

Rhopalocera of Turkey. 3. Geographical variation of *Pseudochazara anthelea* (Hübner) and description of *P. anthelea selcuki* n. ssp. (Lepidoptera: Satyridae)

H. VAN OORSCHOT, H. VAN DEN BRINK & B. VAN OORSCHOT

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Abstract: The geographical variation of *Pseudochazara anthelea* (Hübner, 1824) is discussed. A new subspecies is described from the southeastern provinces of Bitlis and Siirt. The subspecies *atavirensis* Coutsis, 1972, from Rhodes, can not be separated from the nominate subspecies. A lectotype is selected for *P.a. amalthea* (Frivaldsky, 1845) and for *P.a. acamanthis* (Rebel, 1914).

Instituut voor Taxonomische Zoölogie (Zoölogisch Museum), Plantage Middenlaan 64, 1018 DH Amsterdam.

Pseudochazara anthelea (Hübner, 1824)

This species is known from Turkey, the southern part of the Balkans and the islands of Crete, Rhodes, Kos, Samos, Chios and Cyprus. Its type locality is Asia minor. We recognize currently four subspecies: *P. a. anthelea* from Asiatic Turkey and the islands of Rhodes, Kos, Samos and Chios, *P. a. amalthea* (Frivaldsky, 1845) from the southern part of the Balkans and Crete, *P. a. acamanthis* (Rebel, 1916) from Cyprus and *P. a. selcuki* n. ssp., which is described in this study from the southeastern part of Turkey. In this study the Rhodes subspecies *atavirensis* Coutsis, 1972, is synonymized with *P. a. anthelea*.

In general *anthelea* can be observed in large numbers flying in hot, open and mostly rocky terrain roughly between 500 m and 2000 m, with a highest record from Erzurum at 2800 m. The species has been recorded from the end of May to early September, with June and July as the main flight period.

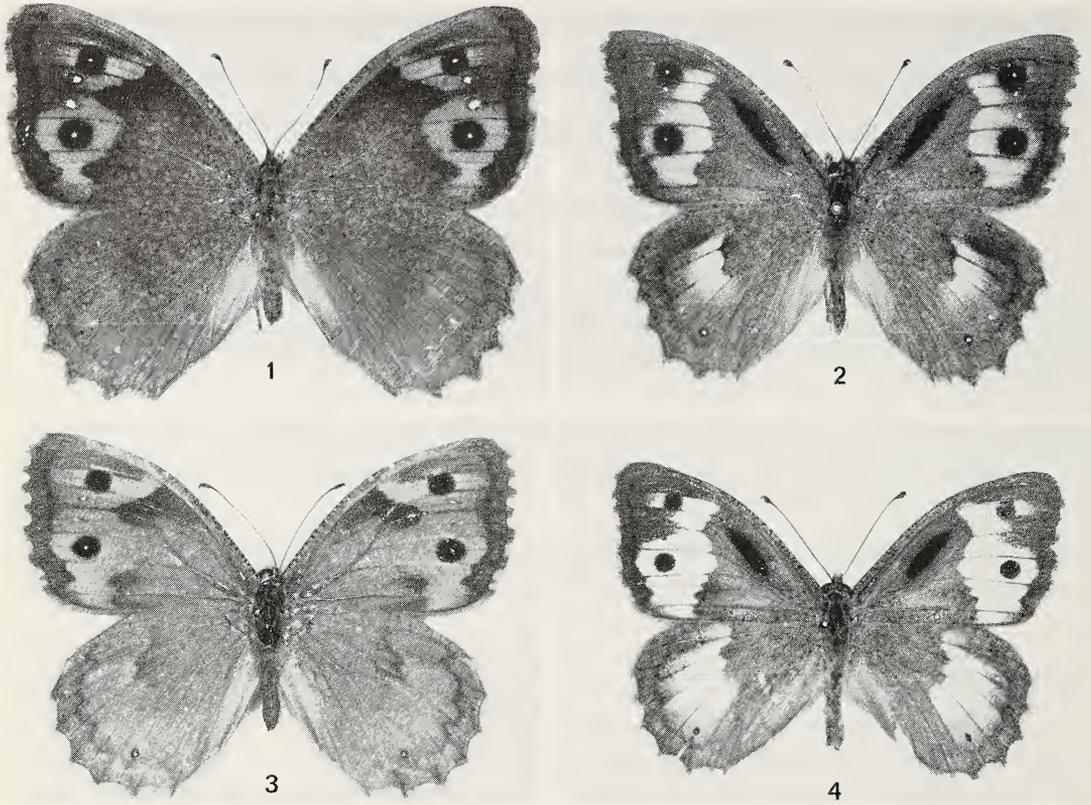
Pseudochazara anthelea anthelea (Hübner, 1824)

(figs. 3-4)

P. a. anthelea is known from above mentioned Greek islands for the west coast of Turkey and from Asiatic Turkey with the exception of the southeastern and eastern provinces, and the area north of the Pontic mountains. The most eastern records are: "Erzurum, 2300-2500 m, 14.vii.-2.viii.1977, Eckweiler", 1 ♂, and "Erzurum, Palandöken Dag, 2800 m, 5 km südlich Fernseh Station, 15.viii.1977, Görgner", 1 ♀; both specimens are in the possession of the collectors.

The following notes on the external characteristics are made on the basis of 735 males and 930 females from Turkey.

Male: postdiscal band on the uppersides of both wings clear white with often a narrow shade of orange brown outwards; specimens from south of the Taurus, and towards the east, particularly in the provinces of Antalya and Elazig, have a more pro-



Figs. 1-2. *P. anthelea selcuki* n. ssp., upperside, province of Bitlis, Turkey: 1, female; 2, male, holotype.
 Figs. 3-4. *P. anthelea anthelea*, upperside, province of Konya, Turkey: 1, female; 2, male.

nounced dark colouration than those from the rest of Turkey.

Female: postdiscal band of forewing upperside is reddish yellow, postdiscal band very often distinctly open inwardly, with the reddish yellow colour extending to the base of the wing. The postdiscal band can be separated faintly from the discal field, whereas a distinct separation, or inwardly closed postdiscal band, is found in roughly 10% of the females from all over the country. A score of up to 30% closed postdiscal band has been found in 49 specimens from the southern province of Antalya and up to 85% to the east in the province of Elazig (41 specimens). In the upperside of the hindwing the postdiscal field is very often distinctly reddish yellow, but may be darkened.

Pseudochazara anthelea from Rhodes

Coutsis (1972) described a subspecies, named *atavirensis* on the basis of 6 males and 1 female. We have compared Coutsis' description with 10 males and 12 females, all labelled: "Hellas, Rodos, Ajios isidoros, 800-1200 m, 3/8.vi.1984, D. van der Poorten", which are in the collector's possession.

Coutsis has appointed subspecific rank to the Rhodes population only on the basis of the inwardly closed postdiscal band on the forewing upperside of the single female. Among the 12 females we have found: (1) one specimen with a closed postdiscal band and a completely darkened discal field, as in 2% of the mainland populations of the subspecies *anthelea*, (2) 7 specimens with a closed postdiscal band and a more or less

orange-brown discal field, as in up to 30% populations of the neighbouring mainland of *anthelea* and (3) 4 specimens with a distinct open postdiscal band.

Coutsis did not mention any difference between the males from Rhodes and those of the subspecies *anthelea*. We too have found that the males from Rhodes fall within the range of variability of the typical subspecies. In the ten males studied only the discal fields and the bases of the uppersides of both wings are almost as dark as the darkest males of the subspecies *anthelea*.

As the variation of the external characteristics of both males and females fall completely within the range of variation of the subspecies *anthelea* we consider the higher score of the closed postdiscal band on the forewing upperside of the females as insignificant to separate *anthelea* from Rhodes as a distinct subspecies.

***Pseudochazara anthelea selcuki* n. ssp.**
(figs. 1-2)

We did not find *anthelea* in southeast Turkey during an expedition from 27 May to 17 June 1984, whereas *P. pelopea* (Klug) and *P. telephassa* (Hübner) were very common in most collecting stations in the provinces of Gaziantep, Urfa, Mardin, Siirt, Hakkari and Van. During a similar expedition in 1985 along a route slightly more northward, including the provinces of Maraş, Diyarbakir and Bitlis, *anthelea* was absent in 51 of the 55 stations, although *pelopea* and *telephassa* were again quite common. This time *P. anthelea* was found in four stations in the provinces of Bitlis and Siirt, roughly 100 km more to the southeast than most southeastern records known. That material is so different from the subspecies *anthelea* that it will be described as a new subspecies.

Type material: Holotype: "Turkiye/Bitlis/H. v. Oorschot & H. v. d. Brink/st. 238/Narlidere/30 km SW of Bitlis/1000 m/8.vi.1985", paratypes: 29 ♂♂ and 10 ♀♀, labelling as holotype, and 2 ♂♂ 2 ♀♀, Turkiye, Bitlis, Sarikonak, 20 km SW of Bitlis, 1100 m, 8.vi.1985, st. 237, H. v. Oorschot and H. v. d. Brink; 1

♀, Turkiye, Siirt, 5-7 km S of Siirt, 800 m, 9.vi.1985, st. 240, H. v. Oorschot and H. v. d. Brink; 2 ♂, Turkiye, Siirt, 6 km W of Eruh, 900 m, 9.vi.1985, st. 241, H. v. Oorschot and H. v. d. Brink; 1 ♂, Turkiye, Siirt, 7 km S of Siirt, 1000 m, 11.vi.1985, Loc. 84, Leg. S. Wagener; 1 ♂ and 1 ♀, Turkiye, Siirt, Sason, Çayı tal oberhalb Yanikkaya, 950 m, 10.vi.1985, Loc. 81, leg. H. Falkner.

The holotype and most paratypes have been deposited in the collection of the Zoölogisch Museum, Amsterdam. Other paratypes are in the collection of the Rijksmuseum van Natuurlijke Historie, Leiden and in the private collections of Mr. Wagener (Bocholt, BRD), Mr. Falkner (Karlsruhe, BRD) and of the authors.

Description:

Male: Wingspan 43-50 mm, average of 37 specimens 47.5 mm. Upperside: postdiscal band in both wings from orange-brown outwards to whitish orange inwards, orange-brown of the postdiscal band more pronounced in the hindwing, width of postdiscal bands narrower than in the nominate subspecies because of an extension of the dark of the discal field, blackish brown of the basal field and the marginal band browner than in eastern populations of the nominate subspecies. Underside: postdiscal bands light yellow-brown in both wings. Discal field and base of forewing dark brownish yellow.

Female: Wingspan 51-63 mm, average of 14 specimens 56 mm. Upperside: forewing dark blackish brown, yellow-brown postdiscal band inwardly closed, discal field fully darkened. Hindwing dark blackish brown, postdiscal band faint and completely filled with dark brown scales. Underside: hindwing marbled dark brown.

Variation: The colour of the postdiscal bands on the upperside of both wings in the males may vary from a uniform orange-brown (in 7 specimens), as in *P. telephassa*, to a darkened orange-brown outwards shading off into a yellowish white inwards (in 3 specimens). The specimen with the most extensive white still has a more darkly coloured postdiscal band than the most extreme out of 735 specimens studied from

elsewhere in Turkey. The females show little variation. The strongly darkened post-discal band of the hindwing is as dark as the discal field in 4 specimens and has a slightly lighter tone over its full width in 3 specimens.

Biotope

We have found *P. a selcuki* n. ssp. on very dry rocky slopes with a sparse to moderate vegetation with scattered bushes of mainly *Quercus* spec. This agrees very well with the biotope in which we have found *anthelea* in the remainder of Turkey. On all four localities we have observed *P. pelopea* and *Hyponephele wagneri* (Herrich-Schäffer) together with *selcuki*.

Derivation of the name

The name *selcuki* refers to the Selçuks who came from central Asia around the year 1071 and who are the ancestors of a great part of the present human population of Turkey.

Pseudochazara anthelea amalthea (Frivaldsky, 1845)

P. a. amalthea differs from the subspecies *anthelea* by the males having a narrower postdiscal band on the uppersides of both wings because of an extension of the dark colour of the discal field, and the females having a whitish postdiscal band on the uppersides of both wings instead of a yellow orange one; this band is inwardly closed and the discal field on the forewing upperside is completely darkened. The distinctness of this subspecies was established after we studied the type specimens (two males and two females) from Crete in the Hungarian Natural History Museum, Budapest and specimens in the Zoologisch Museum, Amsterdam and private collections of D. van der Poorten (Deurne, Belgium) and J. Huisenga (Amsterdam).

Lectotype designation for Pseudochazara anthelea amalthea Frivaldsky: Four type specimens, 2 males and 2 females, are in the Hungarian Natural Museum, Budapest. All specimens bear two labels: one label with handwritten "Ins. Candia" and printed "coll.E.Friv." and one printed label "FRIV./400". One male has been designated as the lectotype of *P. a. amalthea*, the other male and the two females have been labelled as paralectotypes.

Pseudochazara anthelea acamanthis (Rebel, 1914)

This subspecies has been described after 22 males and 2 females from Cyprus. According to Rebel *acamanthis* is also present on the Greek island Kos, but we were not able to verify this. Parker (1983) gives no further data about *acamanthis* in his extensive publication on the butterflies of Cyprus.

Rebel's description of *P. a acamanthis* will be amended on the basis of our study of 22 males and 33 females from Cyprus: 1 ♂ and 2 ♀♀ "Nicosia/Cyprus/B. Haas", type specimens in the Naturhistorisches Museum Wien, 15 ♂♂ and 1 ♀, "Cyprus, Prodhromos, 1400 m, 7.vi.1971, M. J. and J. P. Duffels", which are in the collection of the Zoologisch Museum, Amsterdam, and 6 ♂♂ and 30 ♀♀, "Zypern, Ay Nikolaos Troodos Geb., 900 m, (Südseite), 30.v.-12.vi.1980, leg. P. Hofmann", which are in the private collection of Mr. Hofmann (Frankfurt, BRD).

The wingspan of the males (Rebel 1914, 1939), cannot be used as a relevant difference with the subspecies *anthelea* (see table 1).

Table 1. Wingspan in mm of males of the subspecies of *Pseudochazara anthelea*.

Subspecies	number	range	average
<i>anthelea</i>	40	43-49	46.5
<i>acamanthis</i>	22	42-48	46.0
<i>amalthea</i>	21	41-48	45.0
" <i>atavirensis</i> "	9	42-46	44.5
<i>selcuki</i>	37	43-50	47.5

A narrow postdiscal band, as described by Rebel (1914), has been found in 18 males; the other 4 males have a postdiscal band of the same width as in the subspecies *anthelea*. The postdiscal band on the forewing upperside is inwardly closed in 19 females, whereas an open condition is found in 14 specimens.

Additionally we have found, that the area between the apical ocellus and the apex on the forewing upperside is completely black-brown in all but one of the males of *acamanthis*. Only one male has a faint white spot just distally of the ocellus, a feature that can be found incidentally in the darkest specimens of the subspecies *anthelea* and very commonly in *amalthea*. We agree with Rebel that the general appearance of the males of Cyprus is closer to *amalthea* than to *anthelea*. Only the absence of the white spot in the apical area and the narrow postdiscal band in the males give reason to agree reluctantly with Rebel in appointing subspecific rank to the Cyprus population.

Lectotype designation for Pseudochazara anthelea acamanthis Rebel: The three type specimens (1 male and 2 females) in the Naturhistorisches Museum Wien bear a handwritten label "Type Sat anthelea acamanthis Rbl", which probably is not originally from Rebel; the male and one female have the printed labels: "Nicosia/Cyprus" and

"B. Haas"; the other female has the labels: "Cypern/Nicosia/v-vi.'13/B. Haas" and "Staudinger/Bang Haas/Blasewitz". The male has been designated now as the lectotype of *P. a. acamanthis* and both females as paralectotypes.

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