

Three new species and some additional notes on *Parnassiana* Zeuner from Greece (Orthoptera, Ensifera, Decticinae)

by

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ABSTRACT. — Three new species of *Parnassiana* are described from Greece: *P. parnon* from the Pelopónnisos, *P. dirphys* from Évvoia and *P. panaetolikon* from Central Greece. A key is given to the taxa occurring in the mainland of Greece. In addition the full bibliography and the range so far known of all taxa recognized in *Parnassiana* are given.

INTRODUCTION

When Harz (1969) reviewed *Parnassiana* Zeuner seven species were known, viz. four from the mainland of Greece, two from some Aegean islands and one from France. Recently three new species and two new subspecies have been described from the Greek mainland (Willemse, 1973 & 1975; La Greca & Messina, 1976). Among material from the same area collected since 1975 (author's collection) three further new species are recognized and described below. For the ease of survey this paper presents a key to the 12 species of *Parnassiana* known from the Greek mainland and Évvoia. Moreover I take this opportunity to give the full bibliographies and the distributional areas of all species and subspecies of *Parnassiana*; some new distributional data are added.

SYSTEMATIC PART

Parnassiana Zeuner, 1941

Parnassiana Zeuner, 1941: 13, 18; Ramme, 1951: 227, 253, 258, 259; Chopard, 1951: 113, 131; Harz, 1969: 221, 263.

Type-species: *Metrioptera parnassica* Ramme, 1926

Parnassiana parnassica (Ramme, 1926)

(figs. 5, 15, 29—30, 45)

Metrioptera parnassica Ramme, 1926: 284, figs. 8c, 12a, 13d.

Parnassiana parnassica Zeuner, 1941: 19, 20, figs. 34, 39; Ramme, 1951: figs. 61, 69p; Harz, 1969: 266, 268, figs. 819—820, 828, 833—836; Willemse, 1973: 44, 45, 53, 54, figs. 1, 6—7, pl. f. 3; 1975: 91, figs. 3, 15—16, 23; La Greca & Messina, 1976: 211.

Distribution. — Central Greece: Mt. Parnassós (type-locality); Mt. Oíti.

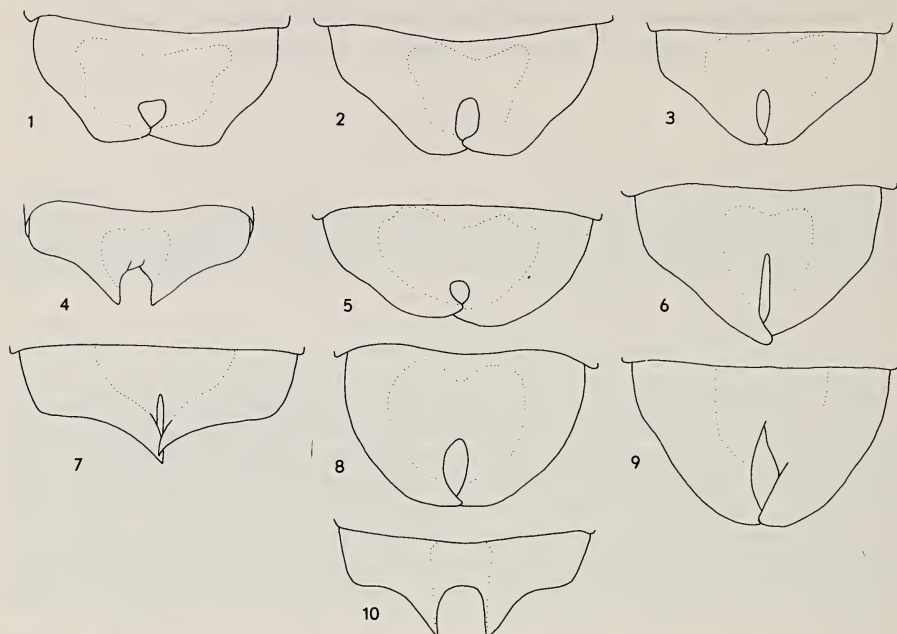
Parnassiana dirphys sp. n.

(figs. 6, 16, 31—32, 46)

Material studied. — ♂ holo-, ♀ allo-, 7 ♂ 4 ♀ paratypes, labelled: Éllas, Euboea, Mt. Dirfis above Steni, 1300—1745 m, 23.VII.1975, F. & L. Willemse.

Description. — ♂. Pronotum and elytron as the type-species. Hind femur comparatively slender. Last abdominal tergite (fig. 6) long; divided apically by a long and narrow median incision into a pair of large triangular lobes with tips rounded, pointing medially and touching or usually overlapping each other. Cercus (fig. 16) robust, slightly longer than wide, in middle impressed from above, base and apex inflated, apex wide, somewhat conical with tip widely rounded; inner tooth inserted just proximally of middle of cercal length, long, slender, directed medially and slightly ventrally with tip pointed and slightly recurved. Epiphallus (figs. 31—32) small; basal plate weakly sclerotized, dorso-medial area near base of apical part in cross-section rounded, almost straight, tip slightly outcurved, antero-lateral side with a longitudinal series of, somewhat irregularly set, short spines including a terminal pair, posterior and medial sides smooth.

Coloration as the type-species. Membrane of elytron often mottled with dark brown.



Figs. 1-10. Dorsal view of the male last abdominal tergite of 1. *Parnassiana tymphiensis* Willemse; 2. *P. tymphrestos* Zeuner; 3. *P. panaetolikon* sp.n.; 4. *P. gionica* La Greca & Messina; 5. *P. parnassica* (Ramme); 6. *P. dirphys* sp.n.; 7. *P. chelmos chelmos* Zeuner; 8. *P. menalon* Willemse; 9. *P. parnon* sp.n.; 10. *P. fusca* (Brunner von Wattenwyl) (all para- or topotypes).

♀. Subgenital plate (fig. 46) with parabolic, U-shaped, apical emargination, about angularly passing over into widely rounded hind margin, Coloration as the male.

Measurements (length in mm): body ♂ 19.0—21.0, ♀ 18.0—19.0; pronotum ♂ 5.2—5.6, ♀ 5.5—5.6; elytron ♂ 4.4—4.9, ♀ 3.9—4.2; hind femur ♂ 13.5—14.1, ♀ 15.3—15.4; ovipositor 11.3—11.4.

Distribution. — Known only from Mt. Dírifis, the highest mountain of the Greek island of Évvoia (= Euboea). This mountain is accessible via a road which ascends from the mountain village of Stení up to a refuge, located on a small plateau at 1300 m altitude. The species has been found on the rocky slopes below the summit.

Differential diagnosis. — The species is well defined, especially by the epiphallus and the cercus in the male. It approaches somewhat *P. parnassica* which differs as follows: the male last abdominal tergite, its incision and lobes are apparently shorter (fig. 5); the male cercus is slightly shorter and more robust (fig. 15); the epiphallus is less spinulose, especially the lateral and posterior sides of the apical part (figs. 29—30) and the female subgenital plate is less angularly emarginated apically (fig. 45).

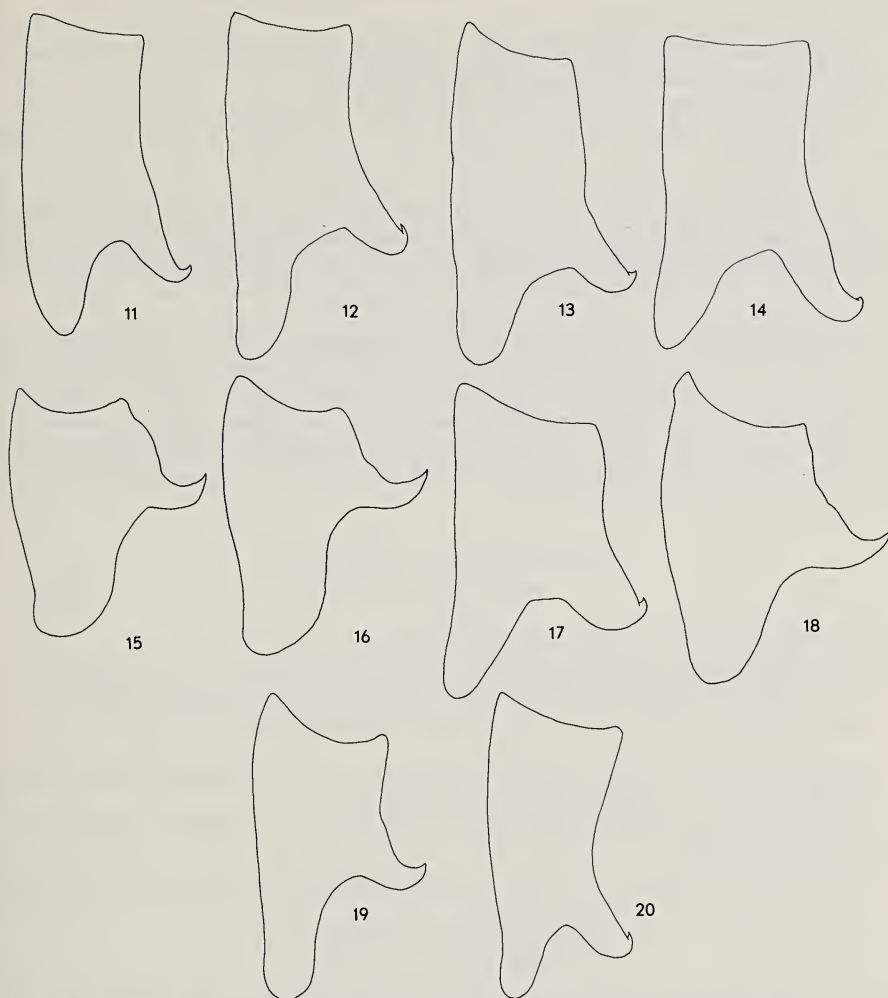
Parnassiana gionica La Greca & Messina, 1976
(figs. 4, 14, 27—28, 44)

Parnassiana gionica La Greca & Messina, 1976: 207, figs. 1—9.

Distribution. — Central Greece: Mt. Gíona (type-locality).

Parnassiana panaetolikon sp. n.
(figs. 3, 13, 25—26, 43)

Material studied. — ♂ holo-, ♀ allo-, 4 ♂ 2 ♀ paratypes, labelled: Éllas, Evritania, Or.



Figs. 11-20. Dorsal view of the left male cercus of 11. *Parnassiana tymphiensis* Willemse; 12. *P. tymphrestos* Zeuner; 13. *P. panaetolikon* sp.n.; 14. *P. gionica* La Greca & Messina; 15. *P. parnassica* (Ramme); 16. *P. dirphys* sp.n.; 17. *P. chelmos chelmos* Zeuner; 18. *P. menalon* Willemse; 19. *P. parnon* sp.n.; 20. *P. fusca* (Brunner von Wattenwyl) (all para- or topotypes).

Panaitolikón, Mt. Xerovoúni above Proussós, 1400—1600 m, 2.VIII.1975, L. Willemse.

Description. — ♂. Pronotum and elytron as the type-species. Hind femur comparatively slender. Last abdominal tergite (fig. 3) divided apically by long and narrow median incision into a pair of triangular lobes with tips rounded, pointing medially and touching or usually overlapping each other. Cercus (fig. 13) slender, twice as long as wide, in apical third impressed from above, base and apex inflated, apex short, half as wide as cercal base, slightly conical, tip rounded; inner tooth inserted just distally of middle of cercal length, strong, directed medio-posteriorly with tip pointed and recurved. Epiphallus (figs. 25—26) small; basal plate weakly sclerotized, medial half of anterior side densely and finely spinulose; apical part slightly compressed laterally, very slightly recurved in profile, each anterior and posterior margins with a longitudinal series of, roughly regularly set, moderately strong spines, lateral side with few scattered spines and medial side smooth.

Coloration as the type-species.

♀. Subgenital plate (fig. 43) with triangular, V-shaped, apical emargination arcuately passing over into widely rounded hind margin. Coloration as the male.

Measurements (length in mm): body ♂ 16.0—17.0, ♀ 16.5—18.0; pronotum ♂ 4.5—5.0, ♀ 5.2—5.4; elytron a 4.3—4.6, ♀ 3.6—3.7; hind femur ♂ 13.0—13.5, ♀ 14.9—15.0; ovipositor 10.1—10.3.

Distribution. — Known only from Mt. Xerovoúni, one of the peaks of the Panaitolikón range, which is located on the border of Evritanía and Aitolía-Akarnanía, Central Greece. From the mountain village of Proussós a road ascends southward up to a pass at about 1200 m altitude. From here a track at your left leads to the type-locality, the stony slopes below the summit.

Differential diagnosis. — This species is easily distinguished from the other members of the genus except *P. gionica*. The size and shape of the epiphallus in the latter species (figs. 27—28) are much the same but the spines are less numerous and much stronger. Other more apparently distinctive features in *P. gionica* are found in the lobes of the male last abdominal tergite which are pointing posteriorly, parallel and not touching or overlapping each other (fig. 4), a longer inner tooth of the male cercus (fig. 14) and a parabolic instead of triangular apical emargination of the female subgenital plate (fig. 44).

Parnassiana tymphrestos Zeuner, 1941

(figs. 2, 12, 23—24, 42)

Metrioptera coracis (nec Ramme): Ramme, 1931: 180, fig. 4.

Parnassiana tymphrestos Zeuner, 1941: 20, 21, figs. 37, 42; Ramme, 1951: 253, 254, figs. 61, 69t;

Harz, 1966: 28; 1969: 267, 272, figs. 700, 824—825, 850—851; Willemse, 1973: 44, 50, 53, 54, figs. 4, 8—9, pl. f. 5; 1975: 91, figs. 6, 11—12, 26; La Greca & Messina, 1976: 211.

Material studied. — Ellas, Fokis, Mt. Vardhoúsia above Mousounitsa, 1600—2000 m, 7—9.VIII.1975, F. & L. Willemse (72 ♂ 40 ♀).

No differences worth mentioning have been found between this material and that from Mt. Timfristós and Mt. Oiti.

Distribution. — Central Greece: Mt. Timfristós (type-locality); Mt. Oiti; Mt. Vardhoúsia.

Parnassiana tymphiensis Willemse, 1973

(figs. 1, 11, 21—22, 41)

Parnassiana tymphiensis Willemse, 1973: 44, 52, 53, 54, figs. 5, 10—11, pl. f. 1—2, 6; 1975, figs. 7, 9—10, 25; La Greca & Messina, 1976: 209, 211.

Material studied. — Ellas, Ioánnina, Mt. Smókalis above Á. Paraskeví, 2200 m, 9—11.VII.1977, F. & L. Willemse (22 ♂ 24 ♀), 2—3.VIII.1978, L. Willemse & J. Tilmans (4 ♂ 6 ♀).

This material agrees completely with the type-series.

Distribution. — Northwestern Greece: Mt. Tímfi (type-locality); Mt. Smólikas.

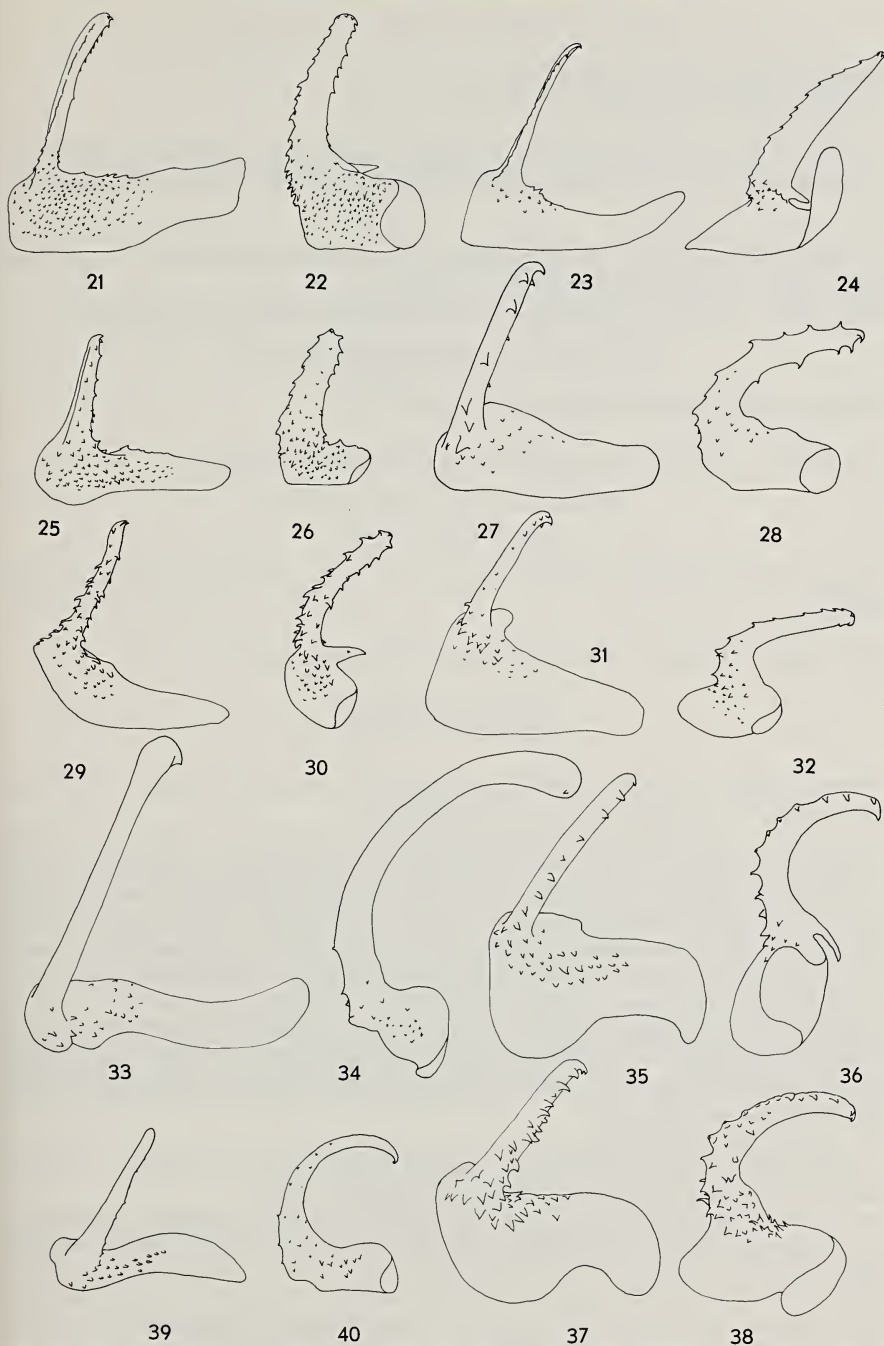
Parnassiana chelmos chelmos Zeuner, 1941

(figs. 7, 17, 33—34, 47)

Parnassiana chelmos Zeuner, 1941: 19, 21, figs. 4, 35, 40; Harz, 1969: 266, 267, 268, figs. 821, 827, 837—840; Willemse, 1973: 47, 53, 54; La Greca & Messina, 1976: 211.

Parnassiana chelmos chelmos: Willemse, 1973: 44, 46, figs. 2, 12—13, pl. f. 4; 1975: 91, figs. 5, 19—20, 22.

Distribution. — Greece, the Pelopónnisos: Mt. Aroánia (type-locality).



Figs. 21-40. Anterior and lateral views of the left epiphallus of 21-22. *Parnassiana tymphiensis* Willemse; 23-24. *P. tymphrestos* Zeuner; 25-26. *P. panaetolikon* sp.n.; 27-28. *P. gionica* La Greca & Messina; 29-30. *P. parnassica* (Ramme); 31-32. *P. dirphys* sp.n.; 33-34. *P. chelmos chelmos* Zeuner; 35-36. *P. menalon* Willemse; 37-38. *P. parnon* sp.n.; 39-40. *P. fusca* (Brunner von Wattenwyl) (all para- or topotypes).

Parnassiana chelmos unicolor Willemse, 1973

Parnassiana chelmos: Zeuner, 1941: 21 (partim).

Parnassiana chelmos unicolor Willemse, 1973: 44, 46; 1975: 91.

Material studied. — Ellas, Akhaia, Mt. Panakhaikón above Zastová, 1800 m, 30.VII.1975, F. & L. Willemse (25 ♂ 10 ♀); Mt. Panakhaikón, 1600 m, 19.VIII.1973, La Greca & Messina (1 ♂ 1 ♀).

The shape of the pronotum, the coloration both of the hind femur and that of the male and female subgenital plate agree fully with the type-series.

Distribution. — Greece, the Pelopónnisos: Mt. Killíni (type-locality); Mt. Panakhaikón.

Parnassiana chelmos deplanata Willemse, 1973

Parnassiana chelmos deplanata Willemse, 1973: 44, 48; 1975: 91.

Distribution. — Greece, the Pelopónnisos: Mt. Erímanthos (type-locality).

Parnassiana menalon Willemse, 1975

(figs. 8, 18, 35—36, 48)

Parnassiana menalon Willemse, 1975: 88, 91, figs. 1—2, 4, 17—18, 24; La Greca & Messina, 1976: 209, 211.

Distribution. — Greece, the Pelopónnisos: Mt. Manalon (type-locality).

Parnassiana parnon sp. n.

(figs. 9, 19, 37—38, 49)

Material studied. — ♂ holo-, ♀ allo-, 7 ♂ 6 ♀ paratypes, labelled: Éllas, Lakonia, Mt. Páron above Vamvakou, 1500—1935 m, 28.VII.1978, F. Willemse.

Description. — ♂. Pronotum and elytron as type-species. Hind femur comparatively slender. Last abdominal tergite (fig. 9) long; divided apically by a long and narrow median incision into a pair of large semicircular lobes with tips narrowly rounded, pointing medially and touching or usually overlapping each other. Cercus (fig. 19) not quite twice as long as wide, in middle impressed from above, base and apex inflated, the latter comparatively long and slender, almost cylindrical with tip rounded; inner tooth inserted in the middle of cercal length, long, slender, directed medially and slightly ventrally with tip pointed and slightly recurved. Epiphallus (figs. 37—38) of medium size; basal plate wide, strongly sclerotized and strongly spinulose near base of apical part; apical part in cross-section rounded, strongly recurved in profile, antero-lateral side with a series of, irregularly set, larger and smaller spines, including a terminal pair, latero-posterior and medial sides smooth.

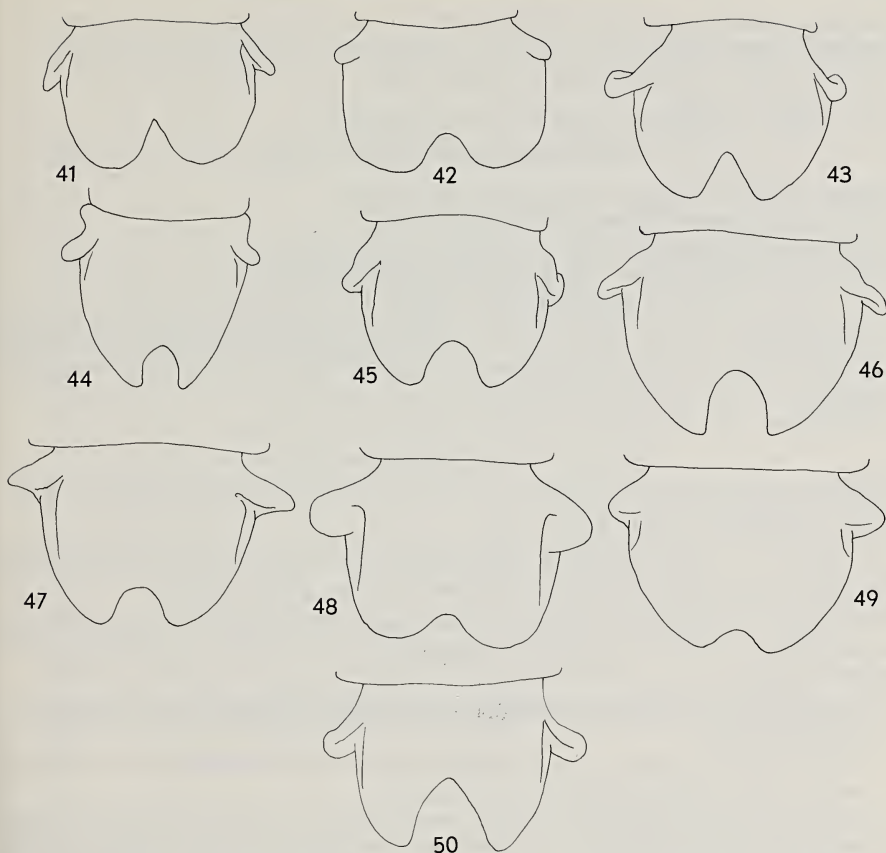
Coloration as the type-species.

♀. Subgenital plate (fig. 49) with small, parabolic, U-shaped, apical emargination, arcuately passing over into widely rounded hind margin. Coloration as the male.

Measurements (length in mm): body ♂ 17.0—19.0, ♀ 17.0—18.0; pronotum ♂ 4.9—5.2, ♀ 5.3—5.5; elytron ♂ 4.0—4.6, ♀ 2.7—3.0; hind femur ♂ 12.7—13.5, ♀ 14.2—14.7; ovipositor 11.0—11.3.

Distribution. — Known only from the Páron range, southeastern Pelopónnisos. The locality may be reached via a forest road which from the mountain village of Vamvakou leads up to a refuge, located below the highest peak of the Páron range. The species has been found above the timberline, on the stony slopes below the summit.

Differential diagnosis. — The species is well defined. It comes near *P. menalon* which differs



Figs. 41-50. Ventral view of the female subgenital plate of 41. *Parnassiana tymphiensis* Willemse; 42. *P. tymphrestos* Zeuner; 43. *P. panaetolikon* sp.n.; 44. *P. gionica* La Greca & Messina; 45. *P. parnassica* (Ramme); 46. *P. dirphys* sp.n.; 47. *P. chelmos chelmos* Zeuner; 48. *P. menalon* Willemse; 49. *P. parnon* sp.n.; 50. *P. fusca* (Brunner von Wattenwyl) (all para- or topotypes).

as follows: the male last abdominal tergite, its incision and lobes are shorter and the latter more rounded apically (fig. 8); the male cercus, especially its apex and inner tooth (fig. 18) are apparently less slender; the epiphallus is less spinulose (figs. 35—36) and the hind margin of the female subgenital plate is more widely rounded (fig. 48).

Parnassiana fusca (Brunner von Wattenwyl, 1882)

(figs. 10, 20, 39—40, 50)

Platycleis fusca Brunner von Wattenwyl, 1882: 347, 358.

Metrioptera fusca: Ramme, 1926: 285, fig. 8a; Miram, 1928: 294; Uvarov, 1928: 84.

Parnassiana fusca: Zeuner, 1941: 19, 21, figs. 38, 43; Ramme, 1951: 253, figs. 61, 69f; Harz, 1969: 267, 272, figs. 701, 823, 852—854; Willemse, 1973: 44, 49, figs. 3, 14—15, pl. f. 7; 1975: 91, figs. 8, 13—14; La Greca & Messina, 1976: 211.

Distribution. — Greece, the Pelopónnisos: Mt. Taíyetos (type-locality).

Parnassiana coracis (Ramme, 1920)

Platycleis coracis Ramme, 1920: 384; 1921: 125, figs. 3—8, pl. 3 f. 3a—b.

Metrioptera coracis: Ramme, 1926: 285, fig. 8b.

Parnassiana coracis: Zeuner, 1941: 19, 21, figs. 36, 41; Ramme, 1951: 253, figs. 61, 69c; Harz, 1966: 28; 1969: 267, 268, 272, figs. 831—832, 845—849.

Distribution. — Aegean Is., Kiklâdhes: Páros (type-locality).

Parnassiana sporadarum (Werner, 1933)

Platyleis sporadarum Werner, 1933: 192, 203; 1934: 326, 336.

Metrioptera sporadarum 4: Ramme, 1939: 122, figs. 46a—c.

Sporadiana sporadarum: Zeuner, 1941: 39; Ramme, 1951: 252, fig. 61.

Parnassiana sporadarum: Harz, 1969: 267, 269, figs. 822, 826, 843—844.

Unlike stated in Ramme (1939) and Harz (1969) the type-locality of this species is not the island of Khios (= Chios) but that of Lésvos (= Mytilini of Mytilene). The Khios record is based on a single female. Whether this specimen is conspecific with the Lésvos species cannot be established until more material, including the male, is available.

Distribution. — Eastern Aegean Is.: Lésvos (type-locality); Khís (?).

Parnassiana vicheti Delmas & Rambier, 1950

Parnassiana vicheti Delmas & Rambier, 1950: 8, fig. 1; Chopard, 1951: 131, fig. 225; Harz, 1969: 267, 268, 269, figs. 691, 829—830, 841—842.

Distribution. — France, Hérault: Cesseras (NW. of Fauzan) (type-locality); Aude: Monlaur; Tournissan; Caves; Massif de la Clappe (Ricardelle & summit of Pech Redon).

The number of species and subspecies of *Parnassiana* occurring in the mainland of Greece, including the island of Évvoia, is now increased up to 12. Their distinction may be indicated in the following key:

1. Pronotal dorsum flattened and depressed in the middle, its surface dull and not as shiny as the lateral lobes 2
 Pronotal dorsum slightly convex or slightly flattened but not depressed in the middle, its surface as shiny as the lateral lobes 4
2. Lobes of the male last abdominal tergite triangular, their tips sharply pointed and directed posteriorly, (fig. 10); apical part of epiphallus not compressed laterally, strongly recurved in profile (figs. 39—40); male cercus and female subgenital plate as in figs. 20 and 50 *fusca* (Brunner von Wattenwyl)
 These lobes semicircular, their tips rounded and directed medially (figs. 1—2); apical part of epiphallus compresses laterally, not strongly recurved in profile, (figs. 21—24); male cercus, (figs. 11—12); and female subgenital plate, (figs. 41—42) slightly different 3
3. Apex of male cercus shorter, fig. 11; epiphallus with both anterior and posterior margins of apical part spinulose (figs. 21—22); apical emargination of female subgenital plate triangular (fig. 41) *tymphiensis* Willemse
 Apex of male cercus longer (fig. 12); epiphallus with anterior margin of apical part spinulose, posterior margin smooth or almost so (figs. 23—24); apical emargination of female subgenital plate parabolic (fig. 42) *tymphrestos* Zeuner
4. Lobes of male last abdominal tergite sharply pointed and their posterior margin concave (fig. 7); male cercus as in fig. 17; epiphallus large, apical part long, recurved in profile, smooth with a minute apical spine (fig. 33—34); female subgenital plate as in fig. 47 *chellos* 5
 These lobes obtusely pointed and their posterior margin convex (figs. 3—6, 8—9); male cercus different (figs. 13—16, 18—19); epiphallus smaller, apical part spinulose (figs. 25—32, 35—38) 7
5. Hind femur conspicuously coloured: basal third yellow, middle third black; female subgenital plate always shiny black *chellos chellos* Zeuner
 Hind femur of general colour with few black spots; female subgenital plate from shiny black to yellowish 6

6. Pronotal dorsum slightly flattened; female subgenital plate not completely shiny black *chelmos deplanata* Willemse
 Pronotal dorsum slightly convex; female subgenital plate shiny black *chelmos unicolor* Willemse
7. Inner tooth of male cercus directed posteriorly rather than medially (figs. 13—14) 8
 Inner tooth of male cercus directed medially rather than posteriorly (figs. 15—16, 18—19) 9
8. Lobes of male last abdominal tergite pointing posteriorly, parallel to each other (fig. 4); inner tooth of male cercus longer (fig. 14); spines of epiphallus larger (figs. 27—28); apical emargination of female subgenital plate parabolic, (fig. 44) *gionica* La Greca & Messina
 These lobes pointing medially, tips usually overlapping each other (fig. 3); inner tooth of male cercus shorter (fig. 13); spines of epiphallus smaller (figs. 25—26); apical emargination of female subgenital plate triangular (fig. 43) *panaetolikon* sp. n.
9. Apex of male cercus cylindrical, slender (fig. 19); epiphallus as in figs. 37—38; female subgenital plate as in fig. 49 *parnon* sp. n.
 Apex of male cercus conical, robust (figs. 15—16, 18); epiphallus different (figs. 29—32, 35—36); female subgenital plate as in figs. 45—46, 48 10
10. Male subgenital plate shiny black; apical part of epiphallus strongly recurved in profile (figs. 35—36); female subgenital plate as in fig. 48 *menalon* Willemse
 Male subgenital plate not shiny black; apical part of epiphallus not distinctly recurved in profile (figs. 29—32); female subgenital plate different (figs. 45—46) 11
11. Male last abdominal tergite, its incision and lobes longer (fig. 6); male cercus longer (fig. 16); apical part of epiphallus with anterior side slightly spinulose, lateral and posterior sides smooth, (figs. 31—32); female subgenital plate as in fig. 46 *dirphys* sp. n.
 Male last abdominal tergite, its incision and lobes shorter (fig. 5); male cercus shorter (fig. 15); apical part of epiphallus with anterior, lateral and posterior sides strongly spinulose (figs. 29—30); female subgenital plate as in fig. 45 *parnassica* (Ramme)

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PERSONALIA

Op 4 juni 1980 promoveerde de heer J. J. Mellink aan de Universiteit van Amsterdam tot doctor in de Wiskunde en de Natuurwetenschappen op een proefschrift getiteld: „Mosquito bites, host responses and virus transmission. An entomological-parasitological study”. Promotor, copromotor en coreferent waren resp. prof. dr. J. J. Laarman, prof. dr. J. Oort en dr. H. L. Wolff.

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