

Confirmation of the presence of *Zizeeria karsandra* (Lepidoptera, Lycaenidae) on Rhodes Island, Greece

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Abstract. The rediscovery of the butterfly *Zizeeria karsandra* (Moore, 1865) on the island of Rhodes, Greece, 60 years after its first observation, is presented.

Samenvatting. De herontdekking van de vlinder *Zizeeria karsandra* (Moore, 1865) op het eiland Rhodes, Griekenland, 60 jaar na zijn eerste observatie, wordt gepresenteerd.

Résumé. La redécouverte du papillon *Zizeeria karsandra* (Moore, 1865) sur l'île de Rhodes, en Grèce, est présentée 60 ans après sa première observation.

Key words: *Lycaenids* – Faunistics – Observation record.

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Introduction

Zizeeria karsandra (Moore, 1865) (Lycaenidae) is a minute lycaenid butterfly occurring on the north coast of Africa (E. Algeria, Tunisia and Libya), SE Turkey, Cyprus, Malta and Greece (Rhodos and Kriti) reaching southern Asia and Australia (Makris 2003).



Fig. 1. *Zizeeria karsandra* on the ground, Rhodes, 7th November 2019. © Matt Berry.

A long lasting and troubling controversy over its actual presence in Greece (and Europe) was settled only very recently. The species was mentioned for the first time for Greece by Beuret (1955), with two specimens collected from two different locations on the south side of the island of Kriti (Crete) (Anastassiou *et al.* 2010). The species was also reported from the island of Rhodes by Bender (1963), without voucher specimen. Later, Pamperis confirmed the record from Kriti, based on photographic material (Pamperis 1997, 2009). Despite Rhodes being rather well explored for lepidoptera, all searches for *Z. karsandra* turned out negative and no other record exists for Rhodes since. To make things more problematic, Anastassiou *et al.* (2010), after dozens of trips to Kriti were

not able to confirm its presence there and comment that 'the existence of this species in Greece is highly improbable' and Pamperis's observations from Kriti are 'puzzling'. The case of the presence of *Z. karsandra* on Rhodes was equally doubted. Cuvelier & Mølgaard (2012), summarising the butterfly records of Dodecanisos islands, while arguing that a confirmation for Kriti is needed 'from an independent source', conclude that the presence of the species on Rhodes is 'very doubtful'. Only very recently, Rowings & Cuvelier (2018), reconfirmed Pamperis's observations from Kriti, putting an end to this unfortunate situation and Viborg (2019) presented voucher specimens and additional information. Our observations from the island of Rhodes conclusively confirm the presence of *Z. karsandra* in Greece.

Results

On November 1st, 2018, on the NE side of Rhodes Island, a small population of *Zizeeria karsandra* was observed, photographed and identified in the field by M.B. Only two individuals were seen, flying or on the ground. On a second visit, one week later, members of the same population were again on the wing. Due to the low number of observed individuals, no specimen was removed from the population and no exact coordinates are provided. *Zizeeria karsandra* was flying with individuals of *Chilades trochylus* (Freyer 1845). On November 7th and 8th 2019, under favourable climatic conditions of sunshine and 24°C, M.B. visited again the location and observed one female laying eggs on a seedling of an unidentified plant species. More than that, an additional individual that could be a member of a different (sub-)population, was observed in a location 4.5 km further north.

Discussion

The presence of *Z. karsandra* on the island of Rhodes is confirmed, 50 years after the first observation of Bender at 1958. Cuvelier & Mølgaard (2012) provided an updated overview of the butterflies of the Dodecanisos islands, counting 50 verified records for Rhodes. Galanos (2014)

adds two more species rising the number to 52 and our record rises the number to 53.



Fig. 2. Habitat of *Zizeeria karsandra*, Rhodes, 23rd November 2018.

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More than that, the presence of *Z. karsandra* in Greece and in Europe, should now be considered firmly confirmed, with known populations occurring in two Aegean islands, Rhodes and Kriti. Two main factors led to the doubt of the records of *Z. karsandra* in Greece. Firstly, there was a lack of voucher specimens, except Beuret's from Kriti, for which a case of mislabelling has been suspected by Anastassiou *et al.* (2010). Pamperis's attitude in presenting his records through a photograph or giving obscure localities, refusing to ever collect any specimens

can understandably lead to questions concerning the credibility of some of his records. Although we understand how such a stand can generate unease, we acknowledge Pamperis's position.

Another factor which has made the doubt of the species occurrence on the Aegean islands understandable to a certain degree is the biogeographic factor. *Zizeeria karsandra* is absent from the area of SW Anatolia (Turkey), while being very common on Cyprus and SE Anatolia (Makris 2003). Should the species be present on Rhodes and Kriti, then a distributional gap of several hundred kilometres between the two Aegean islands and the core area of the species would be created, which for a lowland species like *Z. karsandra* would be highly problematic (Anastassiou *et al.* 2010, Cuvelier & Mølgaard 2012).

The Greek populations of *Z. karsandra* are very isolated from the core distribution area of the species in the Middle East. The newly discovered population on the island of Rhodes should be targeted for long term conservation, regarding threats and protection. The preliminary studies on the biology of the population of Kriti (Rowlings & Cuvelier 2018, Viborg 2019) indicate a complex biological cycle with many generations per year, dispersal events triggered by unfavourable climatic conditions (lack of moist ground, absence/presence of green plants, etc.). This is most probably the reason why, on several visits made during the present year in spring and summer, we were not able to locate any adults of the Rhodes population. Further research should be undertaken to study in detail the biological cycle of *Z. karsandra* on the two Aegean islands.

References

- Anastassiou H. T., Ghalavás N. & Coutsis J. G. 2010. First record of *Cacyreus marshalli* in Greece, and comments on the potential occurrence of *Zizeeria karsandra* on the Greek island of Crete (Lepidoptera: Lycaenidae). — *Phegea* **38**: 85–92.
- Bender R. 1958. 1963. Beiträge zur Lepidopterenfauna der Insel Rhodos. — *Zeitschrift der Wiener Entomologischen Gesellschaft* **48**: 11–22.
- Beuret H. 1955. *Zizeeria karsandra* Moore in Europa und die systematische Stellung der Zizeeriinae (Lepidoptera, Lycaenidae). — *Mitteilungen der entomologischen Gesellschaft Basel* **5**: 123–130.
- Cuvelier S. & Mølgaard M. S. 2012. Butterflies and Skippers in the Dodecanese Islands (Greece): new data and an update on their distribution (Lepidoptera: Hesperioidea & Papilionoidea). — *Phegea* **40**: 66–80.
- Galanos Ch. J. 2014. First records of *Pararge aegeria* and *Cacyreus marshalli*, and a verification of *Muschampia proto* from the Greek Island of Rhodes. First records of *Cacyreus marshalli* and *Gegenes* sp. from the Greek Island of Tilos; Dodecanese Complex S. E. Aegean (Lepidoptera: Hesperioidea & Papilionoidea). — *Phegea* **42**: 74–77.
- Makris C. 2003. *Butterflies of Cyprus*. — The Bank of Cyprus Cultural Foundation, Nicosia, 329 pp.
- Pamperis L. N. 1997. *The butterflies of Greece*. — A. Bastas, D. Plessas Graphic Arts S.A., Athens, 559 pp.
- Pamperis L. N. 2009. *The butterflies of Greece*. Second Edition revised and enlarged. — Editions Pamperis, Athens, 766 pp.
- Rowlings M. & Cuvelier S. 2018. *Zizeeria karsandra* (Lepidoptera: Lycaenidae) recorded from Crete (Greece): observations, distribution and habitats. — *Phegea* **46**: 126–131.
- Viborg A. L. 2019. Supplementary information on *Zizeeria karsandra* (Lepidoptera: Lycaenidae) on Crete. — *Phegea* **47**: 93–96.