

# Notes on *Polyommatus icarus* (Rottemburg, 1775) in Greece and the description of a new *Polyommatus* Latreille, 1804 from northern Greece (Lepidoptera: Lycaenidae)

John G. Coutsis and Nikos Ghavalas

**Samenvatting.** Notities over *Polyommatus icarus* (Rottemburg, 1775) in Griekenland en beschrijving van een nieuwe soort *Polyommatus* Latreille, 1804 uit Noord-Griekenland (Lepidoptera: Lycaenidae). Het uiterlijk, de fenologie en de verspreiding in Griekenland van het wijdverbreide blauwtje *Polyommatus icarus* (Rottemburg, 1775) worden besproken. Naargelang de vindplaats zijn er tot drie of mogelijk zelfs vier generaties (twee op grotere hoogten). Dieren van de eerste generatie zijn groter met uitgestrektere, metaalkleurige basale bestuiving op de onderkant. Een nieuwe, nauw verwante soort wordt beschreven van drie nabijgelegen bergen in het district Dráma in Grieks-Makedonië. *Polyommatus andronicus* sp. n. Deze vliegt slechts in één generatie van einde juni tot begin augustus, op hoogten tussen ongeveer 1000 en 1800 m. Ze komt er sympatrisch en synchroon voor met de tweede generatie van *P. icarus* en onderscheidt zich van deze laatste soort door volgende kenmerken: de ietwat donkerdere en briljantere kleur op de bovenkant in het mannetje, de grotere vleugellente, de meer bruin-oranje kleur van de submarginalle vlekken, de grotere afmetingen van het mannelijk genitaal en de veel bredere en massievere henia in het vrouwelijk genitaal.

**Résumé.** Notes sur *Polyommatus icarus* (Rottemburg, 1775) en Grèce et description d'une nouvelle espèce de *Polyommatus* Latreille, 1804 du nord de la Grèce (Lepidoptera: Lycaenidae). L'aspect extérieur, la phénologie et la distribution en Grèce du lycène répandu *Polyommatus icarus* (Rottemburg, 1775) sont traités. D'après la localité, il y a jusqu'à trois, voire même quatre générations (deux aux altitudes plus élevées). Les exemplaires de la première génération sont plus grands avec la suffusion basale métallique de la face ventrale plus étendue. Une nouvelle espèce apparentée est décrite de trois montagnes proches du district de Dráma en Macédoine grecque. *Polyommatus andronicus* sp. n. Celle-ci n'a qu'une seule génération du fin juin à début août et ne vole qu'à des altitudes d'environ 1000 et 1800 m. Elle s'y rencontre ensemble avec *P. icarus* de deuxième génération et se distingue de cette dernière espèce par les caractères suivants: la couleur un peu plus foncée et brillante du mâle au dessus, la plus grande longueur de l'aile, la couleur plus brun-orange des taches submarginales, la plus grande taille de l'appareil génital mâle et l'hénie plus massive et large de l'armure génitale femelle.

**Key words:** *Polyommatus icarus* - *Polyommatus andronicus* sp. n. - new species - Lycaenidae - Greece.

Coutsis, J.G.: 4 Glykonos Street, GR-10675 Athens, Greece.

Ghavalas, N.: 30 Karaoli-Dhimitiou Street, GR-12461 Athens, Greece.

The distribution of *Polyommatus icarus* (Rottemburg, 1775) in Greece includes all of the mainland, the Peloponnese, the major islands and a good many of the lesser ones (Plate 1). The butterfly is to be met with from sea level to altitudes in the vicinity of 1800 m, being double-brooded at higher elevations and at least triple-brooded at low and middle heights. It is common throughout its range and often constitutes the major Lycaenid component within a given locality. Depending upon altitude and latitude the flight period may start from as early as late March and, weather permitting, may persist at low altitudes until late November, suggesting the possible existence of an occasional fourth brood.

First brood specimens are primarily characterized by their larger average size (FW length for Greek specimens: 13.5 - 17.5 mm) and by the extended metallic powdering at the base of wings underside. Second and later brood specimens are smaller on average, often tending toward dwarfism (FW length for Greek specimens: 11.0 - 16.9 mm) and the metallic powdering on the underside may either be absent or reduced, the former condition being met with primarily at low altitudes at all latitudes and at medium to high

altitudes at southern latitudes and the latter condition at medium to high altitudes at northern latitudes.

Recently, while collecting on three mountains in Greek Macedonia in the District of Dráma, namely Mts Falakró, Meníkio and Órvilos (Plate 1), specimens of a blue were captured that, though very close to *icarus*, did in fact exhibit a number of characteristics that set them apart from *icarus*. The butterflies were recorded at altitudes ranging from about 1000 m to just over 1800 m, from end June to early August, in a single protracted brood.

The monovoltinity of this insect, its syntopism and synchronism with second brood *icarus*, its restriction to higher elevations within a very limited geographic area and its genitalial differences from *icarus*, both male and female, prompted us to consider it a good species in its own right, to which we ascribe the name of *Polyommatus andronicus* sp. n., in honour and memory of the late M. Andrónikos, a Greek archaeologist, known for his major contributions toward our knowledge of ancient Macedonian history and civilization.

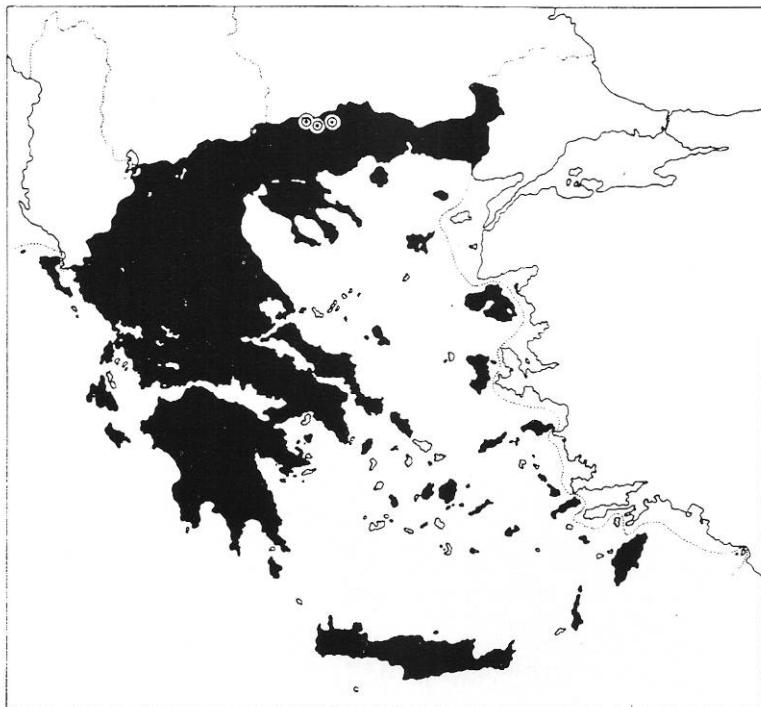


Plate 1: Known distribution in Greece of:

- *Polyommatus icarus* (Rottemburg, 1775)
- ◎ *Polyommatus andronicus* sp. n.

*Polyommatus andronicus* sp. n.

**Type material:**

Holotype: ♂, Greece, Macedonia, Dráma District, Mt Falakró, 1700 m, 10.VII.1993, leg. et coll. J.G. Coutsis.

Paratypes: 1♂ same data as holotype but at 1200-1300 m; 3♂ at 1580 m on 3.VIII.1994; 13♂ and 1♀ at 1700-1850 m on 10.VII.1993; 1♂ at 1850 m on 24.VII.1983; 3♂ and 1♀ Greece, Macedonia, Dráma District, Mt Meníkio, 1600-1850 m, 8.VII.1992; 1♂ Greece, Dráma District, Mt Órvilos, ca 1000 m, 30.VI.1991, all this type material in authors' collections.

1♂ Greece, Macedonia, Dráma District, Mt Falakró, 1800 m, 06.VII.1980, leg. D. van der Poorten; 1♂ Greece, Macedonia, Dráma District, Mt Falakró, 800 m, 09.VII.1981, leg. D. van der Poorten; 1♂ and 1♀ Greece, Macedonia, Dráma District, Mt Falakró, 1700 m, 09.VII.1981, leg. D. van der Poorten; 1♀ Greece, Macedonia, Dráma District, Mt Falakró, 2100 m, 09.VII.1981, leg. J. Dils; 2♂ Greece, Macedonia, Dráma District, Mt Falakró, 1800 m, 21.VII.1982, leg. D. van der Poorten; 3♂ Greece, Macedonia, Dráma District, Mt Falakró, 1600 m, 19.VII.1984, leg. D. van der Poorten; 1♂ Greece, Macedonia, Dráma District, W.-Granitis, 1200 m, 21.VII.1987, leg. J. Dils, all this type material in coll. VLCA.

**Description:**

Male: on average larger than *P. icarus*, forewing length 16.8 - 18.8 mm (holotype 18.2 mm), larger than largest Greek *icarus*. Ground colour upperside violet-blue, slightly darker and shinier than average Greek *icarus*. Underside ground colour light grey, within range of variation of *icarus*; metallic blue-green basal powdering extensive, as in first brood *icarus* and not reduced, as in second brood *icarus* which flies with it; hindwing submarginal lunules orange-tan, not pure orange as in some second or later brood *icarus*; white ring surrounding discal black spot of both fore- and hindwing with distal wedge-like extension, a character not always present in *icarus*.

Female: larger than largest Greek female *icarus* in our possession, forewing length 17.5 - 17.7 mm (17.0 mm in the largest Greek female *icarus* in our possession). Ground-colour upperside brown, as in *icarus*, with very few basal blue scales, that in one specimen are detectable only microscopically. Forewing upperside with incomplete row of orange submarginal lunules; hindwing likewise with an incomplete series. Underside ground colour greyish-brown, within range of variation of female *icarus*. Underside basal metallic flush, greenish, as in first brood female *icarus*. Underside submarginal lunules pure orange as in female *icarus* and black discal spot on both fore- and hindwing surrounded by white ring with distal wedge-shaped extension.

Male genitalia (Plate 2-3, 7-9): overall size considerably larger than in *icarus*, even between individuals that have near equal-sized wings. In the plates 5-9 the valvae are placed together with the respective forewings on a grid in such a manner so as to give a reading of their inner margin length, which was used as a basis for selecting "near equal-sized wings". The length from wing base to apex is also given numerically, since this is the generally accepted method of measuring wing length. This last value may often be different for wings of near equal-sized inner margins, as it depends upon the width of the wing, which in turn is determined by the length of the outer margin.

Female genitalia (Plate 4): Henia much broader and massive than in Greek *icarus*.

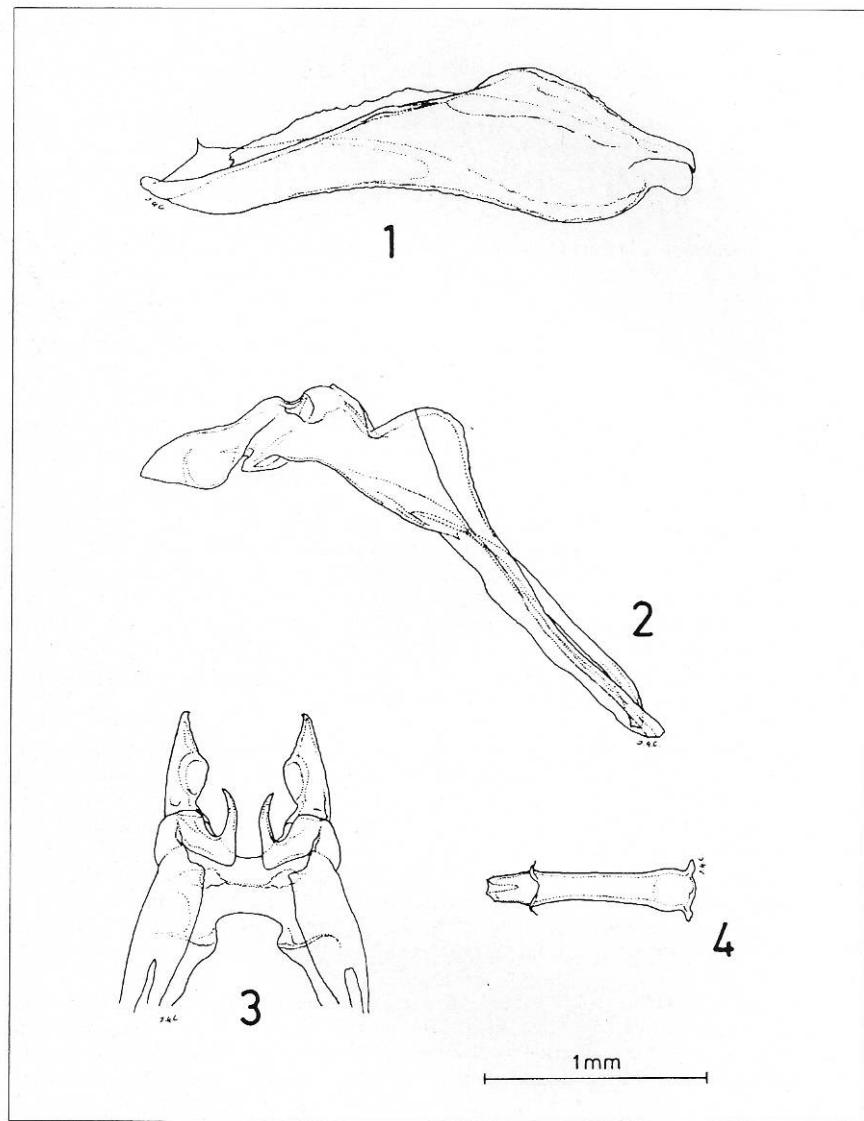


Plate 2: Male genitalia of *Polyommatus icarus* (Rottemburg, 1775), Greece, Peloponnese, Mt Oligortos, 1100-1300 m, 12.VI.1992 (Prep. JGC 1951).

1. Side view of exterior face of left valva; 2. Side view of right side of genitalia; aedeagus and valvae removed; 3. Ventral view of labides, falces and tegumen; 4. Ventral view of aedeagus.

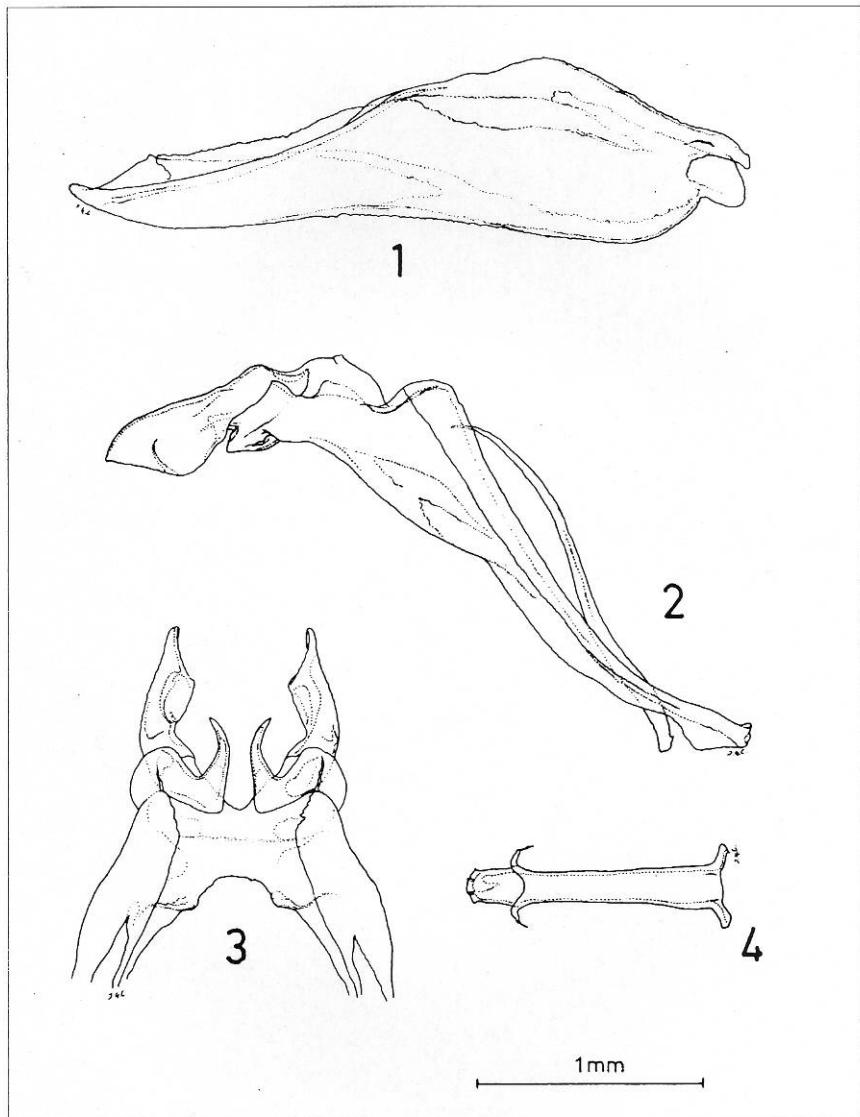


Plate 3: Male genitalia of *Polyommatus andronicus* sp. nov., Paratype, Greece, Macedonia, Dráma District, Mt Falakró, 1850 m, 24.VII.1983 (Prep. JGC 1914).

1. Side view of exterior face of left valva; 2. Side view of right side of genitalia; aedeagus and valvae removed; 3. Ventral view of labides, falces and tegumen; 4. Ventral view of aedeagus.

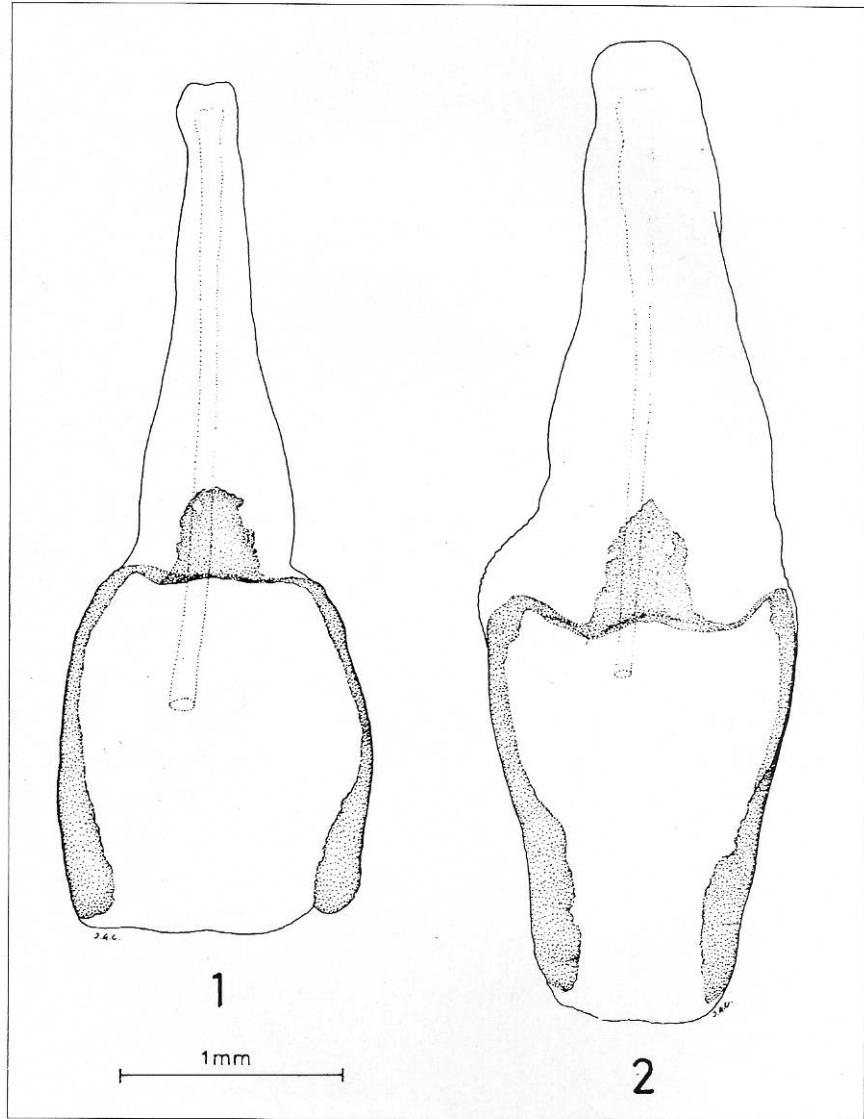


Plate 4: Ventral view of henia of female *Polyommatus*.

1. *Polyommatus icarus* (Rottemburg, 1775), Greece, Stereá Ellás, near Aráhova, ca 600 m, 14.IV.1975 (Prep. JGC 1953).
2. *Polyommatus andronicus* sp. nov., Paratype, Greece, Macedonia, Dráma District, Mt Meníkio, 1600-1850 m, 8.VII.1992 (Prep. JGC 1952).

Superficial differentiating characters are, as far as we can tell, statistical rather than absolute. The males upperside is on average slightly darker and shinier than *icarus*. The forewing is on average broader and the hindwing more elongate than in *icarus*. The hindwing underside postdiscal black spots are often larger than in *icarus* and the hindwing underside submarginal lunules in the male are orange-tan and never pure orange as in many second or later brood male *icarus*. The white ring surrounding the discal black spot on both wings underside as a rule has a distal extension in the form of a wedge, which is not always present in *icarus*.

From the recently discovered *Polyommatus buzulmavi* Carbonell, 1992, from South-East Turkey it differs by: the smaller size (forewing length 16.8 - 18.8 mm versus 18.3 - 21.0 mm), the darker violet-blue groundcolour of male upperside, the absence of slight scallop on hindwing between veins 2 and 3, the relatively larger male genitalia.

#### Phenology

*Polyommatus andronicus* sp. n. is syntopic and synchronous with second brood *icarus*, and has not been recorded from the Peloponnese, Central Greece, the Greek islands, the Rhodópi Mts, Mts Varnoúss and Grámmos, and the mountains of Greek Thrace, despite intensive search for it. The species seems to be an element restricted geographically to mountain systems just north and north west of the town of Dráma.

The butterflies were often seen flying in the vicinity of a pink-flowered clover, which we have not been able to identify. The species is monovoltine.

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Legend to plate 10:

*Polyommatus* upperside.

First row: *Polyommatus andronicus* sp. n., ♂, Greece, Macedonia, Dráma District, Mt Falakró, 10.VII.1993; 1. Holotype; 2. Paratype, both 1700 m; 3. Paratype, 1700-1850 m.

Second row: *Polyommatus andronicus* sp. n., 4. ♂ Paratype, same data as in fig. 3; 5. ♀ Paratype, same data as in fig. 3; 6. ♀ Paratype, Greece, Macedonia, Dráma District, Mt Meníkio, 1600-1850 m, 8.VII.1992.

Third row: *Polyommatus icarus* (Rottemburg, 1775), ♂ first brood, Greece, Macedonia. 7. Dráma District, Achladiá, 550 m, 15.V.1994; 8. Kozáni District, Siátista, 850-1250 m, 13.V.1994; 9. Dráma District, Potamí, 400 m, 14.V.1994.

Fourth and fifth row: *Polyommatus icarus* (Rottemburg, 1775), ♂ second or later brood, Greece. 10. Macedonia, Dráma District, Mt Falakró, 1700 m, 5.VII.1994; 11. same as in fig. 10, but 10.VII.1993; 12. same as in fig. 11, but 1700-1850 m; 13. same as in fig. 10, but Rhodópi Mts, road to Dipótamo, 300 m, 4.VIII.1994; 14. Macedonia, Flórina District, Mt Malimádi, 1650 m, 15.VII.1993; 15. Peloponnese, Mt Helmós, 1400 m, 21.VII.1994.

Sixth row: *Polyommatus icarus* (Rottemburg, 1775), ♀, Greece. 16. First brood, Steréa Ellás, near Aráhova, ca 600 m, 14.IV.1975; 17. Second or later brood, Ípiros, Ioánnina District, Mt Tómilos, 1000 m, 9.VIII.1992; 18. Second brood, Macedonia, Édessa District, Mt Zéna, 1250 m, 18.VII.1991.

Legend to plate 11:

*Polyommatus* underside. Same data as in plate 10.

Plate 10

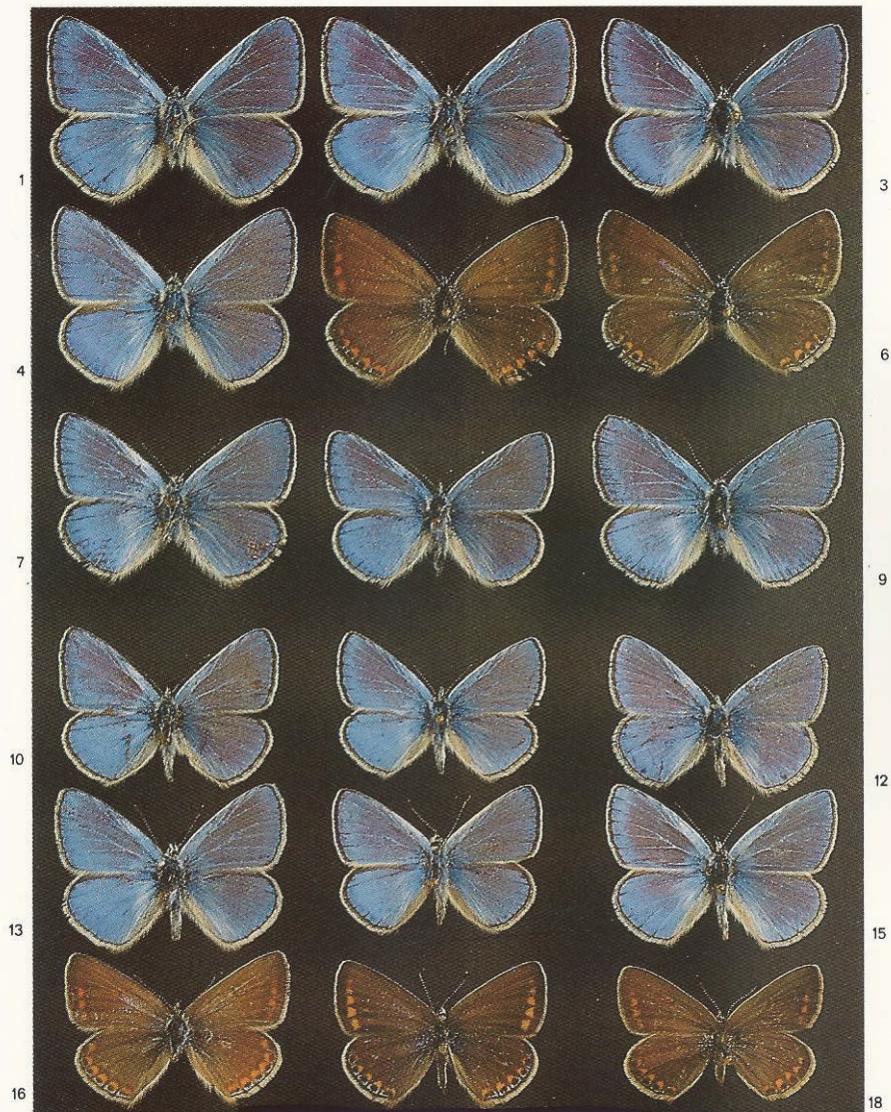


Plate 11



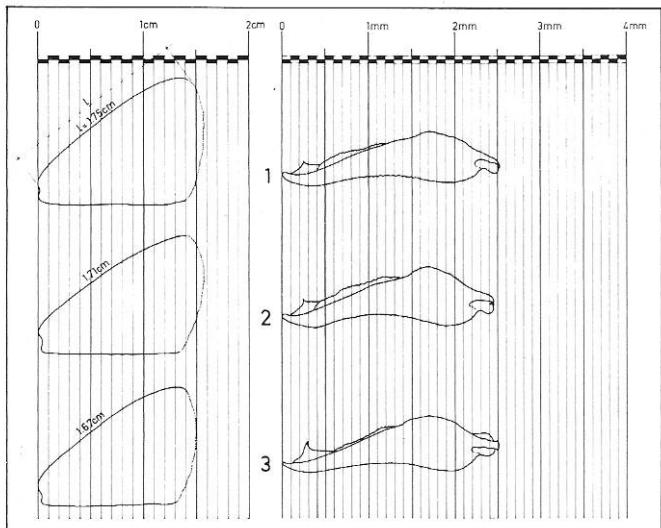


Plate 5: Right FW and left valva of *Polyommatus icarus* (Rottemburg, 1775) from Greece:

1. Stereá Ellás, Mt Parnassós, 1600 m, 17.VII.1966 (Prep. JGC 1113).
2. Peloponnese, Mt Oligírtos, 1100-1300 m, 13.VI.1992 (Prep. JGC 1951).
3. Peloponnese, Mt Taiyatos, 1000-1400 m, 15.VI.1969 (Prep. JGC 1134).

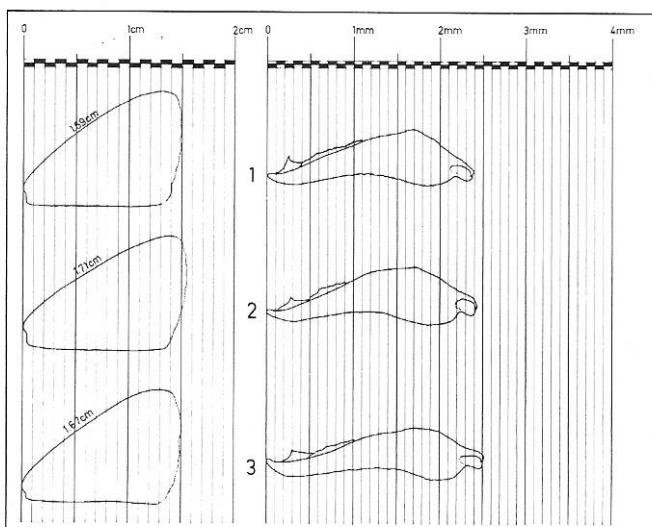


Plate 6: Right FW and left valva of *Polyommatus icarus* (Rottemburg, 1775) from Greece:

1. Náxos island, Road from Áno Potamíá to Filótí, 200 m, 4.V.1993 (Prep. JGC 2123).
2. Páros island, near Ágios Minás, ca 300 m, 22-28.IV.1981 (Prep. JGC 1922).
3. Sífnos island, near Katavatí, ca 200 m, 25.IV-1.V.1975 (Prep. JGC 1916).

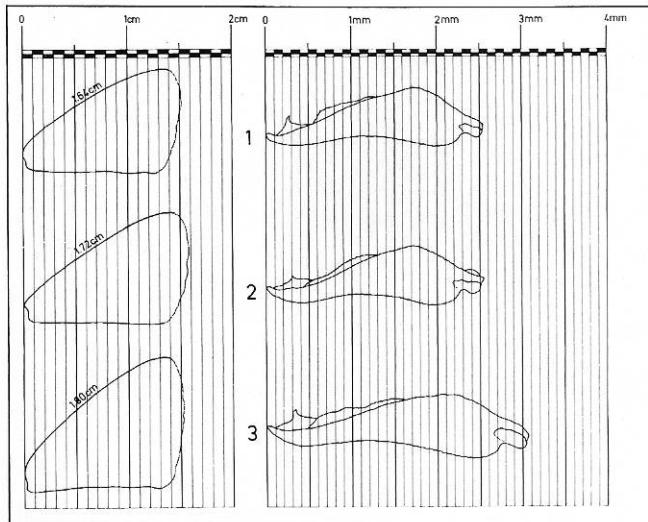


Plate 7: Right FW and left valva of *Polyommatus* from Greece, Macedonia, Dráma District:  
 1 & 2. *Polyommatus icarus* (Rottemburg, 1775), Mt Falakró, 1700-1850 m, 10.VII.1993 (Prep JGC 2104) and  
 Potamí, 400 m, 14.V.1994 (Prep. JGC 2175) respectively.  
 3. *Polyommatus andronicus* sp. n., Paratype, Mt Falakró, 1700-1850 m, 10.VII.1993 (Prep. JGC 2119).

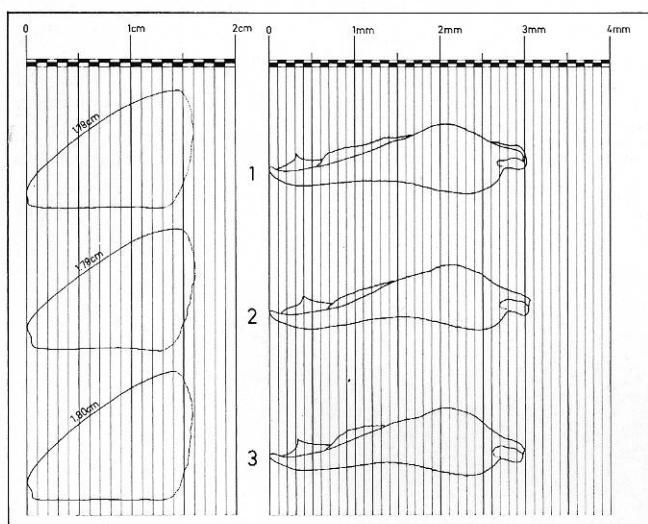


Plate 8: Right FW and left valva of *Polyommatus andronicus* sp. n. from Greece:  
 1-3. Macedonia, Dráma District, Mt Falakró, 1700-1850 m, 10.VII.1993, Paratypes (Prep. JGC 2110, 2118 and  
 2116 respectively).

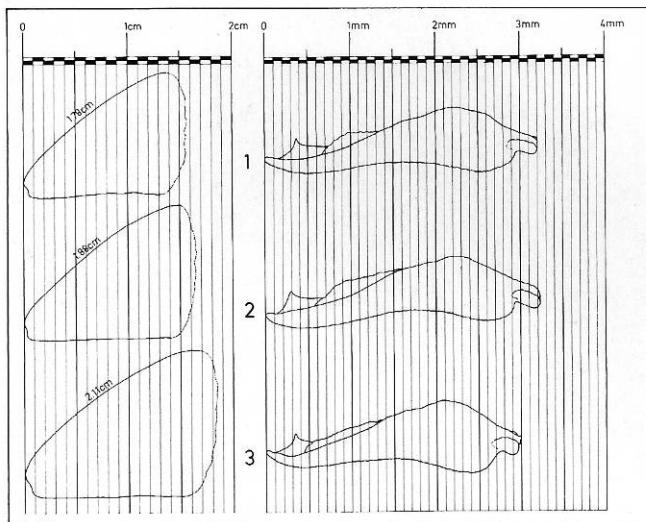


Plate 9: Right FW and left valva of *Polyommatus*:

- 1 & 2. *Polyommatus andronicus* sp. n., Paratypes, Greece, Macedonia, Dráma District, Mt Falakró, 1700-1850 m, 10.VII.1993 (Prep. JGC 2117) and 1580 m, 3.VIII.1994 (Prep. JGC 2080) respectively.
3. *Polyommatus buzulnavi* Carbonell, 1992, Turkey, Hakkari, Tali Valley, 13 km SW of Hakkari, 1500 m, 20.VI.1993 (Prep. JGC 2143).

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