7.07., 27–28.07.2021                    |
| <i>Abrostola ussuriensis</i> Dufay, 1958                       | Abua, 27–30.07.2021                             |
| <i>Diachrysia chrysis</i> (Linnaeus, 1758)                     | Abua, 27–30.07.2021                             |
| <i>Diachrysia chryson</i> (Esper, 1789)                        | Abua, 27–29.07.2021                             |
| <i>Diachrysia stenochrysis</i> (Warren, 1913)                  | Abua, 7–8.07.2021                               |
| <i>Euchalcia modestoides</i> Poole, 1989                       | Abua, 29–30.07.2021                             |
| <i>Polychrysia aurata</i> (Staudinger, 1888)                   | Abua, 27–28.07.2021                             |
| <i>Polychrysia splendida</i> (Butler, 1878)                    | Abua, 27–28.07.2021                             |
| <i>Panchrysia dives</i> (Eversmann, 1844)                      | Abua, 27–29.07.2021                             |
| <i>Lamprotes c-aureum</i> (Knoch, 1781)                        | Abua, 7–8.07., 27–30.07.2021                    |
| <i>Autographa buraetica</i> (Staudinger, 1892)                 | Abua, 6–9.07., 27–28.07.2021                    |
| <i>Autographa excelsa</i> (Kretschmar, 1862)                   | Abua, 27–28.07.2021                             |
| <i>Syngrapha ain</i> (Hochenwarth, 1785)                       | Abua, 6–9.07., 27–30.07.2021; Koto, 6.07.2021   |
| <i>Plusia putnami</i> Grote, 1873                              | Abua, 27–30.07.2021                             |
| <i>Protodeltote pygarga</i> (Hufnagel, 1767)                   | Abua, 13–14.09.2018; 6–9.07., 27–30.07.2021     |
| <i>Deltote bankiana</i> (Fabricius, 1775)                      | Abua, 6–7.07.2021                               |
| <i>Chorsia mollicula</i> (Graeser, [1889])                     | Abua, 29–30.07.2021                             |
| <i>Panthea coenobita</i> (Esper, 1785)                         | Abua, 7–9.07.2021                               |
| <i>Trichosea ludifica</i> (Linnaeus, 1758)                     | Abua, 19–21.06.2019; 6–9.07., 29–30.07.2021     |
| <i>Anacronicta caliginea</i> (Butler, 1881)                    | Abua, 6–9.07., 28–30.07.2021                    |
| <i>Colocasia mus</i> (Oberthür, 1884)                          | Abua, 30–31.05.2017; 18–21.06.2019; 6–9.07.2021 |
| <i>Raphia peustera</i> Püngeler, 1906                          | Abua, 6–9.07.2021                               |
| <i>Balsa leodura</i> (Staudinger, 1887)                        | Abua, 7–9.07.2021                               |
| <i>Moma alpium</i> (Osbeck, 1778)                              | Abua, 6–9.07.2021                               |
| <i>Gerbathodes paupera</i> (Staudinger, 1892)                  | Abua, 6–9.07., 28–29.07.2021                    |

**Table 1. Continued**  
**Таблица 1. Продолжение**

| 1   | 2   |
|---|---|
| <i>Acronicta alni</i> (Linnaeus, 1767)                      | Abua, 6–9.07., 28–29.07.2021                  |
| <i>Acronicta catocaloida</i> Graeser, [1889]                | Abua, 8–9.07., 29–30.07.2021                  |
| <i>Acronicta concerpta</i> Draudt, 1937                     | Abua, 6–9.07., 27–30.07.2021                  |
| <i>Acronicta cuspis</i> (Hübner, [1813])                    | Abua, 6–9.07., 27–28.07.2021; Koto, 6.07.2021 |
| <i>Acronicta intermedia</i> Warren, 1909                    | Abua, 6–7.07.2021                             |
| <i>Acronicta major</i> Bremer, 1861                         | Abua, 6–7.07.2021                             |
| <i>Acronicta psi</i> (Linnaeus, 1758)                       | Abua, 6–7.07.2021                             |
| <i>Acronicta rumicis</i> (Linnaeus, 1758)                   | Abua, 7–8.07.2021                             |
| <i>Acronicta strigosa</i> ([Denis et Schiffermüller], 1775) | Abua, 6–9.07., 27–30.07.2021                  |
| <i>Acronicta tridens</i> ([Denis et Schiffermüller], 1775)  | Abua, 6–7.07.2021                             |
| <i>Acronicta vulpina</i> (Grote, 1883)                      | Abua, 6–9.07.2021                             |
| <i>Craniophora pacifica</i> Filipjev, 1927                  | Abua, 6–7.07.2021                             |
| <i>Calliergis ramosula</i> (Staudinger, 1888)               | Abua, 6–9.07.2021                             |
| <i>Amphipyra erebina</i> Butler, 1878                       | Abua, 29–30.07.2021                           |
| <i>Amphipyra livida</i> ([Denis et Schiffermüller], 1775)   | Abua, 15–16.09.2018                           |
| <i>Amphipyra perflua</i> (Fabricius, 1787)                  | Abua, 27–30.07.2021                           |
| <i>Amphipyra pyramidea</i> (Linnaeus, 1758)                 | Abua, 13–16.09.2018; 27–30.07.2021            |
| <i>Feralia sauberi</i> (Graeser, 1892)                      | Abua, 30–31.05.2017; 18–21.06.2019            |
| <i>Pyrrhia bifasciata</i> (Staudinger, 1888)                | Abua, 29–30.07.2021                           |
| <i>Pyrrhia umbra</i> (Hufnagel, 1767)                       | Abua, 7–8.07., 29–30.07.2021                  |
| <i>Chytonix albonotata</i> (Staudinger, 1892)               | Abua, 6–9.07., 27–30.07.2021                  |
| <i>Eucarta arcta</i> (Lederer, 1853)                        | Abua, 27–28.07.2021                           |
| <i>Callopietria albolineola</i> (Graeser, [1889])           | Abua, 29–30.07.2021                           |
| <i>Callopietria repleta</i> Walker, 1858                    | Abua, 28–30.07.2021                           |
| <i>Elaphria venustula</i> (Hübner, 1790)                    | Abua, 6–7.07.2021                             |
| <i>Strotihypera flavipuncta</i> (Leech, 1889)               | Abua, 27–28.07.2021                           |
| <i>Caradrina morosa</i> Lederer, 1853                       | Abua, 29–30.07.2021                           |
| <i>Caradrina petraea</i> Tengström, 1869                    | Abua, 27–28.07.2021                           |
| <i>Hoploclonia octogenaria</i> (Goeze, 1781)                | Abua, 27–30.07.2021                           |
| <i>Stygiodrina maurella</i> (Staudinger, 1888)              | Abua, 27–30.07.2021                           |
| <i>Chilodes distracta</i> (Eversmann, 1848)                 | Abua, 20–21.06.2019                           |
| <i>Athetis correpta</i> (Püngeler, 1907)                    | Abua, 19–20.06.2019                           |
| <i>Athetis furvula</i> (Hübner, [1808])                     | Abua, 27–30.07.2021                           |
| <i>Athetis pallustris</i> (Hübner, [1808])                  | Abua, 20–21.06.2019                           |
| <i>Euplexia lucipara</i> (Linnaeus, 1758)                   | Abua, 27–28.07.2021                           |
| <i>Staurophora celsia</i> (Linnaeus, 1758)                  | Abua, 14–15.09.2018                           |
| <i>Helotropha leucostigma</i> (Hübner, [1808])              | Abua, 13–16.09.2018; 27–28.07.2021            |
| <i>Gortyna fortis</i> (Butler, 1878)                        | Abua, 14–16.09.2018                           |
| <i>Hydraecia micacea</i> (Esper, 1789)                      | Abua, 13–16.09.2018                           |
| <i>Hydraecia mongoliensis</i> Urbahn, 1967                  | Abua, 14–16.09.2018                           |
| <i>Hydraecia petasitis</i> (Doubleday, 1847)                | Abua, 13–16.09.2018                           |
| <i>Amphipoea fucosa</i> (Freyer, 1830)                      | Abua, 15–16.09.2018; 28–29.07.2021            |
| <i>Amphipoea lucens</i> (Freyer, 1845)                      | Abua, 27–28.07.2021                           |
| <i>Eremobina pabulatricula</i> (Brahm, 1791)                | Abua, 27–30.07.2021                           |
| <i>Apamea crenata</i> (Hufnagel, 1767)                      | Abua, 6–9.07.2021                             |
| <i>Loscopia scolopacina</i> (Esper, 1788)                   | Abua, 15–16.09.2018; 29–30.07.2021            |
| <i>Leucapamea askoldis</i> (Oberthür, 1880)                 | Abua, 29–30.07.2021                           |
| <i>Atrachea japonica</i> (Leech, 1889)                      | Abua, 13–16.09.2018                           |

Table 1. Continued  
Таблица 1. Продолжение

| 1   | 2   |
|---|---|
| <i>Brachylomia viminalis</i> (Fabricius, 1777)              | Abua, 27–30.07.2021                         |
| <i>Xanthia togata</i> (Esper, 1788)                         | Abua, 13–16.09.2018                         |
| <i>Cirrhia icteritia</i> (Hufnagel, 1767)                   | Abua, 13–16.09.2018                         |
| <i>Cirrhia tunicata</i> (Graeser, [1890])                   | Abua, 14–16.09.2018                         |
| <i>Vulpechola vulpecula</i> (Lederer, 1853)                 | Abua, 13–16.09.2018                         |
| <i>Telorta divergens</i> (Butler, 1879)                     | Abua, 13–15.09.2018                         |
| <i>Conistra vaccinii</i> (Linnaeus, 1761)                   | Abua, 13–16.09.2018                         |
| <i>Lithophane consocia</i> (Borkhausen, 1792)               | Abua, 30–31.05.2017; 13–16.09.2018          |
| <i>Lithophane socia</i> (Hufnagel, 1767)                    | Abua, 30–31.05.2017; 13–14.09.2018          |
| <i>Lithomoia solidaginis</i> (Hübner, [1803])               | Abua, 13–16.09.2018                         |
| <i>Antivaleria viridimacula</i> (Graeser, [1889])           | Koto, 12–13.09.2018                         |
| <i>Enargia paleacea</i> (Esper, 1788)                       | Abua, 13–16.09.2018; 6–7.07., 27–30.07.2021 |
| <i>Ipimorpha contusa</i> (Freyer, 1849)                     | Abua, 27–30.07.2021                         |
| <i>Ipimorpha retusa</i> (Linnaeus, 1761)                    | Abua, 27–28.07.2021                         |
| <i>Ipimorpha subtusa</i> ([Denis et Schiffermüller], 1775)  | Abua, 15–16.09.2018; 29–30.07.2021          |
| <i>Brachyxanthia zelotypa</i> (Lederer, 1853)               | Abua, 13–16.09.2018                         |
| <i>Cosmia affinis</i> (Linnaeus, 1767)                      | Abua, 13–16.09.2018                         |
| <i>Cosmia moderata</i> (Staudinger, 1888)                   | Abua, 27–30.07.2021                         |
| <i>Cosmia pyralina</i> ([Denis et Schiffermüller], 1775)    | Abua, 27–30.07.2021                         |
| <i>Cosmia restituta</i> Walker, 1857                        | Abua, 27–28.07.2021                         |
| <i>Cosmia trapezina</i> (Linnaeus, 1758)                    | Abua, 13–16.09.2018; 27–30.07.2021          |
| <i>Cosmia trapezinula</i> (Filipjev, 1927)                  | Abua, 28–30.07.2021                         |
| <i>Chasminodes atrata</i> (Butler, 1884)                    | Abua, 27–30.07.2021                         |
| <i>Chasminodes bremeri</i> Sugi et Kononenko, 1981          | Abua, 27–30.07.2021                         |
| <i>Gyrosphilara formosa</i> (Graeser, [1889])               | Abua, 27–28.07.2021                         |
| <i>Dryobotodes pryeri</i> (Leech, 1900)                     | Abua, 14–16.09.2018                         |
| <i>Blepharita amica</i> (Treitschke, 1825)                  | Abua, 14–16.09.2018                         |
| <i>Mniotype satura</i> ([Denis et Schiffermüller], 1775)    | Abua, 13–16.09.2018                         |
| <i>Polia bombycina</i> (Hufnagel, 1767)                     | Abua, 6–9.07., 28–29.07.2021                |
| <i>Polia hepatica</i> (Clerck, 1759)                        | Abua, 6–7.07.2021                           |
| <i>Polia malchani</i> (Draudt, 1934)                        | Abua, 18–21.06.2019; 6–9.07.2021            |
| <i>Polia nebulosa</i> (Hufnagel, 1767)                      | Abua, 7–8.07., 29–30.07.2021                |
| <i>Polia vespertilio</i> (Draudt, 1934)                     | Abua, 6–9.07., 27–30.07.2021                |
| <i>Lacanobia contigua</i> ([Denis et Schiffermüller], 1775) | Abua, 28–29.07.2021                         |
| <i>Lacanobia contrastata</i> (Bryk, 1942)                   | Abua, 8–9.07.2021                           |
| <i>Hadena corrupta</i> (Herz, 1898)                         | Abua, 27–28.07.2021                         |
| <i>Hadena variolata</i> (Smith, 1888)                       | Abua, 7–8.07., 28–29.07.2021                |
| <i>Mythimna conigera</i> ([Denis et Schiffermüller], 1775)  | Abua, 27–28.07.2021                         |
| <i>Mythimna impura</i> (Hübner, [1808])                     | Abua, 27–30.07.2021                         |
| <i>Mythimna opaca</i> (Staudinger, 1900)                    | Abua, 19–20.06.2019                         |
| <i>Mythimna pallens</i> (Linnaeus, 1758)                    | Abua, 6–7.07., 28–29.07.2021                |
| <i>Mythimna separata</i> (Walker, 1865)                     | Abua, 14–15.09.2018                         |
| <i>Mythimna turca</i> (Linnaeus, 1758)                      | Abua, 8–9.07.2021                           |
| <i>Euxoa ochrogaster</i> (Guenée, 1852)                     | Abua, 14–16.09.2018                         |
| <i>Agrotis ipsilon</i> (Hufnagel, 1767)                     | Abua, 18–19.06.2019                         |
| <i>Agrotis ruta</i> (Eversmann, 1851)                       | Abua, 15–16.09.2018                         |
| <i>Axylia putris</i> (Linnaeus, 1761)                       | Abua, 29–30.07.2021                         |
| <i>Diarsia brunnea</i> ([Denis et Schiffermüller], 1775)    | Abua, 13–14.09.2018; 29–30.07.2021          |



Table 1. End  
Таблица 1. Окончание

| 1  | 2                                  |
|--|------------------------------------|
| <i>Diarsia canescens</i> (Butler, 1878)                        | Abua, 13–16.09.2018; 18–21.06.2019 |
| <i>Diarsia dahlii</i> (Hübner, [1813])                         | Abua, 13–16.09.2018                |
| <i>Diarsia dewitzi</i> (Graeser, [1889])                       | Abua, 15–16.09.2018                |
| <i>Paradiarsia punicea</i> (Hübner, [1803])                    | Abua, 6–7.07.2021                  |
| <i>Hermonassa arenosa</i> (Butler, 1881)                       | Abua, 13–16.09.2018                |
| <i>Chersotis deplanata</i> (Eversmann, 1843)                   | Abua, 27–30.07.2021                |
| <i>Cryptocala chardinyi</i> (Boisduval, 1829)                  | Abua, 29–30.07.2021                |
| <i>Spaelotis suecia</i> (Aurivillius, 1889)                    | Abua, 15–16.09.2018                |
| <i>Eurois occulta</i> (Linnaeus, 1758)                         | Abua, 13–16.09.2018; 27–30.07.2021 |
| <i>Anaplectoides prasina</i> ([Denis et Schiffermüller], 1775) | Abua, 27–30.07.2021                |
| <i>Xestia albonigra</i> (Kononenko, 1981)                      | Abua, 29–30.07.2021                |
| <i>Xestia albuncula</i> (Eversmann, 1851)                      | Abua, 13–16.09.2018                |
| <i>Xestia baja</i> ([Denis et Schiffermüller], 1775)           | Abua, 13–16.09.2018; 27–30.07.2021 |
| <i>Xestia brunneopicta</i> (Matsumura, 1925)                   | Abua, 27–28.07.2021                |
| <i>Xestia collina</i> (Boisduval, 1840)                        | Abua, 27–28.07.2021                |
| <i>Xestia descripta</i> (Bremer, 1861)                         | Abua, 8–9.07.2021                  |
| <i>Xestia ditrapezium</i> ([Denis et Schiffermüller], 1775)    | Abua, 14–15.09.2018; 27–30.07.2021 |
| <i>Xestia efflorescens</i> (Butler, 1879)                      | Abua, 14–15.09.2018                |
| <i>Xestia kurentzovi</i> (Kononenko, 1984)                     | Abua, 6–9.07.2021                  |
| <i>Xestia sincera</i> (Herrich-Schäffer, 1851)                 | Abua, 6–9.07.2021                  |
| <i>Xestia speciosa</i> (Hübner, [1813])                        | Abua, 13–16.09.2018                |
| <i>Sineugraphe exusta</i> (Butler, 1878)                       | Abua, 28–30.07.2021                |
| <i>Coenophila subrosea</i> (Staudinger, 1871)                  | Abua, 27–28.07.2021                |
| <i>Eugraphe sigma</i> ([Denis et Schiffermüller], 1775)        | Abua, 6–9.07.2021                  |

### Conclusion

Thus, 308 species of Macroheterocera (without Geometridae) were collected in the basin of the Tumnin River. For many species, the Tumnin River Valley is the northeasternmost locality, and a great number of species (33 species, or 11%) have neither been found further south, in the valley of the Mulpa River, nor recorded at the mouth of the Amur River, namely *Agnidra scabiosa* Btl., *Gastropacha clathrata* Bryk, *Kentrochrysalis streckeri* Stgr., *Euhampsonia splendida* Obth., *Fentonia ocypete* Brem., *Peridea graeseri* Stgr., *Pheosiopsis cinerea* Btl., *Gonoclostera timoniorum* Brem., *Micromelalopha sieversi* Stgr., *Calliteara pseudabietis* Btl., *Kidokuga piperita* Obth., *Arctornis alba* Brem., *Macrobrochis staudingeri* Stgr., *Manulea ussurica* Dan., *Pelosia obtusa* H.-S., *Meganola bryophilalis* Stgr., *Evonima mandschuriana* Obth., *Parhylophila buddhae* Alph., *P. celsiana* Stgr., *Macrochtonia fervens* Btl., *Earias pudicana*

Stgr., *Mimachrostia fasciata* Sugi, *Araeopteron amoena* Inoue, *Lophomilia flaviplaga* Wrr., *Hadennia incongruens* Btl., *Bryophilina mollicula* Graes., *Gerbathodes paupera* Stgr., *Pyrrhia bifasciata* Stgr., *Callopietria albolineola* Graes., *Balsa leodura* Stgr., *Cosmia moderata* Stgr., *C. trapezinula* Fil., *Telorta divergens* Btl., as well as *Limenitis camilla* (Linnaeus, 1758) (Solovyev et al. 2022). In addition, *Catocala nupta* L., *Caradrina morosa* Led., *Chilodes distracta* Ev., *Athetis correpta* Pngl., *Staurophora celsia* L., which are widely distributed in southern Siberia and even in Europe, but not yet found near the mouth of the Amur River and in the Botchinsky Reserve, are excluded from the list. In the lower reaches of the Amur River, there are more than a dozen species found in the valley of the Tumnin River that are absent in the Botchinsky Reserve. This suggests that a fairly large set of nemoral species, which do not extend further along the coast either to the south or to the north, penetrate into the valley of the Tumnin River from

the Amur River by a kind of an “appendix” through the northern part of the Sikhote-Alin Mts. (Solovyev et al. 2022: 978, fig. 1). Thus, the Tumninsky Nature Reserve in the valley of the Tumnin River is a kind of an island of southern species in the northeast of the Sikhote-Alin Mts.

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