

A new subspecies of *Parnassius mnemosyne* L. from Tosco-Emilian Apennines and considerations about populations of the same range
(Lepidoptera, Papilionidae)

by

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received 12.II.1992

Abstract: A new subspecies of *Parnassius mnemosyne* from Tosco-Emilian Apennines is described and figured, and named *guccinii* subsp. nov. Other populations from the same area are examined, and a discussion is done in order to clarify their taxonomical status.

Introduction

After checking the material coming from the Tosco-Emilian Apennines, the authors consider all specimens of the Cisa Pass and Corniglio Wood (province of Parma) as belonging to a new subspecies. These populations are the most western of all the considered ones, from the Parmese Apennine to the Romagnan. Formerly, EISNER (1974) mentioned this population saying: "das ♂ vom Passo Lisa [sic!] fällt aus dem Rahmen; das ♂ hat auch einen Costalaugenfleck; das ♀ ist sehr gross (33 mm), und weist keinen Hinterrandsfleck auf", realising most perfectly the peculiar feature of this new subspecies.

Parnassius mnemosyne guccinii subsp. nov. (figs. 1-4)

Holotype male: Passo della Cisa (PR), mt. 1000, 21.VI.1975, coll. SALA (Salò).

Great size (31 mm), ground colour cream white; the hyaline margin reaching Cu1, the submarginal lunules feebly marked, subcostal band present, little marked, cellular spots small in forewing. On the hindwing the discal spot is very large, the subcostal one is narrow but well marked and the radical black band poorly marked.

Paratypes: 3 ♂♂, Passo Cisa (PR), mt. 1000, 17.VI.1958; 1 ♂, idem, VI.1955; 1 ♂, idem, 20.VI.1958; 1 ♂, 21.VI.1975; 1 ♂, Bosco Corniglio, mt. 1000, 21.VI.1986, all in coll. SALA (Salò); 1 ♂, Passo Cisa (PR), mt. 1000, 17.VI.1958; 1 ♂, idem, 7.VI.1958, in coll. BOLLINO (Lecce); 2 ♂♂, Passo Cisa (PR), mt. 1000, 21.VI.1975, in coll. DE CASTRO (Como).

In all the males examined, the white lunules in the hyaline band of the forewing are always feebly marked; the cell spots of the forewings are constantly small, except two specimens in which they appear a little larger and stretched; the discal spot on the hindwing is always well conspicuous, while the subcostal one is present in only the half of the specimens; the average size is 31.5 mm.

Paratypes females: 3 ♀♀, Passo Cisa (PR), mt. 1000, 20.VI.1958, in coll. SALA (Salò); 2 ♀♀, idem, 21.VI.1975, in coll. DE CASTRO (Como).

Average size 32.5 mm; ground colour yellowish white; the hyaline band of the forewing reaches the space Cu1/Cu2 in the middle; the white lunules inside the hyaline band always scarcely marked; the cell spots are small and of a greyish colour, while the spot of the hind margin is lacking. The discal spot of the hindwing is always well marked, like the subcostal one, with a black line connecting both; the two anal spots of grey colour, well marked, while the black dusting of the anal margin is scarcely marked.

Derivatio nominis

The new subspecies is dedicated to Mr. FRANCESCO GUCCINI, to whose songs the first author is ever tied.

Discussion

The new subspecies is the most xerophilous and the largest in size among all the known populations of the toscano-emilian Apennines; in that region *ssp. constantinii* has been described by TURATI in 1919, type locality "valletta umida fra Lago di Budalone e la Costa di Gallo, mt. 1600, in provincia di Modena". In the author's collection, the following specimens fit the original description well: Lago Santo, Apennino modenese, mt. 1500; Corno alle Scale, Apennino bolognese, mt. 1600; Foce delle Radici, mt. 1500; S. Pellegrino in Alpe, mt. 1500; Casone di Profecchia, mt. 1300 in the Apennino lucchese, and specimens figured in VERITY's "Le Farfalle Diurne d'Italia".

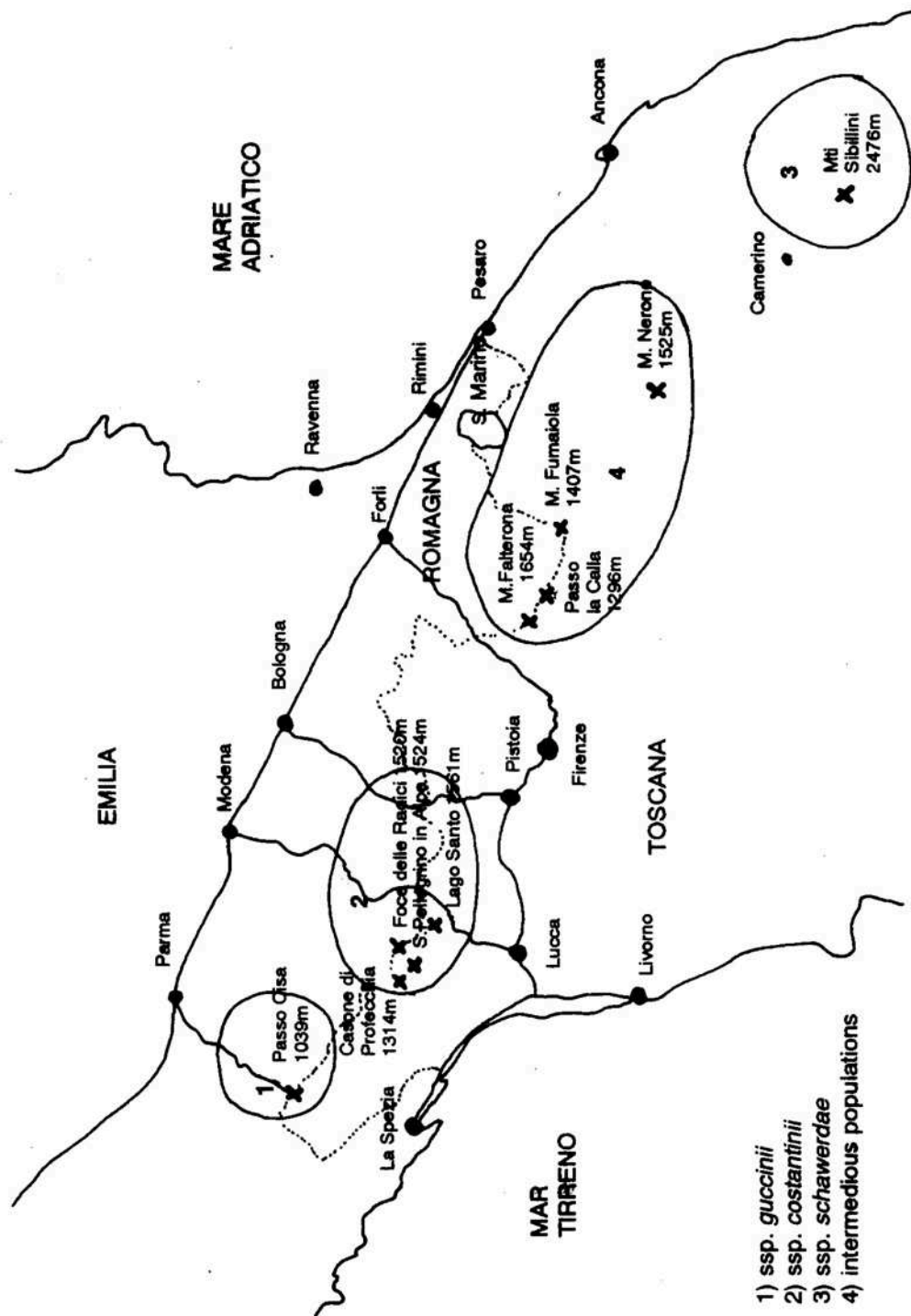
As confirmed by BRYK (1935) and VERITY (1947), males and females of *ssp. constantinii* exhibit well pronounced lunules in the hyaline band of the forewings, a greenish ground colour (this feature was never present in the examined material, where the ground colour is snow-white), the cell spots are very large, especially in the females, and of a dark colour. The new subspecies differs, above all, in the larger size as regards to *ssp. constantinii* (in this subspecies the medium size is 28 mm in males and 30 mm in females), for the weakly marked lunules in forewings; in the hindwings in both sexes the discal spot is well pronounced, the spot's colour clear grey, especially in the females, and the anal dusting scarcely present.

To complete the discussion, the more eastern populations (Monte alterona, Campigna, Poggio Scali, Passo la Calla) have been considered by VERITY as belonging to *ssp. schawerdae* (type locality Monti di Camerino Piceno), typical of Monti Sibillini. Specimens figured by VERITY, all specimens in his collection (Museum la Specola, Florence) and the specimens from the Romagna Apennine in the author's collection fit well with specimens typical of *ssp. constantinii* according to our opinion, both for size and for the cell spots well marked; on the contrary all specimens from our collection and from VERITY's bequest coming from Monti Sibillini (*ssp. schawerdae*) have a smaller size and above all show a great reduction of the black spots and of the pattern in general.

A pair from Monte Nerone (PS province) is interesting, because this is a place intermediate between the Sibillini and Falterona mountains, and the appearance is of a great gynocotrophism; we are waiting for more specimens from this locality to give a proper judgement about them.

Acknowledgements

Many thanks to the colleagues Mr. BERTOZZI (R.E.), Dr. DE CASTRO (Como) and Father BOARIN (Parma), for their contributions, to Prof. SBORDONI (Roma) for the revision of the



- 1) *ssp. guccinii*
- 2) *ssp. constantinii*
- 3) *ssp. schawerdae*
- 4) intermediate populations

text and useful advice; to Mrs. MASCHERINI and Dr. BARTOLOZZI (Museo la Specola, Firenze) for their availability and help to examine VERITY's collection; and last but not least to Mrs. VERONESI PAOLA for her help in typing the text.

References

- BRYK, F. (1935): Parnassidae, pars II. – Das Tierreich, Berlin u. Leipzig.
 EISNER, C. (1974): Arten und Unterarten der Baronidae, Teinopalpidae, und Parnassidae (erster Teil). Parnassiana Nova XLIX. – Zool. Verh. 135:1-96.
 TURATI, E. (1919): A mille metri sull'Appennino modenese. – Atti Soc. It. Sc. Nat. 58:164.
 VERITY, R. (1947): Le Farfalle Diurne d'Italia, vol. III. Papilionidae e Pieridae. – Marzocco, Firenze.
 WAGENER, S. (1977): Bemerkungen zu den *Parnassius*-Formen des Appennin aus geographisch-ökologischer Sicht. – Nota lepid. 1:23-37.

Colour plate VI (p. 301)

- Fig. 1: *Parnassius mnemosyne guccinii* subsp. nov, holotype ♂: Passo della Cisa.
 Fig. 2: *Parnassius mnemosyne guccinii* subsp. nov, paratype ♀: Passo della Cisa.
 Fig. 3: *Parnassius mnemosyne guccinii* subsp. nov, paratype ♂: Passo della Cisa.
 Fig. 4: *Parnassius mnemosyne guccinii* subsp. nov, paratype ♀: Passo della Cisa.
 Fig. 5: *Parnassius mnemosyne costantini* ♂: Foce delle Radici.
 Fig. 6: *Parnassius mnemosyne costantini* ♀: Foce delle Radici.
 Fig. 7: *Parnassius mnemosyne schawerdae* ♂: Monti Sibillini.
 Fig. 8: *Parnassius mnemosyne schawerdae* ♀: Monti Sibillini.
 Fig. 9: *Parnassius mnemosyne* ssp.?: Monte Nerone.

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Colour plate VI

SALA, G. & M. BOLLINO: A new subspecies of *Parnassius mnemosyne* L. from Tosco-Emilian Apennines and considerations about populations of the same range (Lepidoptera, Papilionidae). – *Atalanta* 23(1/2):123-126.

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