

## New butterfly taxa from Kirghizia

(Lepidoptera, Rhopalocera)

by

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**Summary:** Two taxa of *Parnassius staudingeri* have been collected on the Ters Agar pass in the Transalai range. This sympatry confirms *P. infernalis* and *P. illustris* as two species. Three new subspecies are described: *Parnassius infernalis hoareaui* from the Ters Agar Pass, *Melitaea didyma manoni* from the south shores of Issyk-kul and *Coenonympha mahometana acelae* from the Dolon Pass.

**Résumé:** Deux taxa de *Parnassius staudingeri* ont été capturés au col de Ters Agar dans le Transalai. Cette sympatrie confirme *P. infernalis* comme bonne espèce et montre que *P. illustris* est aussi une bonne espèce sans relation avec *P. infernalis*. Trois nouvelles sous-espèces sont proposées: *P. infernalis hoareaui* du col de Ters Agar, *Melitaea didyma manoni* des rives sud de l'Issyk-kul et *Coenonympha mahometana acelae* du col du Dolon.

In July and August 1992 and 1993, we (PIERRE and DOMINIQUE MANON, DENISE HOAREAU and JEAN HANUS) spent several weeks collecting butterflies in Kirghizia. Through a tour operator we had a minibus and driver at our disposal (VICTOR). ACEL, a Russian speaking kirghizian girl also fluent in French, helped in the contacts with the nomads in the countryside and between VICTOR and ourselves. In 1992 we also had with us, SERGUEI, a coleoptera specialist and in 1993, VOLODIA, a jolly good friend of VICTOR.

Starting from Bishkek we made a loop which, in 1992 took us onto the northern shores of Issyk-kul lake to Karakol, and then onto the Kaindy river to collect *P. loxias*, where we spent a week. We then returned to Bishkek via the southern shores of the lake.

In 1993, we made a much more ambitious tour, camping very often only for one night at the same place. From Bishkek, we went near to the Torugart Pass, on the chinese border crossing the Dolon Pass. Our goal was the Alaï valley but, as we could not go to Kashgar to save time, we came back to Kazarman and crossed the Fergana mountains to Osh. Then we went to the Alaï mountains, the Transalai range and returned to Bishkek going as straight north as possible through the Tengisbaï Pass, Osh, and the Alabel Pass.

We wrote a detailed report of this trip for publication but are facing delays beyond our control and here we would like to draw attention to a number of new taxa we collected.

Central Asia is a very exciting region for palearctic butterflies. The exploration was carried out in parallel to the conquest by the tsars starting in the mid nineteenth century. A number of well-known naturalists are associated with the exploration: FEDTSCHENKO, SEMENOV, GRUM-GRSHIMAILO, GLASIMOV, ALPHERAKY, HABERHAUER, RÜCKBEIL, AVINOFF, SHELJUZHKO. The collected material was described by the greatest entomologists of that time: EVERSMAHN (1844),

ERSCHOFF (1874), ALPHERAKY (1881), AVINOFF (1910, 1915, 1916), STAUDINGER (1881, 1886)

One of the best books ever written is "Le Pamir et sa faune lépidoptérologique" by GROOM-GRSHIMAILO (1890, GG from now on), a naturalist with extended knowledge of natural sciences. He made very extensive collections during several exploration trips, and in "Le Pamir" has written very exciting chapters on *Parnassius*, *Colias*, *Karanasa*. As Central Asia is now open, every one interested in butterflies should read that book.

Over the last twenty years, numerous lepidopterologists from communist countries have explored Central Asia and written a number of papers not easy to find. Recently, Dr. ULF EITSCHBERGER has made a great effort to open "Atalanta" to Russian speaking authors and has just now published a very good book by the LUKHTANOVs, father and son. This book describes butterflies from western Asia, north of Central Asia. As it includes all Kazakhstan and touches a little on northern Kirghizia, it is quite relevant to this paper. As now, LUKHTANOV is planning a similar book for Central Asia, we decided to publish these comments.

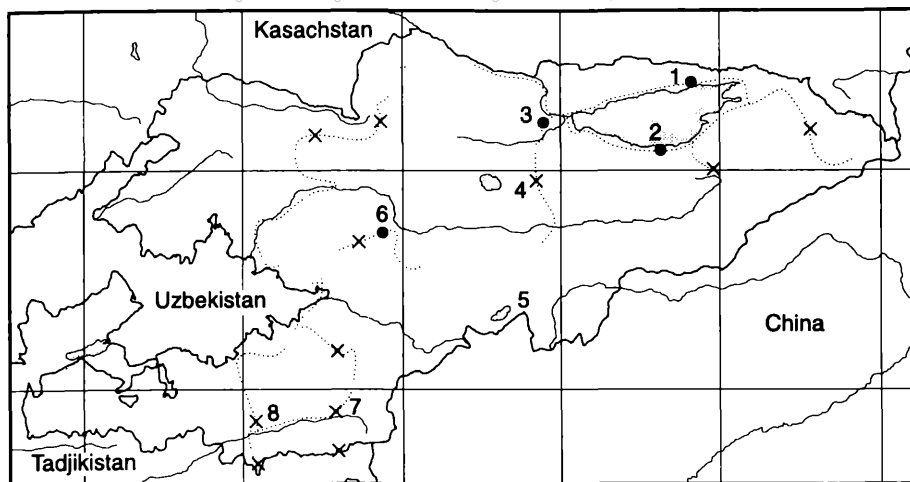
### *Parnassius staudingeri* BANG-HAAS, 1882

Over the recent years the Russian entomologists have split the *delphi*us-group into many good species. In the latest revision by JEAN-CLAUDE WEISS there are nine species (ten if *P. nandadeviensis* is recognized). The *delphi*us-complex itself comprises of six species separated on geographical distribution, biology, ecology: *delphi*us, *staudingeri*, *cardinal*, *maximinus*, *stenosemus* and *stoliczkanus*.

We captured specimens of *P. delphi*us and *P. staudingeri* at many stations. With the criteria given by WEISS, we called *delphi*us our specimens from Tash Rabat, north of the Torugart Pass. They perhaps deserve a special description as they are slightly different from *P. delphi*us *albulus* from the Dolon Pass in the north. The Tash Rabat station is quite apart, to the south west, from the distribution cluster of *P. delphi*us subspecies given by WEISS. They are perhaps close to *P. delphi*us *karashahricus* BANG-HAAS, 1915 but we have never seen it, not even a picture.

We collected taxa associated with *P. staudingeri* first on our way south through the Alaï mountains, at the Taldyk Pass (3615m) in the east and on our way north through the Tengisbaï Pass (3780m). We also found *staudingeri* in the Transalaï range on the Ters agar Pass between Daraut kurgan and Altynmazar. Somewhere on the east side of the valley is Aram Kungei, which was thoroughly explored by GG. We followed the Ters Agar valley (Tus-Ssu in GG?) from the bottom at around 2800m, to the pass and could not clearly localize Aram Kungei. For the nomads at the bottom of the valley, it was further up. The nomads at the last camp, before the pass, told us it was down. On the map in "Le Pamir" it is at the beginning of the valley in the east. Therefore we are not sure that we collected on the same stations as GG. Around (3500m), on the east side of the valley, on a stony slope that stayed in the shade till about eleven o'clock, we found two very different taxa of *staudingeri*. One corresponds exactly to *illustris* as described by GG from Aram Kungei, the other is closer to the *infernalis* described from the Taldyk pass, where we had found it in large number.

Two different taxa, both apparently described as *P. staudingeri*, this is a quite interesting observation and the main reason for this note. To identify the two taxa we have to go to the literature. In WEISS one reads "*P. staudingeri* can be divided into six groups, some of which might constitute true species" Just short of taking this extreme step, he classifies the 28



Map of Kirghizia

Kirghizia – The dotted line is for the trips made in 1992 and 1993. X — indicates the main passes. Localities mentioned in the note: 1 — Chon Oryuktyu, 2 — Kadzhi Say, 3 — Koshkor Pass, 4 — Dolon Pass, 5 — Tash Rabat, 6 — Fergana Pass, 7 — Taldyk Pass, 8 — Ters Agar Pass.

*staudingeri*-taxa, taken into account in his revision, into six subgroups: *staudingeri*, *infernalis*, *abramovi*, *hunza*, *jacobsoni*, *mamaievi*. He also adds that "*jacobsoni* and *infernalis* which have a distinct biology are considered as true species by the Russian specialist A. KREUZBERG and *kiritshenkoi* and *jacobsoni* have been seen at lake Yashikul by A. KHOMICHENKO". Here, we add that *illustris* and *infernalis* are sympatric on the Ters agar Pass in the Transalai. We therefore confirm *Parnassius infernalis infernalis* ELWES, 1886 from the Taldyk pass and propose:

*Parnassius illustris illustris* GRUM-GRSHIMAILO, 1888 **comb. nov., stat. nov.**

In "Le Pamir", GG writes at length on the differences between *illustris* and *infernalis*. One reads, p. 198: "le bord transparent n'est que rarement aussi large que chez *infernalis* la bande marginale des ailes postérieures est très peu apparente ou est réduite à deux ou trois lunules très minces, toujours cependant séparées du bord transparent par une étendue blanche assez large. Le lavis anal est moins développé que chez toute autre variété de *delphius*, ce qui fait principalement paraître *illustris* comme la plus blanche des formes connues" GG gives, in table XXI, figures of *illustris* and *infernalis* which represent well our specimens from Ters Agar and the Taldyk Pass. Our *illustris* specimens from Ters Agar are perhaps even clearer than pictured as there is much less dark scalings in the cell, very much like in *kiritshenkoi*.

Our caught specimens raise a number of questions. Why has GG observed only one taxon, *illustris*, on the Aram Kungei? He mentions that in the eastern part of the Transalai (Kyzyl-Art Pass) fly "des formes transitoires à l'*illustris*". On page 200, he writes "guidé par la description peu détaillée de M. STAUDINGER [for that very reason, he gives a much more detailed description of *infernalis* on page 197. At the time of "Le Pamir", GG attributed *infernalis* to STAUDINGER, 1886] j'ai longtemps pris cette variété (*illustris*) pour *infernalis* et je n'ai vu mon erreur que lorsque, en 1887, je suis tombé, dans les montagnes de l'Alaï, sur les véritables *infernalis*". Therefore, we believe that in Aram Kungei GG has only seen *illustris*. It is perhaps a matter of different times of emergence. Our *illustris* are very fresh, the much darker specimens are much older. Or it is also possible that *illustris* is much more localized or much more rare on the northern slopes of the Ters Agar, although GG collected over 500 specimens.

Now that we have split our two taxa from *P. staudingeri*, it is proposed to name the *infernalis* of Ters Agar

***Parnassius infernalis hoareui* subsp. nov.**

It is different from *P. i. infernalis* but it is not easy to describe how different as our series is not very large and the specimens are not very fresh. It is very different from the sympatric *illustris*. Today there is an apparent confusion on *illustris*. Most of the recent captures, that are for instance on sale in fairs, are labelled *illustris* when they come from Aram Kungei. It is a mistake as they are all like *hoareui*. I imagine *illustris* emerges later than *hoareui* and is perhaps more localized. I think *illustris* has not been captured by recent collectors. TSHIKOLOWEZ was in Aram Kungei on the 9.VII.1989. I have seen *hoareui* from TARASOV labelled Aram Kungei 17.VII.93 and early July 1994. It is not easy to say exactly when GG captured his 500 *illustris*, apparently after 15.VII.1885. This confusion led TSHIKOLOWEZ and WEISS to put *illustris* in the *infernalis* subgroup. WEISS pictures a female *illustris*, clearly very similar to our *hoareui*. From that confusion he puts *interjecta* VERITY in synonymy with *illustris* although VERITY used that name for intermediate specimens from the Kyzyl-Art Pass in the eastern Transalai.

As already mentioned our specimens are close to typical *infernalis*. We offer here to identify the *infernalis* taxon sympatric with the true *illustris* as *hoareui*. The taxa *infernalis*, *interjecta*, *illustris* being respectively described from the Taldyk Pass, the Kyzyl-Art Pass, Aram Kungei. The Ters Agar Pass (3701 m) taxon being *hoareui*. Whether it is completely justified is a matter for parnassiologists. We insist on the specific distinction between the two taxa, the difference is more than different extension of the black markings. It is not the same situation here as with the different forms of *P. delphius albulus* in the Naryn region.

Holotype ♂: Kirghizia, Transalai range, Ters agar Pass, 3500 m, 31.VII.93–3.VIII.93, HOAREAU leg., in collection HANUS; Allotype ♀: same data, MANON leg., in collection MANON. The paratypes (4 ♂♂, 4 ♀♀) are in our collections.

This new subspecies is named after DENISE HOAREAU who first pointed out the differences between the two taxa.

Now that *illustris* and *infernalis* are separated, we understand (following a discussion with TARASOV and WEISS on the 25.IV.1995) that already in 1984, E. TARASOV near Chechekty, in

the Muzkol Mts., L. BRUSILLOWSKY in 1993 and L. KAABAK in 1994 near Oznernaya, in the Sarykol Mts., observed mixed population of *staudingeri* with specimens of:

*P. illustris kiritshenkoi* AVINOFF, 1910, **comb. nov., stat. nov.**

*P. infernalis mustagata* ROSE, 1990, **comb. nov., stat. nov.**

Around the Ters Agar camp we also captured *P. charltonius romanovi*, *P. tianschanicus grum-grshimailoi*, *P. actius* (ssp. *flora*?) and *P. jacquemonti variabilis*.

### *Melitaea didyma* ESPER, 1779

In our trips we captured a good number of *Melitaea* specimens. For the largest part there is a real problem of identification mainly in the *minerva-pallas-turanica* groups and all the forms and subspecies that have being promoted since HIGGINS (1941). There is a real need of revision today and here we will only report on *didyma*. We found that species in four stations and our specimens can be put into two groups. In 1992 we found it on the dry shores of Issyk-kul near Kadzhi Say and we thought it to be *M. d. turkestanica* SHELJUZHKO. In 1993 we found it in rich meadows around Kazarman and on the eastern slopes of the Fergana range. These last specimens are in fact the true *turkestanica*. According to HIGGINS, page 218: "specimens are very large, the median spots of the forewings are ample and the markings are more complete, but there is no general suffusion with dark scales". As one can see from the pictures, there is so much difference between the two taxa that we decided to describe:

### *Melitaea didyma manoni* subsp. nov.

There are two differences between *turkestanica* and *manoni*: size and colour. The *manoni* specimens are on the average 6 mm smaller. On our fairly large series, *turkestanica* ranged from 33 to 42 mm with an average of 39.2 mm. For females we measured 38, 45 and 43.5 mm respectively. For our paratypes of *manoni* we found 27, 35 and 32 for the males and 32, 42, 37 for the females. The groundcolour is orange yellow or even sandy yellow, as for *turkestanica* it is bright red orange. *Turkestanica* is a luxuriant mountain form and *manoni* is a dry country form.

Holotype ♂, Kirghizia, Kadzhi Say, 1610 m on the south shore of Issyk-kul, DOMINIQUE MANON leg. 2.VIII.1992.

Allotype ♀, same data. Paratypes 15 ♂♂, 27 ♀♀, same data and 3 ♂♂, 5 ♀♀ from Koshkor Pass, 2050 m, 20 km on the west of Issyk-kul, 18.VII.1993. The butterflies are in the MANON and HANUS collections.

This subspecies is named after DOMINIQUE and PIERRE MANON.

### *Hyponephele*

We collected specimens of the genus at all the stations we visited. We have problems of identification of the small size specimens ressembling *H. naubidensis* but cannot say

anything sensible here. Had we written this paper in 1992 after the first trip, we would have mentioned specimens collected on the north shores of the lake at Chon-Oryuktyu, a bird station where SERGUEI took us for very comfortable camping. And also on the south shores at Kadzhi Say. They are related to *H. lycaon* but with a light area in the discal region of the upper side forewing. They have just been described as *H. przhewalskyi* by DUBATOLOV et al. in 1994 in *Atalanta*. We have no regret as their specimens were collected around the lake starting from 1980.

### *Coenonympha mahometana* ALPHERAKY

We met *C. mahometana* in two stations. On the northern shores of the lake with *H. przhewalskyi* and a very large form of *L. dispar* we found a small colony. It corresponds very well to the original description of ALPHERAKY, which described it as a form of *C. iphis*. On the Dolon Pass, in a side valley with very rich vegetation, we found a quite different form. It is proposed to name it:

### *Coenonympha mahometana acelae* subsp. nov.

The *acelae* taxon is quite smaller than the typical *mahometana*. It is intense black instead of dark brown grey. The underside of *mahometana* is light grey, with or without small white ocelli. The underside of *acelae* is dark grey, basally shiny green, with well defined ocelli. Our specimens of *mahometana* show on the underside of the forewings a light postmedian band. That band is absent or barely visible in our *acelae* specimens. On the hindwings, the row of silvery dots is constant in *acelae*.

Holotype ♂: Kirghizia, Dolon Pass, 2800 m, 19.VII.1993, DENISE HOAREAU leg. Allotype ♀: same data. Paratypes 5 ♂♂, 1 ♀, same data, in HANUS and MANON collections.

It is with pleasure that this new taxon is named after ACEL TCHERIKOVA, our very good friend from Kirghizia.

In these two trips we collected a good number of butterflies. Some of them are difficult to identify mainly in the *eros* and *icarus* groups. Perhaps there are new forms to describe but it is too early to say. I am sure that with the opening to tourism there will be many new discoveries in Central Asia. It will be the new Turkey for lepidopterists. We will also discover that many forms have been described by Russian entomologists that we do not know of.

### Acknowledgments

It is a real pleasure to thank my friends involved in collecting. I also would like to mention very interesting and fruitful discussions with JEAN-CLAUDE WEISS and EVGENIO TARASOV.

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Explanation of colour plate III (p. 455):

1	2
3	4
5	6

Fig. 1: ♂, Fig. 2: ♀ of *Parnassius infernalis infernalis* ELWES, 1886, comb. nov. et stat. nov., Kirghizia, Alaï Mts., Taldyk Pass, 3600–3900 m, 27.–30.VII.93.

Fig. 3: holotype ♂, Fig. 4: allotype ♀ of *Parnassius infernalis hoareau*i subsp. nov., Kirghizia, Transalaï Mts., Ters Agar Pass, 3500 m, 31.VII.–3.VIII.93, D. HOAREAU leg.

Fig. 5: ♂, Fig. 6: ♀ of *Parnassius illustris illustris* GRUM-GRSHIMAILO, 1888, comb. nov. et stat. nov., Kirghizia, Transalaï Mts., Ters Agar Pass, 3500 m, 31.VII.–3.VIII.93, D. HOAREAU and P. MANON leg.

Explanation of colour plate IV (p. 457):

1	2	
3	4	
5	6	
7	8	9
10	11	12

Fig. 1: ♂, Fig. 2: ♂, Fig. 3: ♀ of *Melitaea didyma turkestanica* SHELJUZHKO, 1829, Kirghizia, Fergana Range, Pass west of Kazarman, 2100 m, 25.VII.93.

Fig. 4: holotype ♂, Fig. 5: paratype ♂, Fig. 6: allotype ♀ of *Melitaea didyma manoni* subsp. nov., Kirghizia, Issyk-kul Lake, Kadzhi-say, 1610 m, 3.VIII.92, P. and D. MANON leg.

Fig. 7: ♂, Fig. 8: ♂, Fig. 9: ♀ of *Coenonympha mahometana mahometana* ALPHERAKY, 1881, Kirghizia, Issyk-kul Lake, Chon-oryuktyu, 1610 m, 22.VII.92.

Fig. 10: holotype ♂, Fig. 11: ♂, Fig. 12: allotype ♀ of *Coenonympha mahometana acellae* subsp. nov., Kirghizia, Bayduly Range, Dolon Pass, 2900 m, 19.VII.93.

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# Colour plate III

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Fig. 1: ♂, Fig. 2: ♀ of *Parnassius infernalis infernalis* ELWES, 1886 comb. nov. et stat. nov., Kirghizia, Alaï Mts., Taldyk Pass, 3600–3900 m, 27.–30.VII.93.

Fig. 3: holotype ♂, Fig. 4: allotype ♀ of *Parnassius infernalis hoareaui* subspec. nov., Kirghizia, Transalaï Mts., Ters Agar Pass, 3500 m, 31.VII.–3.VIII.93, D. HOAREAU leg.

Fig. 5: ♂, Fig. 6: ♀ of *Parnassius illustris illustris* GRUM-GRSHIMAILO, 1888 comb. nov. et stat. nov., Kirghizia, Transalaï Mts., Ters Agar Pass, 3500 m, 31.VII.–3.VIII.93, D. HOAREAU and P. MANON leg.

1	2
3	4
5	6

### Colour plate III



## Colour plate IV

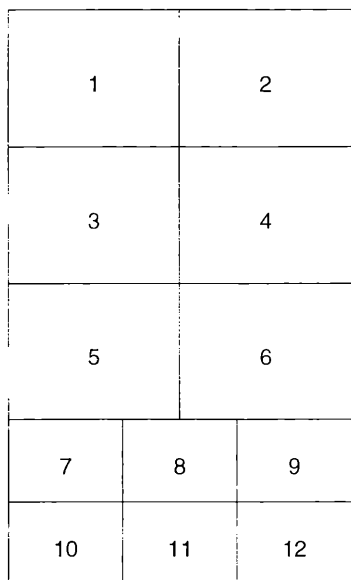
HANUS, J.: New butterfly taxa from Kirghizia (Lepidoptera, Rhopalocera). – *Atalanta* **27** (1/2): 203–210.

Fig. 1: ♂, Fig. 2: ♂, Fig. 3: ♀ of *Melitaea didyma turkestanica* SHELJUZHKO, 1829, Kirghizia, Fergana Range, Pass west of Kazarman, 2100 m, 25.VII.93.

Fig. 4: holotype ♂, Fig. 5: paratype ♂, Fig. 6: allotype ♀ of *Melitaea didyma manoni* subspec. nov., Kirghizia, Issyk kul Lake, Kadzhi-say, 1610 m, 3.VIII.92, P. and D. MANON leg.

Fig. 7: ♂, Fig. 8: ♂, Fig. 9: ♀ of *Coenonympha mahometana mahometana* ALPHERAKY, 1881, Kirghizia, Issyk kul Lake, Chon-oryuktyu, 1610 m, 22.VII.92.

Fig. 10: holotype ♂, Fig. 11: ♂, Fig. 12: allotype ♀ of *Coenonympha mahometana aceli* subspec. nov., Kirghizia, Bayduly Range, Dolon Pass, 2900 m, 19.VII.93.



# Colour plate IV



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