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## A new species of *Plebejides* SAUTER, 1968 from Central Asia

(Lepidoptera, Lycaenidae)

by

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**Zusammenfassung.** *Plebejus (Plebejides) patriarcha* spec. nov. wird von Tadschikistan beschrieben. Die systematische Stellung der neuen Art wird diskutiert und einige kurze Überlegungen zur Phylogenie der Gattung *Plebejus* KLUK, 1802 vorgestellt.

**Abstract.** *Plebejus (Plebejides) patriarcha* spec. nov. is described from Tadjikistan. The systematic position of the new species is discussed with short phylogenetic interpretations on the genus *Plebejus* KLUK, 1802.

**Összefoglalás.** Leírásra kerül Tadzsisikisztánból a *Plebejus (Plebejides) patriarcha* spec. nov. A szerző tárgyalja a faj rendszertani helyzetét és rövid filogenetikai jegyzeteket fűz a *Plebejus* KLUK, 1802 génuszhoz.

### Introduction

The subgenus *Plebejides* SAUTER, 1968, which was thoroughly discussed in my previous works (BÁLINT, 1991a, BÁLINT & KERTÉSZ, 1990a), is a widespread group of blue lycaenid butterflies in the central and western part of the Palearctic region connected to the oreale biom. The representatives of *Plebejides* are rather stenochorous (BÁLINT & KERTÉSZ, 1990b), so the populations are fragmented and strongly isolated from each other.

FORSTER (1938) reviewed firstly the "*Lycaena pylaon*" group more than 50 fifty years ago and his results are still followed by several authors (e.g. BEURET, 1961; KORSHUNOV, 1972 and SAKAI, 1981), in spite of the fact that different results were published even in the time of FORSTER'S revision. According to my investigations the *pylaon*-group sensu FORSTER is rather heterogeneous, several taxa have closer relationship with other species groups in the *Polyommatus* section sensu ELIOT (1973) (BÁLINT & KERTÉSZ, 1990a:219; BÁLINT, 1991a: 38-41).

The *pylaon* species group (s.str, see BÁLINT & LUKHTANOV, 1990) consists of several allopatric species (Iberia: *hespericus* RAMBUR, 1838; Alps: *trappi* VERITY, 1927; Ural-region, Kazakhstan, South Sibiria and Altai: *pylaon* FISCHER VON WALDHEIM, 1832; Afghanistan, Beluchistan, West Tibet and Nepal: *indicus* EVANS, 1925) and a central complex of taxa distributed in SE-Europe, Asia Minor, Iran and Central Asia. This central group can be divided by the morphologic characters of the butterflies, some biological considerations, as well as on the basis of the knowledge of zoogeographic history in the western Palearctic

region into several taxa-groups (polytypic species or geographic subspecies with strongly isolated populations: *sephirus* FRIVALDSZKY, 1835; *nichollae* ELWES, 1901; *philbyi* GRAVES, 1925; *zephyrinus* CHRISTOPH, 1884, and *usbekus* FORSTER, 1939). The species described below has a rather distinct position in the *pylaon* group.

*Plebejus (Plebejides) patriarcha* spec. nov. (figs. 1-4, 7)

**Holotype**, male: "Karnak, Darwas, 8.VI.'85.", "ELWES coll., 1902-05", "gen. prep. No. 171., det. ZSOLT BÁLINT" Allotype, female: "Chingve-Darja, Darwas, 10.VI.'85., Tabidara", "ELWES coll., 1902-05."

**Paratypes** (1 male, 3 females): 1 male: "Karatag, Buchara o., 5.VI.'85., Karkuss", "ELWES coll., 1902-05.", "gen. prep. No. 172., det. Zs. BÁLINT"; 1 female same data as paratype male; 2 females same data as Allotype.

The type series are in the Butterfly Collection of the Natural History Museum, South Kensington (London, UK).

**Male**: Forewing length: 17-19 mm, mean 18 (N=3).

**Antennae**, head, thorax and abdomen as in *Plebejides*.

**Dorsal Surface**: Forewing: Shape long and rounded. Ground colour deep violet blue. Outer margin black border. End of cells with black antemarginal spots. End of veins covered with black scales. Fringe white. Hindwing: Ground colour, outer margin and fringe as forewing. Antemarginal spots arrow-head like. Cell of v3-2 with orange coloured submarginal lunule. Costa and area between cell v8-7 black. Anal area grey.

**Ventral Surface**: Forewing: Ground colour warm grey. Outer margin with a thin black border. Discoidal spot rounded and large with narrow white ring. Postdiscal spots rounded with white rings. Submarginal area with indistinct white arrow head markings, black cap spots and orange coloured submarginal lunules. Antemarginal area white with black spot in each cell end. Anal corner with two suffused submarginal and antemarginal spots. End of veins black. Fringe white. Hindwing: Ground colour, spots, outer margin and fringe as forewing, but basal and postdiscal series of spots smaller, submarginal markings better developed.

**Genitalia**: As in *Plebejides*, but without ampullary process.

**Female**: Size, antennae, head, thorax and abdomen as in male.

**Dorsal Surface**: Forewing: Ground colour brown. Shape of wings rounder as in male. Basal area with few gleaming blue scales. Discoidal line present. Black antemarginal border and spots missing. Fringe as in male. Hindwing: Ground colour and fringe as forewing. Basal area with slight suffusion of gleaming blue scales. Anal area light brown. End of cells with brownish black antemarginal spots. Cells v5-4, 4-3 with orange coloured submarginal lunules.

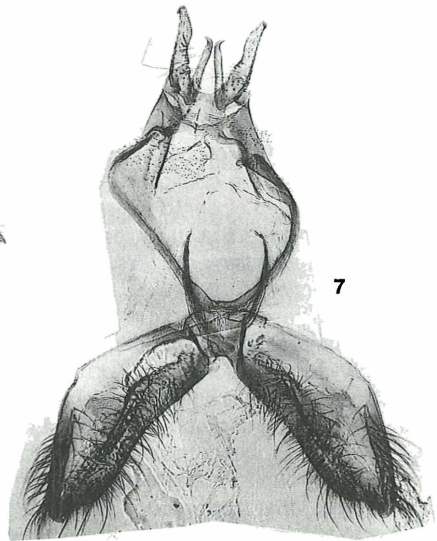
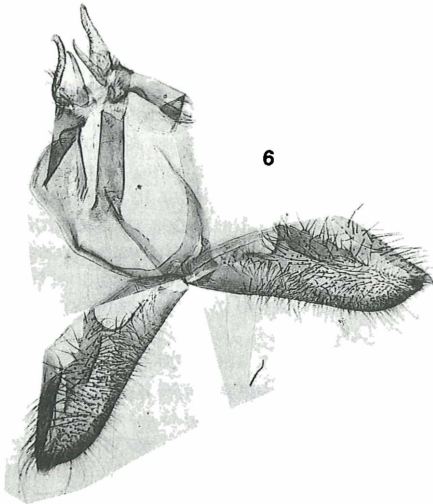
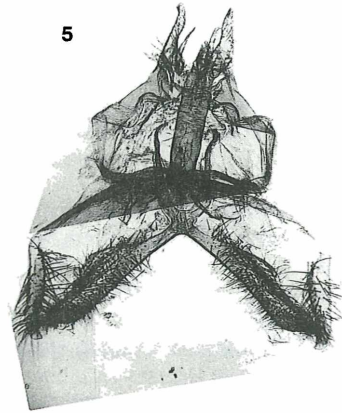
**Ventral Surface**: Forewing and hindwing: As in male, but ground colour a bit darker with stronger markings.

**Etymology**. The specific name is derived from the greek root for ancestor or forefather, in reference to the systematic position of the new taxon among representative of the *Plebejides* (see discussion).

Fig. 5. Male genitalia of *Plebejus allardi* (OBTH.), gen. prep. No. 55., BÁLINT (in coll. Hungarian Natural History Museum, Budapest, Hungary).

Fig. 6. Male genitalia of *Plebejus sephirus semiturcmenicus* (BAL.), Paratype, gen. prep. No. 144, BÁLINT (in coll. Hungarian Natural History Museum, Budapest, Hungary).

Fig. 7. Male genitalia of *Plebejus patriarcha* spec. nov., Holotype, gen. prep. No. 171., BÁLINT (in coll. Natural History Museum, South Kensington, UK).



Distribution. *Plebejus patriarcha* is thus far known only from Tadjikistan, Central Asia, the collecting localities of the type specimens.

Phenology. The species presumably flies in a single brood (as its all known relatives) from the beginning of the summer vegetation period, late May to early June in Tadjikistan.

Hosts. The foodplant of the caterpillar is unknown, but most probably it is an *Astragalus* L. species (cp. BÁLINT, 1991b). The nectar sources of the imago is perhaps *Dianthus* L. spec. (cp. MUNGUIRA, 1987; BÁLINT (own. obs.): *Dianthus pottederae* KERN. almost exclusively in Pannonia).

Diagnosis. *Plebejus patriarcha* spec. nov. can be easily separated in first sight by the following morphologic characters from the similar, most probably sympatric Central Asian taxa (cp.: *usbekus* - BÁLINT, 1991a: figs. 65-68, 71-72, 100, and BÁLINT & KERTÉSZ, 1990a: figs. 8-9, 24-29; *zephyrinus* BÁLINT, 1991a: figs. 53-64, 97-98 and BÁLINT & KERTÉSZ, 1990a: figs. 14-16, 44):

long and rounded forewing shape. The taxon *usbekus* and *zephyrinus* have shorter forewing.

black suffusion of costa into v7 on hindwing dorsum of male. The area between v 8-7 of hindwing dorsum in the taxon *usbekus* and *zephyrinus* are always blue.

long but robust valva without ampullary process of male genitalia. The ampullary process can be always found in the valve of *usbekus* and *zephyrinus*.

#### Discussion

The subgenus *Plebejides* contains two large groups: 1) the Northwest African *martini*-group, 2) the European and West Asian *pylaon*-group. The origin of the two mentioned groups from a common ancestor can be also confirmed by the similar configuration of the male genitalia (slender labides, shape of valva: Figs. 5-6), but the existence or the absence of the ampullary process (BÁLINT & KERTÉSZ, 1990a:220.) on the inner side of the valva separates them well. The new species described above under the name *patriarcha* does not have ampullary process (Fig. 7). Accordingly *patriarcha* is closer to the taxa of the *martini*-group in the configuration of the male genitalia but the types of *patriarcha* are superficially much closer to the *pylaon*-group as well as the shape of the valva resembles that of *pylaon* and its relatives (cp. BÁLINT, 1991a: figs. 85-103). If we suppose, that the presence of the ampullary process (as the other aberration of the male genitalia in the *Polyommatus* section (ELIOT, 1973), in which *Freyeria* COURVOISIER, 1920 and *Chilades* MOORE, 1881, as well as *Maurus* BÁLINT, 1991 has the most uniform, ancestral genitalic structure showing similarities to the South American (NABOKOV, 1945) genera and to the closely related *Euchrysops* section sensu ELIOT (STEMPFER, 1967: figs. 199-215) is an apomorph character, *patriarcha* has an intermediate status between the two groups. If we take into consideration the biogeographic history of the region inhabited by *Plebejides* (cp. BÁLINT, 1991b), most probably the *martini*-group and *patriarcha* had a common ancestor, while the *pylaon*-group can be directly originated from the Central Asian *patriarcha*. Similar phenomena, that taxa-groups distributed in the Western Palearctic region become concentrated in Central Asia, are well known in the lepidopterological literature (e.g. VARGA, 1976 and 1989).

The interpretation of the *argus*-species group (*Plebejus* s.str. in *Plebejus* KLUK, 1802, which needs also a comprehensive revision; the work of FORSTER (1936) on this group is rather outdated and only based on typologic considerations) is problematic and its taxonomic situation points to the unsolved classification of the mentioned *Polyommatus* section on generic level. *Plebejus* (s.str.) shows much closer relationship in its morphology and biology to *Plebejides* than to *Lycaeides* HÜBNER, [1818] (SZABO, 1956:274). The three armed juxta, as well as the dentated processus exterior of the valva (the initiative sclerotized formations of the dentation of the valva are also findable on *Plebejides*) in *argus*-group (see FERNANDEZ-RUBIO, 1976: lamina 40-41) can be classified as apomorphic characters, which could be pararell evolved with the apomorphic state of *Plebejides*.

Thorough cladistic studies has to be done to answer the question whether *Plebejides* and *Plebejus* are sister groups originated directly from *patriarcha* or there is another unknown (undescribed or extinct) taxon between them?

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Colour plate VIII (p. 305)

- Fig. 1. *Plebejus patriarcha* spec. nov., Holotype male.  
 Fig. 2. *Plebejus patriarcha* spec. nov., Allotype, female.  
 Fig. 3. *Plebejus patriarcha* spec. nov., Paratype, male.  
 Fig. 4. *Plebejus patriarcha* spec. nov., Paratype (Karatag), female.

1 a	2 a	1 b	2 b
3 a	4 a	3 b	4 b

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Colour plate VIII

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- Fig. 1. *Plebejus patriarcha* spec. nov., Holotype male.  
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 Fig. 3. *Plebejus patriarcha* spec. nov., Paratype, male.  
 Fig. 4. *Plebejus patriarcha* spec. nov., Paratype (Karatag), female.

2b	4b	
1b	3b	
2a	4a	
1a	3a	

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- Fig. 5: *Parnassius delphius darvasica* AVINOFF, 1916, ♀: Langar, 3900m (Vantsch-Gebirge), 18.VII.1986; phot. A. SYKOV.  
 Fig. 6: *Melitaea shandura pavlitzkajana* SHELJUZHKO, 1943, ♂: Langar, 3000m (Vantsch-Gebirge), 7.VII.1986; phot. A. SYKOV.

		6
		5

**Colour plate VIII**





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