A new subspecies of the genus *Pseudochazara* de Lesse, 1951 from Iran: *Pseudochazara schakuhensis chansara* ssp. n. (Lepidoptera: Nymphalidae, Satyrinae)

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Abstract: A new subspecies of the genus *Pseudochazara* de Lesse, 1951, *Pseudochazara schakuhensis* ***chansara*** **ssp. n.,** is described from the province Esfahan in Central Iran. The holotype ♂ is deposited in Senckenberg-Museum, Frankfurt am Main (SMFL-no. 4202). The new subspecies is characterised by the distinct ochre postdiscal band on the upperside of all wings, especially in the males. *P. schakuhensis brandti* (Holik, 1949) is considered to be a synonym of the nominotypical *P. schakuhensis schakuhensis* (Staudinger, 1881), **n. syn.**

Eine neue Unterart des Genus *Pseudochazara* de Lesse, 1951 aus Iran: *Pseudochazara schakuhensis chansara* ssp. n. (Lepidoptera: Nymphalidae, Satyrinae)

Zusammenfassung: Aus dem zentralen Zagrosgebirge der iranischen Provinz Esfahan wird eine neue Subspezies von *Pseudochazara schakuhensis* (Staudinger, 1881) beschrieben: ***chansara*** **ssp. n.** Die neue Subspezies zeichnet sich besonders bei den ♂♂ durch das ockerfarbene postdiskale Band auf der Oberseite aller Flügel aus. Der Holotyp ♂ wird in das Senckenberg-Museum, Frankfurt am Main, SMFL-Nr. 4202, gelangen. *P. schakuhensis brandti* (Holik, 1949) wird als Synonym zur nominotypischen Unterart betrachtet, **n. syn.**

Introduction

The authors, who independently made two expeditions to Iran in 2000, found an interesting *Pseudochazara* population near the town of Khounsar in the central Zagros mountains (Iran, province Esfahan). After examining the material collected by all three authors in the mentioned area and comparing it with a large number of specimens of *Pseudochazara schakuhensis* (Staudinger, 1881) collected at various localities, the authors decided to describe the specimens from the vicinity of Khounsar as a new subspecies of *P. schakuhensis:*

Pseudochazara schakuhensis ***chansara*** **ssp. n.**

Holotype: ♂ (Fig. 1), Iran, Esfahan, pass Damane–Khounsar, 2500–2750 m, 18. vii. 2000, leg. ten Hagen, in coll. Senckenberg-Museum, Frankfurt am Main, SMFL-Nr. 4202.

Paratypes (total 24 ♂♂, 4 ♀♀): 3 ♂♂, 1 ♀, same data as holotype, leg. et coll. ten Hagen. 1 ♂, same data as holotype, leg. ten Hagen, coll. Eckweiler, Frankfurt. 8 ♂♂, 1 ♀, same data as holotype, leg. Schurian: 1 ♂ coll. Schurian, 1 ♂ coll. Rose, 6 ♂♂ 1 ♀ coll. Eckweiler. 1 ♂, same locality as holotype, 30. vi./1. vii. 2001, leg. et coll. ten Hagen. 7 ♂♂, 1 ♀, Iran, Esfahan, Khounsar, 2700 m, 16. vii. 2000, leg. et coll. P. Skala. 1 ♀, Iran, Esfahan, S Daran, 2400–2450 m, 21. vii. 1999, leg. et coll. ten Hagen. 1 ♂, Iran, Esfahan, S Daran, 2400–2450 m, 17. vii. 2000, leg. et coll. ten Hagen. 3 ♂♂, Iran, Esfahan, Küh-e-Dereoschach, SE Daran, vic. Anahoyeh, 2500–2750 m, 17. vii. 2000, leg. et coll. ten Hagen.

Derivatio nominis: The name *chansara* is derived from the Farsi pronunciation of the name of the town Khounsar, situated near the type locality. The word is used as a noun in apposition here.

Description

♂ (Figs. 1–3): Forewing length 24–28 mm (holotype 25 mm).

Upperside: Ground colour dark brown with the median and submarginal area of hindwings usually lighter than the forewings and basal part of hindwings. Distinct ochre to orange postdiscal band running on both fore- and hindwings. On forewings black apical (in S6; morphological nomenclature following Tolman & Lewington 1997) and tornal (in S3) ocelli well developed, but without white spots present in between (S4/S5). Some individuals with an additional little black ocellus in S4. All ocelli without white nucleus. On hindwings inner border of the postdiscal band relatively sharp and zig-zagged, outer border less sharp and only slightly convex to the margin between veins. Fringes on fore- and hindwings light to medium brown, nearly uniform in colour, rarely very slightly darkened near veins, usually on hindwings. Dark brown, velvety looking patch in the forewing cell.

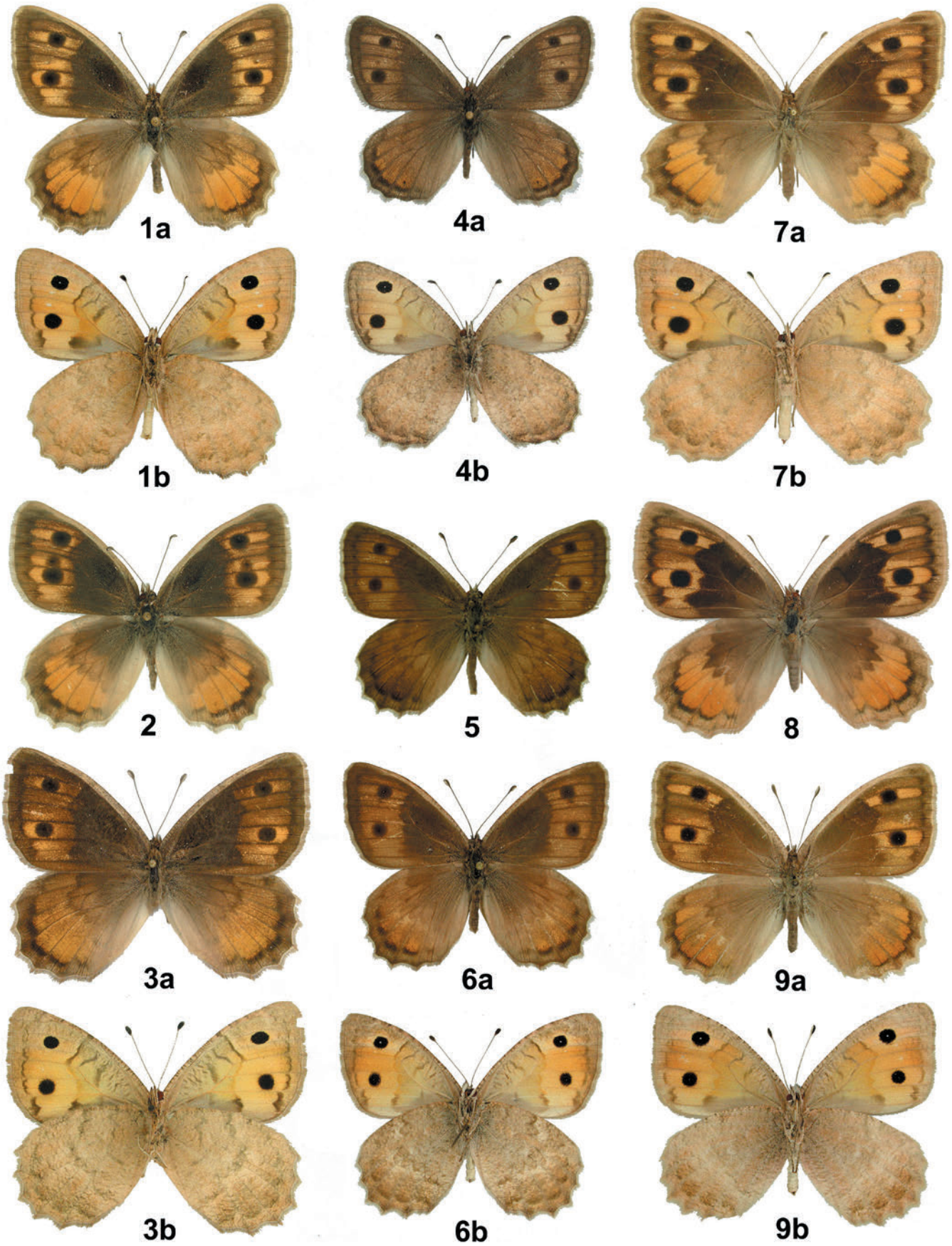
Underside: Ground colour beige-brown. On forewings broad, lighter uninterrupted postdiscal band partly expanding into median and discal area. Apical and tornal ocelli well visible, apical ocellus sometimes containing a small white nucleus. Two distinct white spots in S4/S5 nearly always visible between both ocelli. Hindwings scattered with dark greyish scales. Fringes light to medium brown and nearly uniform in colour.

The ♂ genitalia show no significant differences to the nominotypical subspecies.

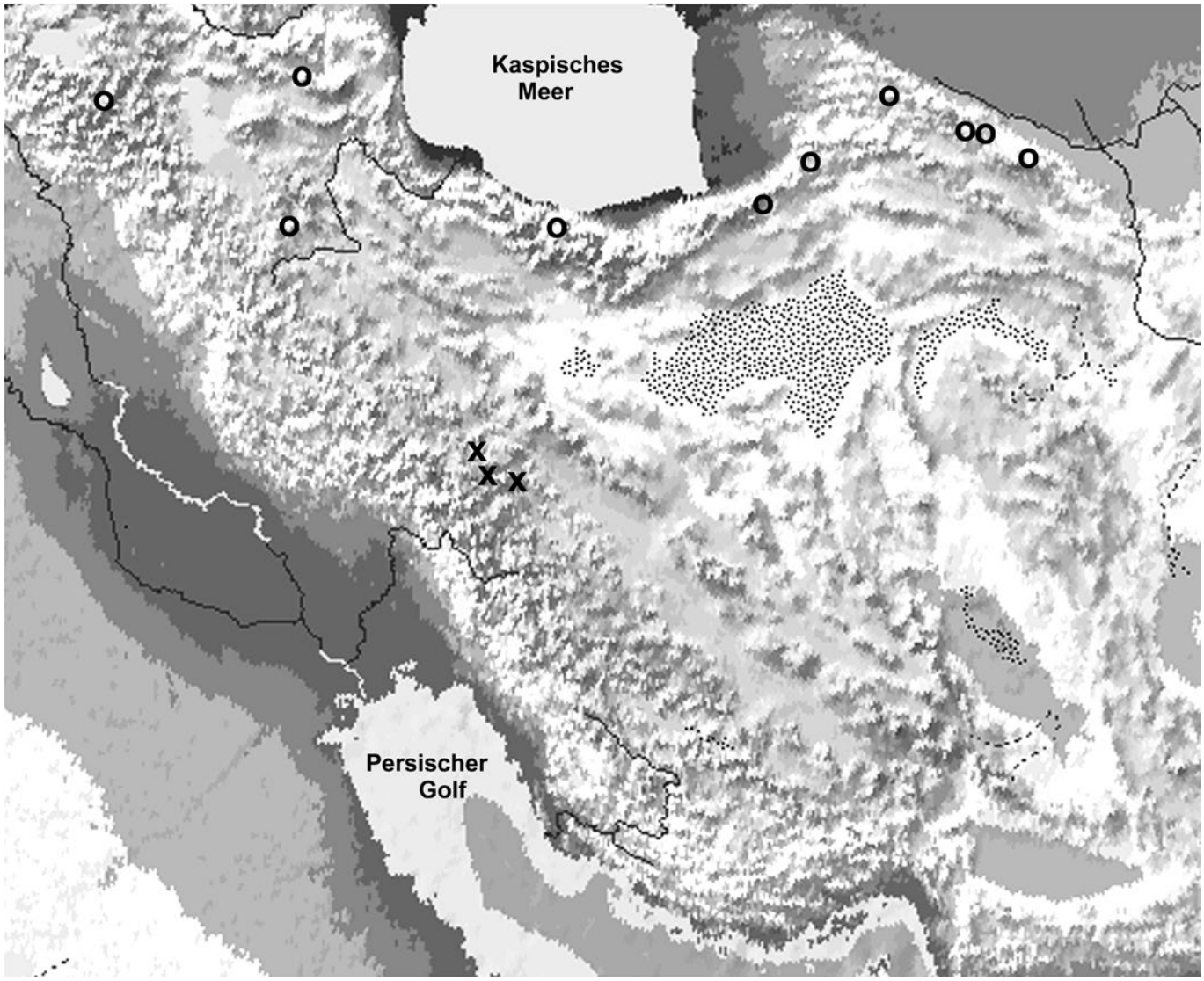
♀ (Figs. 7, 8): Forewing length 27–29 mm.

Upperside: Same dark brown ground colour as in the ♂. Median and submarginal area of hindwings usually lighter. Lightening of submarginal hindwing area more pronounced than in the ♂, sometimes affecting also forewings. Postdiscal band on both fore- and hindwings lighter orange brown, and more contrasting than in the ♂. Forewing ocelli and fringes same as in male.

Underside: Ground colour and markings similar to the ♂, only with somewhat less contrasting marble pattern on hindwings. Forewing ocelli, white spots and fringes on both wings same as in the ♂.



Colour plate, Figs. 1–3, 7, 8: *Pseudochazara schakuhensis chansara* ssp. n. **Fig. 1:** holotype ♂, Iran, Esfahan, Pass Damane–Khounsar, 2500–2750 m, 18. VII. 2000, leg. TEN HAGEN. **Fig. 2:** paratype ♂, same data as holotype, leg. et coll. TEN HAGEN. **Fig 3:** paratype ♂, Esfahan, Khounsar, 2700 m, 16. VII. 2000, leg. et coll. P. SKALA. **Fig. 7:** paratype ♀, same data as fig. 3. **Fig. 8:** paratype ♀, same data as holotype, leg. et coll. TEN HAGEN. — **Figs. 4–6, 9:** *Pseudochazara schakuhensis schakuhensis*. **Fig. 4:** ♂, Iran, Mazanderan, Schahkuh, E Schahkuh-e-Poin, 2600–2800 m, 23. VII. 2000, leg. et coll. TEN HAGEN. **Fig. 5:** ♂, Iran, Teheran, Gatchsar, Dizin, 2600–2800 m, 10.–12. VIII. 1979, leg. GÖRGNER, coll. ECKWEILER. **Fig. 6:** ♂, Turkmenistan, Kopet Dagh, Dushak, 15 km W Firyusa, 1600–1900 m, 27. VII. 1991, leg. TUZOV, coll. ECKWEILER. **Fig. 9:** ♀, Turkmenia, Kopet Dag, Dushak Mt., 2000–2300 m, 10.–30. VII. 1996, leg. A. PETROV, coll. TEN HAGEN. — a: upperside; b: underside (photographs 1, 3, 4, 6, 7, 9: W. ECKWEILER).



Map: Distribution range of *P. schakuhensis schakuhensis* (o) and *P. schakuhensis chansara* (x).

Variability

In ♂♂, the intensity and contrast of the dorsal postdiscal band is somewhat variable. In one of the collected ♂ (Fig. 3) the band is so darkened that the overall habitus strongly resembles nominotypical *P. schakuhensis*. The distinct white postdiscal spots on ventral forewings are nearly or completely absent in approximately 10% of the ♀♀.

In ♀♀ the submarginal area of dorsal fore- and hindwings varies from light to medium brown.

Differential diagnosis

The male of *P. schakuhensis chansara* ssp. n. can be easily recognized from *P. mamurra schahrudensis* (Staudinger, 1881) by the absence of the dorsal white postdiscal spots on the forewings typical for *schahrudensis,* and by the fringes, which are pure white in *schahrudensis,* but light brown in all *P. schakuhensis,* including *chansara* ssp. n. The latter character also immediately sets *P. schakuhensis chansara* apart from *P. mamurra* (Herrich-Schäffer, 1846), *P. graeca* (Staudinger, 1870), *P. lydia* (Staudinger, 1878), and *P. obscura* (Staudinger, 1878) with all their subspecies.

The best differentiating character between *chansara* ssp. n. and nominotypical *P. schakuhensis* is the distinct ochre or orange coloured postdiscal band of *chansara,* and especially its inner border on the hindwings, which is always sharp, zig-zagged, and contrasting in *chansara* but indistinct in the nominotypical ssp. Also, the white postdiscal spots on the ventral side of the forewings can be used as fairly good determining tool: in *P. s. chansara* these spots are nearly always well developed, while in the nominotypical *P. schakuhensis* they are usually absent and only rarely slightly visible. However, the above mentioned variability of this character, as well as its occasional occurence in the nominotypical ssp. must be taken into account. The velvety patch of the forewing cell is more pronounced in *chansara* ssp. n. than in the nominotypical *P. schakuhensis;* and it resembles *P. mamurra*.

Life history data

Our data indicate that *P. schakuhensis chansara* is on the wing mainly in mid- and late July. The peak flight time seems to be approximately 2 weeks earlier than that of the nominotypical subspecies. In Schahkuh and Central Elburs *P. schakuhensis* normally does not appear before late July.

The typical biotopes of *P. schakuhensis chansara* are gorges and rocky parts of mountain slopes between 2400 and 2700 m as well as nearby flats overgrown with thistles, on which the imagines were often observed sipping. In the hot noon hours imagines mostly sat on the ground, where they were very easily disturbed.

Usual accompanying species in this environment are *Satyrus favonius blomi* (Oehmig, 1978), *Hyponephele lycaonoides* (Weiss, 1978) and *H. naricoides* (Gross, 1977), *Chazara briseis meridionalis* (Staudinger, 1886), and *C. bischoffii* (Herrich-Schäffer, 1846), and *Pseudochazara telephassa* (Geyer, 1827), and *P. pelopea persica* (Christoph, 1877), all mostly past their peak of flight. Other accompanying species are *Polyommatus (Meleageria) daphnis* ([Denis & Schiffermüller], 1775), *Vacciniina morgiana* (Kirby, 1871), and *Gonepteryx farinosa meridioirana* (de Freina, 1983), also mostly worn out at the time. It seems that despite its relatively early mid-July flight time, *P. schakuhensis chansara* represents one of the last butterflies to hatch at the given biotope.

Discussion

The currently known distribution (map) of *P. schakuhensis* ranges from the Kopet Dagh region in Turkmenistan (Tshikolovets 1998, Tuzov 1997) through eastern Elburs, where it is represented by the nominate subspecies, to the central and western parts of Elburs, the Iranian Azerbaijan, and reportedly as far west as the Cilo Dağı in south-eastern Turkey (Hesselbarth et al. 1995). The western part of the range of this species, stretching from central Elburs westward to Cilo Dağı, is presumably inhabited by ssp. *brandti* (Holik, 1949) (Fig. 5). However, on examining a large number of specimens from various localities ranging from Kopet Dagh to Western Elburs, we could not trace a habitual trend consistent with Holiks very brief description of his *"Satyrus mamurra* var. *brandti",* which was later classified as a subspecies of *P. schakuhensis.* Also, there appears to be no clear geographical separation between the distribution ranges of ssp. *schakuhensis* and ssp. *brandti.* Therefore we consider *brandti* (Holik, 1949) to be at most an individual form and therefore a synonym of the nominotypical *P. schakuhensis* (**syn. nov.**). Specimens from the Kopet Dagh (Figs. 6, 9) show generally a bit more orange-brown scales on the postdiscal band of the upperside, but they are otherwise similar to the typical ones from Schahkuh (Fig. 4).

On the other hand, the above mentioned habitual differences between *chansara* ssp. n. and all other populations of *P. schakuhensis* known so far are quite distinct, and the location of the type locality of *chansara* in the central Zagros mountains suggests a distinct geographical separation from the rest of the presently known range of the species. Therefore in our opinion it is fully appropriate to regard this population as a separate new taxon, rather than a local ecological form.

Acknowledgements

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