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BUTTERFLIES (LEPIDOPTERA: PAPILIONOIDEA) OF GOGLAND ISLAND (LENINGRAD REGION, RUSSIA)

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[Храмов Б.А., Яковлев Р.В. Булавоусые чешуекрылые (Papilionoidea: Lepidoptera) о. Гогланд (Россия, Ленинградская область)]
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Ключевые слова: *булавоусые чешуекрылые, Lepidoptera, Papilionoidea, фауна, о. Гогланд, Россия*

Summary. The presented list of Papilionoidea of Gogland Island (Leningrad Region, Russia) includes 34 species from 5 families. 12 species of Papilionoidea are newly reported from the island.

Резюме. В настоящий момент список Papilionoidea острова Гогланд (Россия, Ленинградская область) включает 34 вида из 5 семейств. 12 видов приводятся впервые для фауны острова.

INTRODUCTION

Gogland (Russian) or Hogland (Swedish) is an island in the Finland Gulf in the eastern Baltic Sea (60° 03′ N, 26° 59′ E), about 180 km west of Saint Petersburg, with an area of approximately 21 km^2 and the highest point 176 m (Fig. 1). The island belongs administratively to the Kingisepp District of the Leningrad Oblast. It stretches for about 11 km from north to south, being 2.5 km in its widest part. The marine climate of the island is characterized with little temperature variation, high humidity and very changeable weather. About 80 % of the island is covered with

Fig. 1. Gogland Island on the map of the Gulf of Finland
Рис. 1. Остров Гогланд на карте Финского залива

coniferous (pine and spruce) and mixed coniferous/parvifoliate forests. Swamps and marshes are common in the island. 663 species of vascular plants are recorded; 62 of them are included on regional, national or international Red Lists [Glazkova, 1996, 2006].

The Gogland Papilionoidea were first mentioned by Kotzsch [1937], who reported *Parnassius apollo* (Linnaeus, 1758) for the territory and gave the description of new insular subspecies *Parnassius apollo hoglandicus*, syntypes of which are stored in the Alexander Koenig Research Museum (Bonn, Germany) and the National Museum of Natural History (Leiden, the Netherlands). The images and labels can be seen online (http://globis.insects-online.de/species&tree_h=.Papilionidae.Parnassiinae.Parnassiini.Parnassius.Parnassius.528.17277&sub=yes&tree_status=plus&tree_seq=) and in the work by Möhn [Möhn, 2005a]. *P. apollo* has been later recorded at Gogland by other scientists [Kaisila, 1948; Grönblom et al., 1962, Derzhavets et al., 1986]. Nordström [1955] published the first list of Rhopalocera of the island, where 13 species from the families Papilionidae, Pieridae and Nymphalidae were reported. S.I. Melnitskij listed 9 species of Pieridae, Lycaenidae и Nymphalidae [Melnitskij, 2006] from the island, basing on his own collections and on the data of M. Antipin, and gave the presumptive list of expectable species.

MATERIAL AND METHODS

Butterflies of Gogland were studied by the first author at the end of July, 2006. 19 species were collected during July 21, the only day of expedition. 12 of them proved to be new for the Gogland fauna. The up-to-date list of Gogland Rhopalocera is given here (newly reported species are marked by *).

ANNOTATED LIST OF PAPILIONOIDEA

Family Hesperiidae Latreille, 1809

Thymelicus lineola (Ochsenheimer, 1808)
Single worn-out specimens in various meadows.

Family Papilionidae Latreille, [1802]

Parnassius apollo (Linnaeus, 1758)
Reported by [Kotzsch, 1937; Kaisila, 1948; Nordström, 1955; Grönblom et al., 1962; Derzhavets et al., 1986; Glassl, 1993; Möhn, 2005a, 2005b; Melnitskij, 2006].

Single specimens were seen in various parts of the island on the bare rocks and near host plants (possibly *Sedum telephium* (Crassulaceae). The status of *Parnassius apollo hoglandicus* Kotzsch, 1937 is still unclear. Russian scientific papers [Kaabak, Tarasov & Tuzov, 1997; Gorbunov 2001] do not mention it at all, while Glassl [1993] and then Möhn [2005a 2005b], having studied all taxa described in combination with *P. apollo*, treat it as a good subspecies. Although *hoglandicus* is likely to be a junior subjective synonym to *P. apollo finmarchicus* Rothschild, 1909, described from Southern Finland.

Papilio machaon Linnaeus, 1758
Reported by Nordström [1955].

Семейство Pieridae Duponchel, [1835]

Aporia crataegi (Linnaeus, 1758)
Reported by Nordström [1955].

Pieris brassicae (Linnaeus, 1758)
Reported by Nordström [1955].

Pieris rapae (Linnaeus, 1758)
Reported by Nordström [1955].

Pieris napi (Linnaeus, 1758)
Single specimens were collected along the roads under the forest canopy, second generation.
Reported by Nordström [1955].

Gonepteryx rhamni (Linnaeus, 1758)
Fresh males were collected in forest meadows. Reported by Melnitskij [2006].

Family Nymphalidae Swainson, 1827

Lopinga achine (Scopoly, 1763)
Reported by Nordström [1955].

Lasiommata maera (Linnaeus, 1758)
A few worn-out individuals along forest roads.

Hipparchia semele (Linnaeus, 1758)
The dominant species; most abundant at rock exposures, sandy beaches, spruce forests and along roads.
Reported by Nordström [1955].

Aphantopus hyperantus (Linnaeus, 1758)
A few worn-out specimens collected in various meadows.

Maniola jurtina (Linnaeus, 1758)
Reported by Nordström [1955].

Limenitis populi (Linnaeus, 1758)
One specimen collected on the forest road.

Argynnis paphia (Linnaeus, 1758)
The species is common at forest roads. Reported by Nordström [1955].

Fabriciana niobe (Linnaeus, 1758)
Reported by Nordström [1955].

Fabriciana adippe ([Denis et Schiffermüller], 1775]
Single worn-out specimens collected in various meadows.

Mesoacidalia aglaja (Linnaeus, 1758)
Single worn-out specimens collected in various meadows.

Brenthis ino (Rottemburg, 1775)
Single individuals along the forest road.

Melitaea athalia (Rotttemburg, 1775)
Fresh female specimens collected in various meadows.

Melitaea cinxia (Linnaeus, 1758)
Reported by Nordström [1955].

Melnitskij [2006] listed 6 more species of Nymphalidae: *Nymphalis antiopa* (Linnaeus, 1758), *Aglais urticae* (Linnaeus, 1758), *Inachis io* (Linnaeus, 1758), *Polygonia c-album* (Linnaeus, 1758), *Vanessa atalanta* (Linnaeus, 1758) and *Vanessa cardui* (Linnaeus, 1758).

Family Lycaenidae [Leach], [1815]

Callophrys rubi (Linnaeus, 1758)
Reported by Melnitskij [2006].

Lycaena phlaeas (Linnaeus, 1761)
Common in various meadows, second generation. Reported by Melnitskij [2006].

****Heodes virgaureae*** (Linnaeus, 1758)
Common in meadows along forest roads.

****Celastrina argiolus*** (Linnaeus, 1758)
Several specimens were collected under the forest canopy, second generation.

****Plebejus argus*** (Linnaeus, 1758)
Various meadows, common.

****Plebejus idas*** (Linnaeus, 1761)
Common in various meadows, mostly worn-out specimens at the time of study.

****Vacciniina optilete*** (Knoch, 1781)
Only one specimen collected on a forest road, poorly preserved.

Thus, 34 species of Papilionoidea of 5 families are actually recorded from the Gogland island. Most species are transpalaearctic, widely distributed. 4 species belong to different distribution groups: European subboreal steppe *H. semele*, European – Western Siberian sub-boreal steppe *M. jurtina*, European – Eastern Siberian sub-boreal steppe *P. apollo*, transpalaearctic boreo-montane *V. optilete* (common in marshes). The list of Gogland Papilionoidea is far from complete; more researches are required.

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