

NEW LEPIDOPTERA FROM TURKEY - II

by

AHMET ÖMER KOÇAK

Abstract: In this paper, three new subspecies of butterflies, Pseudophilotes bavius eitschbergeri n. subsp., P. bavius onalpae n. subsp. and Arethusana arethusana hakkarica n. subsp. are described from Turkey.

As I was studying on some materials of mine, in the Zoologische Staatssammlung (Munich) in the late of 1974, I was able to determine some new subspecies of butterflies. In the present paper, three new subspecies, which belong to Pseudophilotes bavius EVERSMANN, and Arethusana arethusana SCHIFFERMÜLLER, are described from Central and Eastern Turkey.

All the types are deposited in the Department of Systematic Zoology of University of Ankara.

LYCAENIDAE

Pseudophilotes bavius eitschbergeri n. subsp. (Figs. 1, 2, 5, 6)

Holotype ♂: Forewing 12 mm, expanse 25 mm

Upperside of wings (Fig. 1): Ground colour purplish-blue; in forewing, discoidal line absent, dark brown antemarginal band ill-defined, narrow, with slightly distinct antemarginal blackish dots; reddish-orange submarginal lunules of hindwing well developed in spaces of 1b-5; veins between submarginal lunules of hindwing, clearly defined by black scales; black antemarginal dots large in size, occur in spaces of 1b-6; black marginal line well developed; ciliae pure white, chequered with black.

Underside of wings (Fig. 5): Ground colour white in tone, greyish scales partly suffused in forewing; usual jet-black markings well developed in both wings; reddish-orange submarginal lunules of hindwing contiguous and well developed; black antemarginal dots slightly smaller in size than those of upperside; black marginal line finely developed; base of forewing dark grey, bluish basal scales appear only at hindwing.

Allotype ♀: Forewing 14 mm, expanse 27 mm

Upperside of wings (Fig. 2): Ground colour dark blackish brown; bluish scales weakly developed at discal area in both wings; dark brownish discoidal line of forewing ill defined; blackish marginal line distinct; orange submarginal lunules of hindwing complete, much more developed than hitherto known subspecies of bavius, and finely bordered with blackish scales proximally; antemarginal black dots large, complete; antemarginal area conspicuously whitish in tone at anal angle; veins black in colour at outer part of hindwing; black marginal line distinct, ciliae white, chequered with black.

Underside of wings (Fig. 6): Ground colour of forewing more greyish in tone than male; all markings and colouration similar to male but better developed than him.

Paratypes (10 ♂♂): Forewing 12-14 mm (average 12,90 mm), expanse 23-26 mm (average 24,63 mm).

Upperside of wings: Blackish antemarginal band of forewing variable, generally narrower than holotype; reddish-orange submarginal lunules of hindwing, in some specimens, lacking in spaces of 4-6.

Underside of wings: Ground colour of forewing, in some specimens, on a large scale, darkened with sparse blackish scales; other features similar to holotype.

Material examined: Holotype ♂: Urfa Province (South-Eastern Turkey), district of Çamlıdere ca. 700 m NN, 17.IV.1973; Allotype ♀: Mardin Province (South-Eastern Turkey), district of Derik, 15.V.1972; Paratypes 3 ♂♂ Urfa Prov., district of Çamlıdere ca. 700 m NN, 16.V.1972; 5 ♂♂ same locality, 17.IV.1973; 2 ♂♂ Mardin Prov., district of Derik, 15.V.1972 A. KOÇAK leg.

This new subspecies is related to *ssp. fatma* OBERTHÜR (Etudes Entomol. XIII (1890), p. 19, t. 7, f. 50-51), which occurs in North Africa, but easily distinguishable from her by the following characters:

Smaller in size (12 ♂♂ of *ssp. fatma* measured in Zoologische Staatssammlung at forewing 12-15 mm, average 13,25 mm and expanse 23-30 mm, average 26,66 mm; in male, upperside of forewing without discoidal line; dark marginal band of upperside narrower and ill defined; on hindwing, reddish-orange submarginal lunules without proximal dark scales on upperside, and contiguously developed on underside.

This new subspecies inhabits on the dry stony foot-hills of Urfa and Mardin Provinces in South-Eastern Turkey, and flies in April-May. Other habitats here are Archon apollinus apollinaris STGR., Zerynthia cerisyi eisneri BERN. (Papilionidae), Tomares romanovi maculifera STGR., Kretania eurypilus euaemon HEMM. (Lycaenidae), etc.

I have pleasure in dedicating this fine new subspecies of P. bavius to Mr. ULF EITSCHBERGER, who has valuable works on the migration of Lepidoptera.

Pseudophilotes bavius onalpae n. subsp. (Figs. 3, 4, 7, 8)

Holotype ♂: Forewing 13 mm, expanse 25 mm

Upperside of wings: Ground colour purplish; blackish discoidal line rather weakly developed; dark brown antemarginal band ca. 2 mm in width; orange submarginal lunules of hindwing appear in spaces of 1b-2; blackish antemarginal dots small in size, better developed in spaces of 1b-3; ciliae whitish, more strongly chequered with dark brown in forewing than hindwing.

Underside of wings (Fig. 7): Ground colour light bluish grey; usual black markings smaller in size than previous subspecies; basal bluish scales appear at hindwing; orange submarginal lunules of hindwing contiguously developed; antemarginal area slightly more whitish in tone than other parts

of wings; blackish marginal line fine, distinct.

Allotype ♀ Forewing 12 mm, expanse 23 mm

Upperside of wings (Fig. 4): Ground colour dark brown; purplish sclaes less developed than those of *eitschbergeri*; dark brown discoidal line of forewing rather weakly developed, marginal line indistinct; orange submarginal lunules better developed at anal angle than apical part of hindwing; black antemarginal dots slightly larger in size than those of male, and better defined between spaces of 1b-4; antemarginal area dark brown; ciliae whitish, chequered as in male.

Underside of wings (Fig. 8): Ursual black markings better developed than those of male, other features as in male.

Paratypes (11 ♂♂): Forewing 10-13 mm, average 11,9 mm, expanse 20-25 mm, average 23 mm.

Upperside of wings: Blackish discoidal line of forewing, in some specimens dissapeared; orange submarginal lunules more or less developed in spaces of 3-5.

Underside of wings: Ground colour varies from creamy white to dark grey, but never as dark as in macedonica.

Material examined: Holotype (♂): Ankara Province, Central Turkey, district of Beynam, ca. 1200 m NN, 1. V. 1970; Allotype (♀): Ankara Province, Kepekli Paß, ca. 1100 m NN, 6. VI. 1971; Paratypes: Ankara Province, district of Beynam ca. 1200 m NN, 1. V. 1970, 5 ♂♂; Kepekli Paß ca. 1100 m NN, 29. IV. 1970, 2 ♂♂, 8. V. 1971, 1 ♂, 9. V. 1971, 1 ♂, 20. VI. 1970, 1 ♂; Çubuk Baraji-I, ca. 950 m NN, 9. V. 1971 1 ♂ A. KOÇAK leg.

This new subspecies related to ssp. macedonica SCHULZE, but easily distinguishable from it by the following characters:

Smaller in size (3 ♂♂ of ssp. macedonica measured in Zoologische Staatssammlung, forewing 13-14 mm, average 13,33 mm, expanse 26-27 mm, average 26,66 mm); narrower dark brownish antemarginal band in forewing of male (average of 12 ♂♂ of new subspecies is 1,17 mm, whereas in macedonica varies from 2,5 to 3,5 mm in width); lighter ground colour of underside of wings.

This new subspecies inhabits in Central Anatolian steppes, river banks and stony, flowery slopes of middle heights of the mountains. This subspecies emerges in late April, and flies to late June. She exists here with Anthocharis gruneri (Pieridae), Tomares nogelii, Thersamonia ochimus, Freyeria trochylus, Cupido osiris, Cyaniris semiargus, Lysandra candalus (Lycaenidae) etc.

I have pleasure in dedicating this new subspecies of P. bavii to Miss Dr. BIRSEN ÖNALP, who studies on Turkish Cerambycidae.

SATYRIDAE

Arethusana arethusa hakkarica n. subsp. (Figs. 9,10)

Holotype ♂: Forewing 23 mm, expanse 40 mm

Upperside of wings (Fig. 9): Ground colour dark brown, slightly darker than in *ssp. sultana* WAGNER; orange postdiscal band reduced, incomplete in both wings; black apical spot of forewing large in size; anal black dot of hindwing small, distinct; ciliae creamy, chequered with brown.

Underside of wings (Fig. 10): In forewing, ground colour dark ochreous; costal area and cell with numerous blackish transverse lines; costal part of apex with whitish scales; black apical spot large, with a white pupil; antemarginal area dark brown with well defined, zig-zag shaped dark brown antemarginal line; inner part of spaces of 1a-1b dark brown. Ground colour of hindwing greyish-brown, with numerous striae at inner part; basal and discal irregular black lines ill-defined; median whitish band well developed; outer of hindwing more darker than inner part; yellowish brown sub-marginal pupils indistinct; black anal dot distinct.

Allotype (female): Unknown

Paratypes (7 ♂♂): Forewing 20-24 mm, average 22,42 mm; expanse 36-43 mm, average 39,28 mm.

Upperside of wings: Ground colour, in some specimens, slightly dark reddish-brown in tone; orange postdiscal band variable, obscured and lacking in both wings.

Underside of wings: Median whitish band variable but always well defined.

Material examined: Holotype (♂): Hakkari Province (South-Eastern Turkey) ca. 20 km northwestwards of Yüksekova district, ca. 1800 m NN, 29.VII.1973; Paratypes: 6 ♂♂ ditto; 1 ♂ Van Province (Eastern Turkey), Çuh Paß, ca. 2400 m NN, 29.VII.1973 A. KOÇAK leg.

This new subspecies differs from Central Anatolian subspecies, *ssp. sultana* WAGNER (1929, Mitt.Münc. Ent. Ges. 19, p. 24-25, Taf. II, f. 1, 2), by the following characters:

Ground colour of upperside slightly darker in tone; black apical spot of forewing larger in size; orange postdiscal band of upperside reduced; underside of wings, colouration and markings better developed; underside of hindwing, whitish median band well defined.

This new subspecies is probably confined in the deep mountains of South Eastern Turkey, and exists here with *Satyrus favonius*, *Hyponephele lupinus*, *Melanargia hylata iranica* (Satyridae), *Heodes virgaurenae armeniaca*, *Agrodiaetus antiodolus* (Lycaenidae) etc.

Acknowledgement:

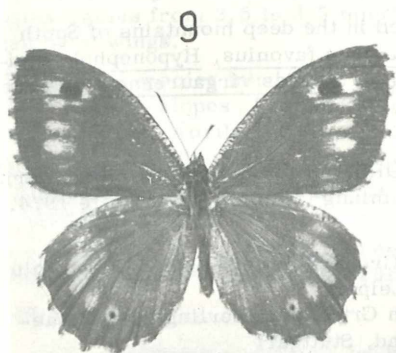
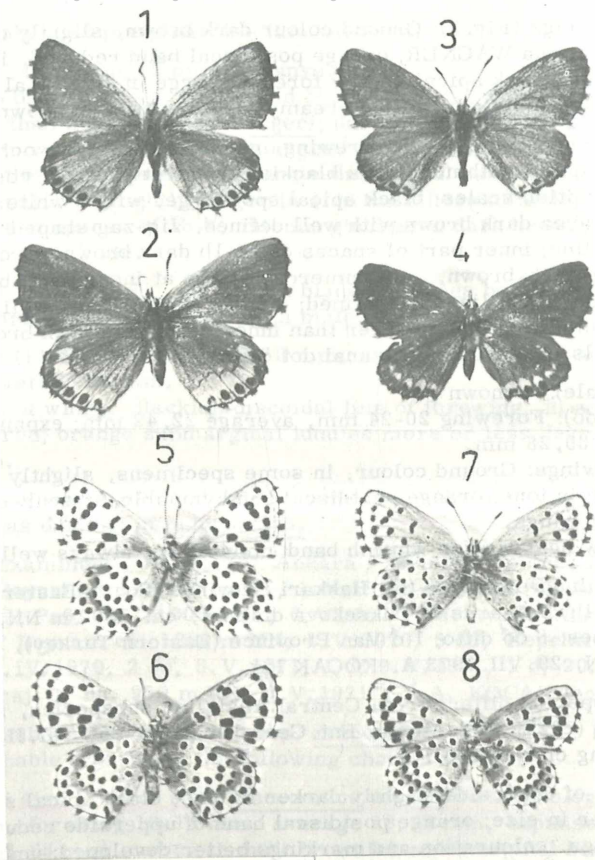
I wish to thank to Mr. Dr. WALTER FORSTER for his valuable help during my short visit to Zoologische Staatssammlung (Munich), in the late 1974.

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Explanation of figures

- Fig. 1: P. bavius eitschbergeri n. subsp. Holotype ♂, Upperside
Fig. 2: P. bavius eitschbergeri n. subsp. Allotype ♀, Upperside
Fig. 3: P. bavius onalpae n. subsp. Holotype ♂, Upperside
Fig. 4: P. bavius onalpae n. subsp. Allotype ♀, Upperside
Fig. 5: P. bavius eitschbergeri n. subsp. Holotype ♂, Underside
Fig. 6: P. bavius eitschbergeri n. subsp. Allotype ♀, Underside
Fig. 7: P. bavius onalpae n. subsp. Holotype ♂, Underside
Fig. 8: P. bavius onalpae n. subsp. Allotype ♀, Underside
Fig. 9: Arethusana arethusa hakkarica n. subsp. Holotype ♂, Upperside
Fig. 10: Arethusana arethusa hakkarica n. subsp. Holotype ♂, Underside

(figures slightly enlarged in size)

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