

Book Review

The Butterflies of Greece, Second Edition.

A book review, including notes relating to
Pseudochazara amymone Brown 1976

By Sylvain Cuvelier

Lazaros N. Pamperis

The Butterflies of Greece. Second edition revised and enlarged: Athens 2009.

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Greek Lepidoptera fauna is very rich in species numbers. It was with great anticipation that in 1997, the publication of a first book on the subject was received. Lazaros N. Pamperis had worked for a long time on the first edition of *The Butterflies of Greece*¹. For years, he devoted much of his time to field research and photography.

He has a personal vision of the practice of entomology, a vision very clearly reflected in the first book and this was received with a mixed reception. It is the book of a passionate lover of butterflies, mountains and photography.

For the first time, a richly illustrated book with color photographs taken of butterflies in nature was published. However if the images were often excellent, printed on A4 format, the text was extremely poor, leaving many entomologists unsatisfied.

There were negative reviews on this book that were in part justified. Work based solely on photos taken of butterflies in nature does not always guarantee a positive determination and leaves behind no reference material to study. This is particularly necessary for some genres, like the difficult to identify brown species of *Agrodiaetus* Hübner. There was room for serious doubt about the (photo) identification of a number of species in the first edition. Also, being limited in the amount of information relating to "sensitive" species was an unfortunate choice.

Therefore, the publication of a new book on the butterflies of Greece had its 'raison d'être'.

This second edition is by no means a simple reprint, but is really a completely new book on the subject, a book that will be systematically compared with the previous one.

To the detriment of this new edition is its small, albeit neat, size. It was chosen for budgetary reasons (Pamperis, oral communication). This is

understandable, because the book is published entirely at the expense of the author, on the other hand, this choice is unfortunate and certainly limits the layout.

This book contains many photos. Some species are 'over' represented, while the number of pictures of biotopes and imaginal stages is clearly insufficient.

A missed opportunity to illustrate the wonderful nature of Greece. The background color is harsh, dark and sometimes black, and many photographs are not natural because of the use of flash. The numbering of photos and the placement of legends is unusual and impractical. The color photographs of some species are located before the chapter, which gives the feel of a lack of consistency (e.g. *Leptidea duponcheli* Staudinger, 1871, photos are located p. 131, the text is on p. 132, after having rotated the sheet).

In the 2nd edition, Pamperis has extensively used his own observations along with observations of other entomologists, data collected in the literature and on the Internet, to prepare distribution maps and graphs showing the flight periods (depending on the altitude and latitude). For most species, no less than six graphs occupy a portion of the page. The author could have used simpler and fewer graphics, and a larger format would certainly have increased readability.

From the perspective of the text for each species, the content is quite similar to the first edition, but inclusion of figures depicting wing features to help determine identification, is a welcome addition.

For this purpose, the author has used some of his many pictures (Pamperis, verbal communication). Although it does not provide absolute measurements, computer processing gives relative accurate ratios. This is an interesting approach that reminds us of the morphometric studies of genitalia and wing patterns of sampled material. However there is the question relating to the scientific validity of this approach which is exclusively based on photographic data.

Pamperis has lumped together many cryptic species, and widely uses the 'question mark' in the legends. Obviously, it would be better to have accurate information for each species, but when the material available is clearly insufficient it is an acceptable choice, and also an invitation for further investigations (e.g. *Pieris napi* Linnaeus 1758/ *Pieris balcana* Lorkovic 1970, pp. 88-91). The treatment of *Erebia ottomana* Herrich-Schäffer 1847 and *Erebia cassioides* Reiner & Hochenwarth 1792 is completely incomprehensible. In the text he lumps the two species together under one heading but in the map section they are individually represented.

Conclusion: the book is based on a large number of field observations and, as such, the work of the author, a passionate lover of butterflies, deserves praise. It is a beautiful book, carefully edited, although the small size restricts the layout, the graphics in particular. Despite the abundance of photos but with variable quality, it lacks images of the typical habitats and of preimaginal stages.

The book contains an original approach regarding the determination of various species, an approach that requires validation. Overall, this work is a compliment to the classics and useful to those who want to study in more detail the butterflies of Greece. But it is a little lacking, because we feel there is a shortage of scientific work regarding addressing the unanswered questions on many of the species. But one remains 'hungry' for more content and scientific research to give answers to the remaining unanswered questions.

Notes relating to *Pseudochazara (mamurra) amymone* Brown

It has been more than 30 years since Brown² described a new species of the genus *Pseudochazara* De Lesse 1951, discovered at the beginning of July 1975 at an altitude of 650 meters, just north of the city of Ioannina. It is only in the first edition of *The Butterflies of Greece*¹ that I found confirmation of the presence of this species in Greece. Concerning *P. amymone*, Pamperis has chosen for years not to disclose any details about the localities, in order to protect this extremely rare species. While I respect everyone's choice and individual thoughts, this attitude, however, impedes research that could be conducted on the validity and clarification of the taxonomic status of this butterfly.

What follows in the article is a mixture of circulating rumors, hypotheses (true or not) and publications. Several entomologists have questioned the existence of this species and have serious reservations regarding the validity of recent data presented by Pamperis. In any case, the locality where Brown discovered this species is unclear. Pamperis (verbal communication) told me the exact place had never been disclosed to him. In other publications on Greece, Brown himself never gave precise information about its exact whereabouts. It has been mentioned that Brown discovered the species during a stay in a hotel near the old bridge over the river Voidomatis in the vicinity of Konitsa, and a map with the (alleged) exact location was even circulated. I have visited this place more than 10 years ago, and have not found any favorable *Pseudochazara* habitats. I doubt that it is the Type Locality.

There was a rumor recently that Brown had once indicated that the location of the discovery was near Kalpaki. This is not impossible because the altitude corresponds well with the immediate vicinity. The chances of finding the species looks slim and recently Anastassiou (verbal communication) did not find the species in his targeted research.

There have been many attempts to find the species to the north of Ioannina. There have been vague reports of success but no material has been exhibited and insufficient evidence has been published.

One thought³ that would explain the rarity of this taxon, is that *amymone* could be a hybrid. We can hypothesize on the phenomenon of a hybrid where more than one *Pseudochazara* species coexists, but in the case of *amymone*, it is highly unlikely, because its potential 'mates', namely *Pseudochazara graeca* Staudinger, 1870 and *Pseudochazara mnischechii tisiphone* Brown, 1980 fly at different altitudes. Pamperis mentions a locality where *P. amymone* flies after *P. tisiphone* and he reports that, according to his observations, *P. amymone* and *P. graeca* do not coexist. Armed with this information, it seems unlikely that a hybrid within the genus *Pseudochazara* could exist. And what about other species of Satyridae? It seems even less likely in this family.

Another hypothesis is that it is a rare form (verbal communication from Kudrna & Wakeham Dawson). Again the question of the exact source of this species can be formulated. It is intriguing to note that the androconial patch is different from that of other species of Greek *Pseudochazara*, and it reminds one rather of *Pseudochazara mamurra* Herrich-Schäffer, 1844. However, the shape of androconiale themselves (quite similar to that of *Pseudochazara geyeri* Herrich-Schäffer, 1846) and the male genitalia Brown, show significant differences if compared with *P.*

mamura mamurra. Finally, Brown concluded that *P. amymone* belongs to the group *P. mamurra*. The status of *P. amymone* is certainly not clear.

All this has made the butterfly a myth or legend. Moreover, "untouchable" is one of the meanings of the Greek *amymone* (Pamperis, oral communication).

To my knowledge, after Brown, only Pamperis published observations regarding *amymone*. According to Pamperis, drawings by R. Lewington in Tolman ⁴ are accurate to reality, both male and female.

However, the pictures published in the new book cast doubt. Pamperis (verbal communication) told me that the determination of the first photo (551/13) was confirmed by Brown. The three photos depict old specimens which are quite worn. It would certainly have been better to show fresh specimens of both sexes. In this genus, it is very difficult to photograph the uppersides because

Pseudochazara butterflies systematically close their wings when they visit flowers. The only illustrated upperside is that of a female that is totally worn. This butterfly was expiring with its wings half-opened (Pamperis, oral communication). The author showed me another photo of the underside of the same butterfly, but, in my opinion, this image does not at all allow a determination.

All data presented in the graphs of the new book are a strange mixture, based on the publication by Brown and a compilation of Pamperis's own observations.

In the first edition, four localities are mentioned, and in the new book, ten. In a personal conversation with Pamperis, however, it is clear that the ten locations resulting from processing the data, in terms of coordinates, are actually focused around four localities. Only the town of Ioannina appears on the distribution map, and this is based on data from the Brown article in which he describes the butterfly from specimens collected just north of the city, at an altitude of 650 m in a stony locality. While in both editions, colonies in Epirus and Macedonia are mentioned, nothing about this appears on the published map. The current map is more accurate than that depicted in Kudrna ⁵. Pamperis (verbal communication) doubts that the species still survives around Ioannina because, after thirty years, the hills have totally changed as a result of human disturbance. It would have been better if such a map had not been included in a recently published book.

The flight period according to data published by Brown ² in 1976, is located in the first decade of July. Only this data is included in the graph rather than in the text, where it is written that the flight period extends from June to August. Unlike other species, we see no correlation table between the time of flight and altitude.

As for the status of this species, I can be short. Due to the lack of material it is impossible to clarify the situation. Whoever rediscovers this butterfly will need to collect material and to study it in depth, including molecular biology. A comparison with other *Pseudochazara* species from Greece and its neighboring countries would more than likely clarify its taxonomic status. Obviously molecular biology techniques are not easily accessible to amateurs, but I'm sure many professional entomologists who have access to this technology would be only too happy to cooperate.

Conclusion: after spending a day with him in the field on the Phalakró Massif, I tend to give the benefit of doubt to Pamperis. He has extensive experience of Greek habitats and has sharp analytical observation skills regarding the butterflies that occur there.

However, the case of *P. amymone* remains very mysterious and not clarified despite the new book. It is a deliberate choice of Pamperis not to say more, but in my opinion, this is a missed opportunity. The publication of specific ecological data does not put the butterfly in danger, and with targeted research could probably offer an unprecedented opportunity to find previously unknown populations.

There is lack of evidence to support, with certainty, the recent presence of the species. In the book, flight periods, depending on the altitude, are totally vague and require clarification.

On this occasion, I would like to appeal for field reports compiled/collated from targeted research to be published, even when zero observations of *P. amymone* have been observed, so that each subsequent exploration can rely on previously acquired knowledge.

Whoever has the good fortune to find this species should be aware that, for molecular research, it is sufficient to take provide a few legs of one or more specimens to help clarify the status of this butterfly species. If necessary, I would be happy to provide assistance.

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