

The larva and a new host-plant of *Melitaea arduinna* (Lepidoptera: Nymphalidae) in Iran

Alireza R. Naderi & Peter Russell

Abstract. The larva of *Melitaea arduinna* (Esper, [1783]) from Iran is pictured here for the first time. A new host-plant for this species is recorded: *Centaurea gaubae* (Bornm.) Wagenitz.

Samenvatting. De rups van *Melitaea arduinna* (Esper, [1783]) uit Iran wordt hier voor het eerst afgebeeld. Een nieuwe voedselplant voor deze soort werd waargenomen: *Centaurea gaubae* (Bornm.) Wagenitz.

Résumé. La chenille de *Melitaea arduinna* (Esper, [1783]) d'Iran est figurée ici pour la première fois. Une nouvelle plante-hôte pour cette espèce a été observée : *Centaurea gaubae* (Bornm.) Wagenitz.

Key words: *Melitaea arduinna* – *Centaurea gaubae* – New larval host-plant.

Naderi A. R.: Entomology Section, Natural History Museum & Genetic Resources, Department of Environment, Tehran, Iran. a2naderi@yahoo.com

Russell P.: Oakmeadow, Wessex Avenue, East Wittering, West Sussex PO20 8NP, U.K. peterjcrussell@yahoo.co.uk

Introduction

Following on from the recent article on *Melitaea arduinna* (Esper, [1783]) by Russell *et al.* (2017) and soon after submitting an article on the ecology of *Melitaea arduinna* in the Levant (Benyamini & Russell, in press), the authors received some photographs of the larvae of this butterfly taken in Iran. There was a description of the Iranian larva by Wiltshire (1952) but, as far as the authors are aware, no photographs have ever been published.



Fig. 1: Larva of *Melitaea arduinna*, Iran, Markazi Province, Mahallat, 2000 m, 20 April 2018. (© M. R. Ehsani).

Observations

The Iranian larva (fig. 1) is rather similar in appearance to that of subspecies *rhodopensis* Freyer, [1836] but the lateral orange stripe is yellower and less bright, similar to larvae of this species from Georgia (see Russell *et al.* 2017: 209, fig. 45). The location of the larva from Iran is almost due south of Georgia, giving weight to the theory proposed by Russell *et al.* (2017: 219) that there could be an east west cline in the colour of the larval lateral stripe from grey to orange.

The host-plant given by Wiltshire (1952) for this species in vineyards near Shiraz, Iran, was *Centaurea behen* L. and this was confirmed by the first author for populations of *M. arduinna* in the Zagros and Alborz mountains. However, the use by the larva at Mahallat, a mountain steppe biotope (Fig. 2), of *Centaurea gaubae* (Bornm.) Wagenitz (Fig. 3) exemplifies the use of a newly recorded host-plant. *C. gaubae* is perennial, spiny and unpalatable and thus it is protected, to some degree, from grazing and thus destruction of the ova and larvae of *M. arduinna*.



Fig. 2: The locality of the *Melitaea arduinna* larva, Iran, Markazi Province, Mahallat, 20 April 2018. (© A. R. Naderi)



Fig. 3: *Centaurea gaubae*, host-plant of *Melitaea arduinna*, Iran, Markazi Province, Mahallat, 20 April 2018. (© A. R. Naderi).

Acknowledgements

Many thanks are due to Mohamad Reza Ehsani (Tehran, Iran) for accompanying the first author on his field trip and allowing the publication of his photograph and Mohamad Javad Ahmadi (Botanist) and Dr. Majid Eskandari for their help in identification of the host-plant.

References

- Benyamini D. & Russell P. 2018. Further studies on *Melitaea arduinna* (Esper, [1873]) (Lepidoptera: Nymphalidae), with observations on early stages and host-plants, from the Levant populations in Upper Galilee and the Samarian Desert, Israel. — *Entomologists' Gazette* (in press).
- Russell P., Tikhonov V., Kuznetsov G., Tennent W. J. & Pateman J. 2017. A review of the status of nominal subspecies of *Melitaea arduinna* (Esper, [1873]) (Lepidoptera: Nymphalidae), with observations on host-plants, male genitalia and early stages from the Orenburg and Volgograd Regions of the Russian Federation, the Caucasus, Serbia, Republic of Macedonia and Greece. *Entomologist's Gazette* **68**: 187–221.
- Wiltshire E. P. 1952. Early stages of Palaearctic Lepidoptera, X. — *Bulletin de la Société Fouad Ier d'Entomologie, Cairo* **36**: 175–185, figs 1–12.
-