

**NEW BUTTERFLY SPECIES IN THE FAUNA OF SERBIA
(LEPIDOPTERA: NOTODONTIDAE, DREPANIDAE AND
GEOMETRIDAE)**

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A total of 604 butterfly species living in West Serbia were recorded by systematic research during the recent seven years. The following 8 species were recorded in Serbia for the first time: *Furcula bicuspis*, *Pheosia gnoma*, *Falcaria lacertinaria*, *Trichopteryx carpinata*, *Epione verspertaria*, *Pachycnemia hippocastanaria*, *Orthonama vittata*, and *Perisomena parallelolinearia*.

INTRODUCTION

The butterfly fauna of West Serbia has been partly researched. GRADOJEVIĆ (1931) published data about daily butterflies collected in Valjevo, Loznica, Kobiljača, Jablanik Mt., Povlen Mt., and Tara Mt., from 1908-13 and from 1918-26. REBEL & ZERNY (1931) published Lepidoptera from Priboj and Novi Pazar examined on the beginning of 20th century. Prof. Kosta VASIĆ researched fam. Noctuidae, but he has not published the results. JAKŠIĆ (1988) examined butterflies of the mountain of Tara.

Recently, NEDELJKOVIĆ (1993) collected daily butterflies in the country surrounding Valjevo and Ljubovija, as well as VAJGAND (1990) the night butterflies in Petrica, near Valjevo.

The present paper deals with eight butterflies found in the areas examined, which are the first records of the species in Serbia.

AREA EXAMINED

The research works were performed in the central part of West Serbia, at the five different areas.

The area surrounding the town of Užice: meadows, orchards and mixed deciduous forests in the vicinity of settled areas and industry. (400-700 m). The area is mostly located on the limestone base (DPO5).

Jelova Gora, the mountain NW of Užice, up to 1000 m; mixed beech (*Fagus* sp.) and fir (*Abies alba*) forests, and some other deciduous trees. The meadows with stands of birch trees, originated by pruning forest (DPO6).

Zlatibor, the mountain consisting of volcanic rocks, S of Užice. It is a plateau with hills up to 1500 m. A part of the mountain covered with thick grass. White pine trees (*Pinus silvestris*) and black pine trees (*Pinus nigra*) are to be found there, while deciduous trees can be found on the mountain slopes. The examinations were carried out at the following five sites: Tornik and Ribnica Lake (CP83), Borova Glava (CP92), Vodice (CP93), Vode (CP94), and the Large Rzav-Prištavica (DP14).

Murtenica, the mountain, that is wooded chain of Zlatibor, on the limestone base, with beech trees, fir trees, and spruce trees (*Picea abies*) (DPO2).

Tara, the mountain W of Užice. A limestone massif covered with mixed forest of deciduous trees. The research works were performed at two sites of Zvijezda chain: the village of Jagoštica (CP67) and the meadows under the peak Stolac (1675 m) (CP67).

The sites examined are marked by the code which determines its position on the map of Serbia, with UTM net.

MATERIAL AND METHODS

Daily butterflies were examined since 1991, and the night ones since 1994. Catching and preparing of specimens have been performed with standard entomological methods. About 2600 specimens are in the author's collection.

For identification of night species author used the well known books: FORSTER & WOLFHART (1955-81), FREINA & WITT (1987), and HIGINS & RILLEY (1983) for daily butterflies.

RESULTS AND DISCUSSION

On the base of the species identified, and according to the accessible literature, 604 species (Rhopalocera, 123; Bombyces and Sphinges, 122; Noctuidae, 192; Geometridae, 167) are to be found in the examined area of West Serbia.

There were no data in the relevant literature on the existence of 8 species so that they can be considered new ones in the fauna of Serbia. Some more details will be added about the following eight species, belonging to Notodontidae, Drepanivae, and Geometridae.

Furcula bicuspis (Borkhausen, 1790)

Areal: Central and north Europe, on the east to Moscow. According to FORSTER & WHOLFHART (1955-81) this species is very rare in Central Europe, avoiding high mountains. In the "Red book" of Hungary this species is recorded as a member of Siberia fauna region. It spreads from the Carpatian Mountains and the East Alps towards the south (it is very rare in Hungary). Population of this species in the West Serbia is on the edge of areal.

Butterflies fly almost everywhere in two generations. Caterpillars feed on birch (*Betula pendula*), and alder trees (*Alnus glutinosa*). The species has been found so far at Užice, 1 ♀; and Jelova Gora, 2 ♂ in August 1995 and 1996.

Pheosia gnoma (Fabricius, 1777)

It is distributed in the West, Central and North Europe, on the east to the Amur river. SEITZ (1906) recorded the species in Croatia and Bukovina (North Rumania). This species was recorded in Montenegro (TOMIĆ *et al.*, 1990). Population of this species in the West Serbia is probably on edge of the areal.

Butterflies appear in two generations. Caterpillar feeds on birch or sometimes on other deciduous trees (CARTER & HARGREAVES, 1994). Only the second generation has been caught in Tara Mt. (CP67) 1 ♂ in July, and in Jelova Gora, more specimens have been taken, in August 1996 and 1997.

Falcaria lacertinaria (Linnaeus, 1758)

Areal: Central and North Europe, to the east over Siberia, till the Amur river. The species fly in two generations. Central European subspecies is ssp. *lacertula* (Schiff.), spring generation. Summer generation is gen. *Aest. erosula* (Lasp.).

Caterpillars of the species feed on birch and alder trees. The species was recorded of the second generation: 1 ♀ in July 1996, and 1 ♂ in August 1997, found in the mountain Jelova Gora.

Trichopteryx carpinata (Borkhausen, 1794)

It is distributed in the Central and North Europe, towards the east to Siberia. The species was recorded in Montenegro and Croatia (TOMIĆ *et al.*, 1990). The species is to be found in the higher regions from the end of March till the beginning of June.

Caterpillars feed on birch, goat willow (*Salix caprea*), alder trees and eagles' nails (FORSTER & WHOLFHART, 1995-81). The species was taken with more females at Užice (650 m), on the end of April and on the beginning of May 1996 and 1997.

Epione verspertaria (Fabricius, 1775)

Areal: From the Central Europe (including South Scandinavia, North Spain and North Italy) as far as Armenia and the Amur river. FORSTER & WHOLFHART, (1955-81) recorded the species in the Alps as regional and mostly rare, on about 1700 m. This species was recorded in Montenegro (TOMIĆ *et al.*, 1990), as well as in Croatia and Slovenia.

Butterflies fly from June to August. Caterpillars feed on birch, goat willow, aspen trees (*Populus tremula*), etc. The species was recorded with 1 ♂ taken at the mountain Tara (CP67) in July 1966.

Pachycnemis hippocastanaria (Hübner, 1799)

It is typical for Central and South Europe, North Africa and Asia Minor. FORSTER & WHOLFHART (1955-81) recorded the species as regional and rare. The species can be found only in sites overgrown with heath (*Calluna vulgaris*).

Two generations usually fly, or only one generation due to climate conditions (May till July). ABAFI AIGNER (1907) recorded the species in only one region of Hungary.

Caterpillars feed on blueberries (*Vaccinium* sp.). In the south they feed on *Erica arborescens* (SPULER, 1908).

Just 1 ♂ was caught in the mountain Tara (CP67) so far, in July 1996.

Orthonama vittata (Borkhausen, 1794)

The species can be found in North and Central Europe, particularly in swamp-lands. It flies in two generations: from May to June, and from July to September.

Caterpillars feed on *Galium palustre*, other *Galium* spp., as well as on *Menyanthes trifoliata* (SPULER, 1908). The specimens of this species were so far taken in

damp meadows, at Užice. Just 1 ♂ was found in May 1996, and another on in November of the same year.

Perisomena parallelolaria (Retzius, 1783)

Areal: Central and North Europe, on the east to the Urals and the Altai mountains. The species is more often in the hills than in plains (FORSTER & WHOLFHART, 1955-18). Butterflies fly from July to October.

Caterpillars feed on herbaceous plants.

Just 1 ♀ was taken at Užice (650 m) in October 1996.

The examinations on butterfly fauna in the West Serbia will be continued.

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НОВЕ ВРСТЕ ЛЕПТИРА У ФАУНИ СРБИЈЕ
(LEPIDOPTERA: NOTODONTIDAE, DREPANIDAE, GEOMETRIDAE)

И. ДОДОК

И з в о д

ZEČEVIĆ (1996) наводи 1334 врсте лептира који су нађени на територији Србије. Осам врста Lepidoptera, нових за фауну Србије, о којима је реч у овом саопштењу - нађене су у западној Србији. Аутор је прикупљао и испитивао лептире, дневне од 1991. и ноћне од 1994., на подручју Ужица, Јелове Горе, Златибора, Муртенице и Таре. Прелиминарном идентификацијом утврђено је присуство 604 врсте лептира: Rhopalocera 123, Bombyces и Sphingae 122, Noctuidae 192, и Geometridae 167.

Многе од ових врста су нове за истраживано подручје, а - према одговарајућој литератури - 8 од ових врста до сада није забележено на територији Србије. То су две врсте Notodontidae: *Furcula bicuspis*, *Pheosia gnoma*; једна врста Drepanidae: *Falcaria lacertinaria*; и пет врста Geometridae: *Trichopteryx carpinata*, *Epione verspertaria*, *Pachycnemis hippocastanaria*, *Orthonama vittata*, и *Perisomena parallelolinaris*.

Све наведене врсте припадају евроазијском елементу распрострањености, осим врсте *Pachycnemis hippocastanaria* која припада медитеранском и суб-медитеранском елементу. - Налази врста *Furcula bicuspis* и *Pheosia gnoma* су вероватно на самој ивици њихових ареала.

Истраживања фауне лептира западне Србије биће настављена.

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