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Papilio alexanor eitschbergeri, a new subspecies from Samos Island (Greece) and western Turkey

(Lepidoptera, Papilionidae)

by

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Abstract: *Papilio alexanor eitschbergeri* subspec. nov. from Samos Island and Western Turkey is described and illustrated. Some notes on its biology and food-plants are given.

Riassunto: Gli autori descrinovo una nuova sottospecie di *Papilio alexanor* ESPER dell'isola di Samos e della Turchia occidentale. La nuova sottospecie viene illustrata e vengono date alcune informazioni sulla sua biologia.

Introduction

While checking the *alexanor* material in our own and in private collections in view of a revision of this species (in prep.), it appeared clear that the populations of *Papilio alexanor* ESPER from Samos Island (Greece) and Western Turkey belong to a new, well-differentiated subspecies. Because of the few extensive series of *alexanor* available in many collections, the above mentioned new subspecies, although easily differentiable from nearby subspecies, was overlooked for a long time. Thanks to many sensible colleagues who kindly provided us with their *alexanor* material, we had the opportunity to compare long series of this species from western Turkey and Samos Island, and from other Turkish localities.

Papilio alexanor **e i t s c h b e r g e r i** subspec. nov. (colour plate VII, figs. 1-3)

Holotype male: Greece, Samos Island, Manolates, 22.V.1986, mt. 700, leg. H. J. HENRICKSEN, in coll. BOLLINO (Lecce/Italy).

External characters: Head, thorax, abdomen and antennae like in other alexanor subspecies. Forewing length 41 mm.

Upperside FWs: Ground colour straw-yellow with well contrasting black bands. Black marginal band (width 2 mm) less deep and less contrasting in colour than that of *alexanor judaeus*; black submarginal band with less intense blue scaling than in *a. judaeus* and *a. orientalis* (width 5 mm at R5). Black postmedian band 3.6 mm wide, always far from R4-R5 branching off, while in *a. judaeus* black scales always reach that point. Median band 3 mm wide, narrower than that of *a. judaeus* and without any trace of blue scaling on the contrary of *judaeus*. Submedian black band 3.8 mm and basal band 4 mm wide. Yellow submarginal band 2.2 mm wide, with well marked black veins, while in *a. judaeus* this band

has unmarked veins, especially in the tornal portion. Yellow median band 3.5 mm wide, much more than that of Israeli and Lebanese specimens, and submedian 4.4 mm in width.
Upperside HWs: Ground colour as in FWs. Black marginal lunules wider (2 mm) than in *judaeus* (1.2 mm). Marginal yellow lunules 2 mm in width. Black postmedian band with blue scaling at ce CuA1-CuA2, less deep and less thick at ce M3-M2-M1. Anal spot ochre.
Underside FWs: Ground colour and pattern as on upperside, but black submarginal band with median blue suffused scaling.
Underside HWs: Like upperside, but blue scaling brighter and nore intense.

Paratypes: 2 ♂♂, same data as holotype; 1 ♂, Samos, 19.V.80; 1 ♂, Greece, Samos, IV.85; 1 ♂, Greece, Samos Isle, Kastania, mt. 700-800, 8.VI.90, leg. GAVALAS; 1 ♀, Greece, Samos, Ag. Zoni, mt. 350, 22.V.71, leg. H. J. HENRICKSEN; 6 ♀♀, Greece, Samos Isle, Kastania, mt. 700-800, 8.VI.90, leg. GAVALAS; 7 ♂♂, Turkey, Izmir Sud, IV.89, leg. PIERRAT; 1 ♂, Western Turkey, Serinse, 23.V.86; 1 ♀, Turkey, Izmir Sud, IV.89, leg. PIERRAT; 1 ♀, Turkey, Selçuk, 24.V.86, ex larva; 1 ♀, West Turkey, Bursa Prov., Bozburun Kaplakli, near village, 26.V.87, leg ONARAN; 1 ♀, West Turkey, Selçuk, 26.III.91, ex ovo; 2 ♂♂, Samos Isle, 23.V.81, leg. GAWEHN; 1 ♀, Samos Isle, 22.V.81, leg. GAWEHN; 1 ♀, Graecia, Insel Samos, Pirgos, 1.V.-12.VI.1989, leg. GAWEHN, all in coll. BOLLINO, Lecce; 1 ♀, Turkey, Balikesir Prov., 4 km SSE Bigadiç, 400m, larva found 27.VI.80, emerged 20.V.81; 1 ♀, same data, emerged 27.III.82; 1 ♀, Turkey, Çanakkale Prov., 3 km W of Kücükkuyu, 200m, larva found 26.VI.80, emerged 12.IV.81, all in coll. WAGENER, Bocholt/Germany; 2 ♀♀, Samos, 28.V.81, leg. GAWEHN; 1 ♀, Samos, 23.V.81, leg. GAWEHN; 1 ♀, Samos, 19.V.81; 1 ♂, 1 ♀, Samos, 27.V.84; 1 ♀, Samos, 14.V.79, all in coll. SALA, Salò; 22 ♂♂, 10 ♀♀, Graecia, Insel Samos, V.81; 3 ♂♂, 2 ♀♀, Graecia, Insel Samos, IV./V.81; 1 ♀, Graecia, Insel Samos, 16.V.83; 2 ♀♀, Graecia, Insel Samos, 21.V.83; 2 ♀♀, Graecia, Insel Samos, Pirgos, 26.V.83; 1 ♀, Graecia, Insel Samos, Pirgos, 6.VI.81; 1 ♀, Graecia, Insel Samos, Pirgos, 19.V.81; 1 ♀, Graecia, Insel Samos, Pirgos, 28.V.81; 1 ♀, Graecia, Insel Samos, Pirgos, 26.V.81, 1 ♀, Graecia, Insel Samos, Pirgos, 19.V.81; 13 ♀♀, Graecia, Insel Samos, Pirgos, 1.V.-12.VI.84; 2 ♀♀, Graecia, Insel Samos, Pithagorio, 23.V.81; 2 ♀♀, Graecia, Insel Samos, Pithagorio, 19.V.81; 1 ♀, Graecia, Insel Samos, Pithagorio, 25.V.81; 2 ♀♀, Samos, 28.V.81; 2 ♀♀, Samos, 23.V.81; 1 ♀, Samos, 18.V.81; 1 ♀, Samos, 19.V.81; 1 ♀, Samos, 21.V.81; 3 ♂♂, Graecia, Insel Samos, Pithagorio, 25.V.81; 1 ♂, Graecia, Insel Samos, Pithagorio, 23.V.81; 1 ♂, Graecia, Insel Samos, Pithagorio, 19.V.81; 1 ♂Graecia, Insel Samos, Pithagorio, 18.V.83; 1 ♂, Graecia, Insel Samos, Pithagorio, 20.V.83; 1 ♂, Graecia, Insel Samos, Pithagorio, 23.V.83; 1 ♂, Graecia, Insel Samos, Pirgos, 18.V.81; 1 ♂, Graecia, Insel Samos, Pirgos, 19.V.81; 5 ♂♂, Graecia, Insel Samos, Pirgos, 28.V.81; 4 ♂♂, Graecia, Insel Samos, Pirgos, 1.VI.81; 2 ♂♂, Graecia, Insel Samos, Pirgos, 6.VI.81; 2 ♂♂, Graecia, Insel Samos, Pirgos, 21.V.83; 7 ♂♂, Graecia, Insel Samos, Pirgos, 1.V.-12.VI.84; 1 ♂, Samos, 18.V.81; 1 ♂, Samos, 26.V.80; 1 ♂, Samos, 23.V.80; 1 ♂, Samos, 28.V.81, all specimens leg. GAWEHN and in Museum EITSCHBERGER, Marktleuthen/Germany (EMEM); 1 ♂, 1 ♀, Greece, Samos, Pirgos, mt. 400, 27.V.87, leg. GARREVOET, in coll. GARREVOET, Antwerpen/Belgium; 1 ♂, 1 ♀, Hellas, Island Samos, 10.V., in coll. HUBER, Scharten/Austria.

Paratype variation: the extensive series of *alexanor eitschbergeri* paratypes is quite constant in pattern. Concerning size, we found FW length ranging from 41 mm to 44.4 mm in males from Samos, and 38.7 mm to 41.2 mm in males from western Turkey, with a mean value of 42.7 mm for Samos and 40.1 mm for Turkish males. The FW length of females

shows a more marked difference between Samos and mainland populations, with a mean value of 47 1 mm in the former and only 41.5 mm in the latter.

Derivatio nominis

The new subspecies is dedicated to Dr. ULF EITSCHBERGER, who was the first to recognize the validity of the new entity, for his indefatigable contribution to the progress in Lepidopterology.

Distribution

Pailio alexanor eitschbergeri subspec. nov. is located in the Western portion of the Anatolian Peninsula, and on the Island of Samos. The authors are aware only of one female from Lesbos Island, which is kept in the collection of Mr. OLIVIER. As we were unable to examine that specimen, this Greek island is provisionally not included in the area of the new subspecies, but we think that this specimen is likely to belong to the new taxon. A extensive series of bred specimens from Bafa Gölü (Aydin Prov.) and some wild-taken ones from Antalya, Alanya amd Thermessos (Antalya Prov.) are not included in the type series. They have a quite different pattern separating them from both *a. eitschbergeri* and *a. judaeus*, and we wait for more material and for investigations from this area to give a final judgement about their taxonomic status.

The hithereto known distribution of *Papilio alexanor eitschbergeri* subspec. nov.

Discussion

Papilio alexanor eitschbergeri subspec. nov. is surely that population, where the biggest sizes are atteined. Only some *a. orientalis* ♀♀ can be compared with the giant specimens from Samos. The new subspecies is moreover the lightest in colour. It can be separated from the nearby *a. judaeus* on the basis of some quite constant characters: black bands of FWs with few blue scaling, whereas in *judaeus* the black scales are usually abundant; black FWs' postmedian band always separated from R4-R5 branching off, whereas in *judaeus* black scales reach that area; yellow submedian band with well marked veins, while in *judaeus* this band has unmarked veins, especially in the tornal area; black marginal lunules of HWs much wider than in *judaeus*. Indeed, *Papilio alexanor judaeus* is the taxonomically nearest taxon, but phenotypical differences are constant, even if not marked, suggesting a quite recent genetical differentiation. The geographical position of Samos Island, very close to the Western Turkish coast, and its recent isolation (probably only 20,000 years ago) (OLIVIER, 1898) can explain the presence of the same new subspecies on the Greek Island and on the Turkish mainland.

Biological notes

Papilio alexanor is a typical xerothermic species, found usually in scattered populations with low to middle densities. Some exceptions exist, and the authors observed large populations of *alexanor* at Mistrà (Sparta prov., Greece) and Sarikamis (Kars prov., Turkey), and know another *alexanor* biotope on the Israeli Hare Gilboa (BAIOCCHI, pers. comm.). On Samos, *alexanor* is widespread and usually abundant, leading SCHMIDT (1989) to define the locality Phitagorio "ein Eldorado für *Papilio alexanor*" OLIVIER (in litt.) informed us that "on Samos, *P. alexanor* is rather common and widespread. A visitor should be able to get a nice series" Also near Izmir (Turkey) *P. alexanor* appears to be quite abundant, but localized (PIERRAT, pers. comm.). The flight period is usually the last third of May, but earliest specimens can be seen at the end of April, and worn females can be found in the mid of June. On Samos we know populations located between 0 and 700m a.s.l., and the same altitude range is encountered in western Turkey. The flight period is, in any case, linked to the flowering period of the yellow flowered Umbellifers used as foodplant, as reported by OLIVIER (in litt.). SCHMIDT (1989) reports *Pastinaca sativa* as foodplant, but the authors have some doubts about that reporting. *Ferula communis* is surely present on the islands (GAVALAS, pers. comm.), while *Pastinaca sativa*, an Euro-Siberian species, could have been introduced for alimentary purposes, as it happened in Sicily (PIGNATTI, 1982). Due to the botanical affinities between the genera *Pastinaca* and *Ferula*, we suppose *Ferula communis* to be the original foodplant, and the usage of *Pastinaca sativa*, if accepted, an ecological adaptation. *Ferula communis* is surely used as foodplant in Western and Southern Turkey (ROSE, in litt.), while other species of *Ferula* and of the related genus *Heptaptera* are used in eastern Turkey (DE FREINA, 1983, and pers. comm.), Russian Armenia (NEKRUTENKO, 1990), Lebanon and Israel (NAKAMURA & AE, 1977).

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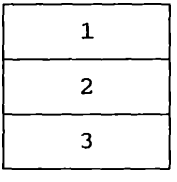
Colour plate VII (p. 303)

Fig. 1: *Papilio alexanor eitschbergeri* subspec. nov., holotype ♂, upperside.
Fig. 2: *Papilio alexanor eitschbergeri* subspec. nov., paratype ♀ from type locality, upperside.
Fig. 3: *Papilio alexanor eitschbergeri* subspec. nov., paratype ♂, Turkey, Izmir Sud, IV.89, upperside.



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Colour plate VII

BOLLINO, M. & G. SALA: *Papilio alexanor eitschbergeri*, a new subspecies from Samos Island (Greece) and western Turkey (Lepidoptera, Papilionidae). Atalanta **23**(1/2):127-131.

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Colour plate VII