

Distribution of *Gonepteryx cleopatra* (L., 1767) (Lepidoptera: Pieridae) in the Republic of Macedonia

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Abstract: The first samples of the Cleopatra butterfly (*Gonepteryx cleopatra* L.) in the Republic of Macedonia date back to 1983 from the Galichitsa Mountain. In 1998 and 2007, additional data were obtained from the surroundings of the town of Dojran. Furthermore, the Cleopatra was found at two new localities in 2012. The current paper presents all records of the Cleopatra in the Republic of Macedonia.

Key words: Butterfly, Cleopatra, Republic of Macedonia

Introduction

The first report of Cleopatra butterfly, *Gonepteryx cleopatra* (L.) in the Republic of Macedonia was given by KRPAČ, MIHAJLOVA (1997). It caused confusion in the entomological circles in the Republic of Macedonia in view of the fact that the collected samples did not belong to either of the aforesaid authors. The samples were from the collection of the late butterfly collector S. Jakonov and it was not possible to verify the accuracy of the labels. The third reason for the confusion was that the report was not confirmed by other authors. It is worth underscoring that those were not only a few individuals but a large number (54) collected in the period 17-23 April 1983 from Galichitsa Mountain. Following the publication of KRPAČ, MIHAJLOVA (1997), the Butterfly Study Group (now ENTOMAK) reported on records of the mentioned species in the neighbourhood of Dojran in 1998 and 2007. The data referred to were not published for the reason that more extensive research, aimed at establishing the entire picture with regard to the distribution of the Cleopatra butterfly in the Republic of Macedonia was anticipated to be conducted.

Two further records of the Cleopatra butterfly were registered by ENTOMAK in central Macedonia in 2012. These have been the occasion for providing a review of the current distribution status of this very interesting Mediterranean species in the Republic of Macedonia.

Material and Methods

The material for this paper consisted of numerous samples recorded on 28th February 1998 and in March 2007 in the surroundings of Dojran, and samples collected in the region of Pletvar and Kozjak during the field research in July 2012. The individual captured in Kozjak area was prepared and stored in the ENTOMAK collection.

The complete material of *Gonepteryx cleopatra* related to this paper (see also Fig. 1) is as follows:

- Eight individuals recorded on 28th February 1998 in Mediterranean scrubs along the road Star Dojran – Mrdaja (ENTOMAK).
- Tens of individuals identified on 3rd March 2007, in Dojran, in *Quercus coccifera* shrubs, to the right from the road between Nov Dojran and Star Dojran (ENTOMAK).
- One individual captured in open grassland on 3rd July 2012, Kozjak, Sopiste Municipality (leg. N. Micevski, ENTOMAK).
- Two individuals identified on 5th July 2012, Prasad village, Prilep Municipality (registered by members of ENTOMAK and Butterfly Conservation Europe).

Results and Discussion

TOLMAN, LEWINGTON (2009) claim that *G. cleopatra* is a common species in the countries surrounding the

Mediterranean Sea and absent from R. Macedonia and Albania. In Greece, the species is encountered along the coast and in the central part of the country and that only stray individuals have been found in the northern part of Greece and in Bulgaria. The same authors stated that it is a single-brooded species emerging from mid-May until August, whereat the hibernating adult individuals occur from late February until late April. The species inhabits open scrublands, often with rocks, and in the vicinity of sparse woodland. A number of species of the genus *Rhamnus* are host plants of that butterfly. It occurs at altitudes of up to 1600 m along the coast, primarily at altitudes below 1200 m a.s.l.

ABADJIEV, BESHKOV (1996) found the Cleopatra butterfly in southern Albania (Saranda, Butrinti and Dhermi), and reported that in June 1995 it was very common, particularly in the oleanders (*Nerium oleander*) in Saranda and in the olive plantations in Butrinti and Dhermi.

There is only a single record in Montenegro, from the pass Sutorman (CARNELUTTI, MICHIELI 1958, JAKŠIĆ 1988), from 2-10 July 1955, which was not confirmed in the last decades (Franeta, pers. comm.).

With regard to Serbia, there have not been any data up to date (Jakšić, pers. comm.).

In Bulgaria, GANEV (1989) captured an individual in the Rila Mountain, at 1000 m (above Kostenets, on the way to Belmeken), on 15th July 1988. The author claimed that it was a fresh male of *G. cleopatra*, and suggested that it originated from that region instead of being a stray individual (GANEV 1989).

In Greece, in addition to reporting plentiful data about the coastline and the central part of the country, PAMPERIS (2009) provided some data related to northern Greece. Specifically, one of the findings is from the region south of the Belasitsa Mountain (17 June 1995, Platanikia village, Belasitsa Mt, 1100 m, located approximately 6 km away from the Macedonian border). The individuals were recorded at a number of localities at roadsides in forest clearings, and all individuals were very young. Another individual, which is the northernmost finding for Greece, was observed on 13 July 2002 in Vitsi Mountain, in the vicinity of Florina, at an altitude of 1500 m and 11 km away from the Macedonian border (BORG *et al.* 2002).

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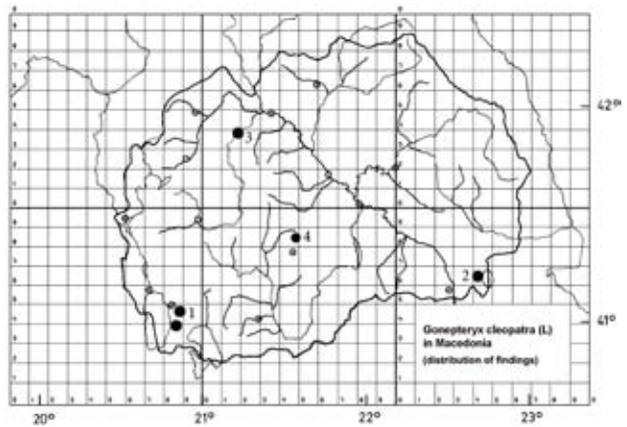


Fig. 1. Distribution map (1- Galichitsa; 2- Dojran; 3- Kozjak; 4- Prisad)

In view of the abovementioned, part of our data – those from Dojran area, apparently refer to wintering individuals, judging by the period of their occurrence (late February and March). It is unknown whether there is a supplemental straying of wintering adult individuals in early spring, which would elucidate our case related to Lake Dojran area as well as the samples from Ohrid region (KRPAC, MIHAJLOVA 1997). However, in both cases, straying and additional migration in winter-time, it is difficult to clarify the species early emergence in the surroundings of Dojran (28 February 1998).

As regards the individuals recorded in July 2012, the sole explanation is that they were strays from probably the nearest distribution localities of the species. Such localities may be only in central and north Greece or southwest Albania. The occurrence of the Cleopatra at larger distances outside its breeding range is a common phenomenon.

In order to settle the existing controversies, in all likelihood, a more systematic research is required in both cases in order to ascertain the time of emergence and sojourn of the individuals in Dojran region. Furthermore, the marking of some adult individuals in northern Greece in late autumn is needed.

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