

östliche, vielleicht auch südliche Art, die bis Japan verbreitet und dort offenbar nicht selten ist. Allerdings kommen auch *circumcincta* und *spinipes* in der östlichen Palaearktis vor.

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## New Lepidoptera from Turkey

### IV. Description of a new subspecies of *Archon apollinus* (Herbst, 1789) (Parnassiidae)

by Ahmet Ö. Koçak

In the present paper, a new subspecies, *Archon apollinus forsteri* (subsp. n.) is described from Kastamonu Province in N. Turkey. Having regard to the external characters of the adult insect and spot characters of the larva, it is well to be concluded to *apollinus*-group (comprising nominate subspecies, subsp. *thracica* Buresch, subsp. *bellargus* Staudinger) which occur in the temperate areas and especially in lowlands of S. and W. Turkey. With the exception, the new representative of this group inhabits at middle heights, about 1100—1200 m. elevation.

Further details and the description are as follows:

**Archon apollinus forsteri** (subsp. n.)

(Figures 1—7)

**H o l o t y p e** (Male): (Fig. 1) Fw.: 28 mm. Upperside of forewing: Ground colour light yellowish cream; black discal spots slightly smaller than those of *thracica* and *apollinus*; black striae, submarginal spots and marginal band well developed; ciliae blackish weakly chequered with yellowish hairs.

Upperside of hindwing: Ground colour light yellowish cream; basal part of dorsum densely covered with black scales; discoidal black spot well defined; submarginal markings are perhaps the best developed one among hitherto known subspecies; reddish caps finely bordered by black scales internally; black antemarginal spots large,



Figure 1— Holotype (male) Upperside



Figure 2— Allotype (female) Upperside

nearly quadrate in shape and their outer border much nearer to margin than those of other subspecies (at anal part less than 1 mm.); in general each spot weakly divided by yellowish scales along veins; bluish scales more or less marked on black spots except apical twins; ciliae black, poorly chequered with yellowish hairs.

Underside of forewing: Markings faint, black discal spots smaller but well marked; light yellowish cream scales of ground highly reduced.

Underside of hindwing: Ground colour reduced, light yellowish cream scales restricted at inner parts of submarginal spots; discoidal and dorsal black spots highly reduced; submarginal spots well developed as in upperside but bluish scales absent, antemarginal black spots almost triangular in shape and sparsely bordered with yellowish scales internally, reddish caps finely bordered with black scales.

Allotype (female): (Fig. 3) Forewing: 29 mm. Upperside of forewing: Similar to holotype, only black striae more in number and widespread; post discal reddish spots well marked; ciliae blackish, weakly chequered with yellowish hairs.

Upperside of hindwing: Yellowish cream ground colour sparsely covered with black scales which heavily concentrated at basal part of dorsum and discoidal area; submarginal markings remarkably elongated; reddish caps much larger in size than those of holotype, almost triangular in shape except anal and apical ones; black antemarginal spots almost quadrate in shape with bluish scales except anal and apical ones; outer margin of these spots very near to edge as in holotype; yellowish scales more or less developed along veins; ciliae black slightly chequered with yellowish hairs.

Underside of fore-, hindwing: Markings faint as in holotype; post discal spots of fore-, and elongated submarginal spots of hindwing pinkish in colour and reduced; submarginal markings well developed as in holotype.



Figure 3— Type locality of *A. apollinus forsteri* subsp. n.



Figure 4— Type locality of *A. apollinus forsteri* subsp. n. (▽)

**Paratypes:** 104♂♂: Forewing: 25—31 mm., av. 27.79 mm. (SD)  $\pm 1,32$  (SE)  $\pm 0,12$

Bluish scales on upperside of hindwing rarely indistinct or almost absent; submarginal markings smaller, narrower and more elongated in three specimens, other features similar to holotype.

39♀♀: Forewing: 25—30 mm., av. 28.00 mm. (SD)  $\pm 1,43$  (SE)  $\pm 0,22$ .

Generally similar to allotype, but infrequently submarginal markings on upperside of hindwing somewhat elongated.

**Material examined:**

♂ (Holotype), ♀ (Allotype) and 104♂♂ 39♀♀ (Paratypes) have been collected by the author from Kastamonu Province (in N. Turkey), vicinity of Ödemiş village (22 km. S. of Küre) (figs. 5,6) in 6. 6. 1975, 19. 4. 1976 and 22. 5. 1976.

7♂♂ 3♀♀ in coll. Mr. J. C. Weiss (Hagondange), 4♂♂ 3♀♀ in coll. Mr. C. Eisner (Leiden), 5♂♂ 3♀♀ in Bavarian State Museum in Munich, 5♂♂ 3♀♀ in coll. Mr. G. Elze (Bernburg), 7♂♂ 3♀♀ in coll. Prof. Dr. F. Fernandez Rubio (Madrid), 5♂♂ 3♀♀ in Landessammlungen für Naturkunde (Karlsruhe), 3♂♂ 2♀♀ in Naturhistorisches Museum (Wien), the rest of paratypes holotype and allotype are preserved in the collection of Department of Systematic Zoology (Ankara).

Subspecific characters of adult insect mentioned above are ex-



Figure 5— *Aristolochia bodamae*, larval food-plant

tremely stable for all specimens. Both sexes of *forsteri* subsp. n. are easily distinguishable from both *apollinus* and *thracica* by its comparatively larger size of black antemarginal spots of hindwing, the nearness of their outer border to the margin of hindwing (at anal part less than 1 mm. in *forsteri* subsp. n., 1,5—2 mm. or more in *apollinus* and *thracica*). On both sexes, black antemarginal spots very much developed on underside of hindwing on the contrary to other subspecies. Other remarkable differences between these subspecies are as follows: Size of *forsteri* subsp. n. is relatively smaller than *apollinus* and *thracica*, and wings are more roundish in shape; submarginal black spots on forewing are better developed than *apollinus* and *thracica*; female of *forsteri* subsp. n. is easily separable from others by the absence of reddish suffusion and presence of black discoidal spot on hindwing.

*Archon apollinus forsteri* subsp. n. flies at open places (fig. 3) where its food-plant, *Aristolochia bodamae* Ding. (fig. 5) grows. However, it seems probable that this subspecies inhabits in the vicinity of Devrekâni stream at northern slopes of Güruh Dağı (fig. 4), because I collected some individuals of subsp. *amasina* Staudinger from southern parts of that mount, where food-plants, *A. bodamae* and *A. maurorum* grow together. The flight period of adult insect extends from mid-April to early June. The general characteristics of the egg and caterpillar may be stated briefly as follows:



Figure 6— Eggs of *A. apollinus forsteri* subsp. n. on *A. bodamae*



Figure 7— Larvae of *A. apollinus forsteri* subsp. n., possibly in second instar.

The egg (fig. 6) is globular in shape and almost smooth. They are deposited singly on the leaves or the flower stalk of the food-plant in May or June. The caterpillar (possibly second instar observed) (fig. 7) is of a homogenous thickness throughout, though it narrows a little towards the head. Head is black. The body is almost smooth, black in colour, and covered with few short black hairs. It has four lengthways rows of reddish-orange spots situated on each segment laterally and dorso-laterally. Thoracic tergites have also creamy spots which are separately developed, only at the abdominal tergites these spots fused with reddish ones posteriorly. Osmaterium yellowish in colour, is not always in evidence, but when the caterpillar is

irritated it makes its appearance from the dorsal side of thoracic segment nearest the head. Caterpillar, nearly or quite full grown, may be found in late July. They will be easily observed, often in abundance, on the leaves, the surface being curled and covered with a mass of silk, spun by themselves, or in the central part of flower. The chrysalis of this subspecies unfortunately could not be observed at that locality.

I dedicate this new subspecies to Mr. Dr. Walter Forster, who has valuable works on the taxonomy of Lepidoptera.

#### Abbreviations:

W. west, E. east, S. south, N. north, SD. standart deviation, SE. standart error, av. average.

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## ***Deronectes latus* Steph. und *Deronectes platynotus* Germ. im Bayerischen Wald (Coleoptera, Dytiscidae)**

Von Franz Hebauer

Die beiden rheophilen Dytiscidenarten *Deronectes latus* und *D. platynotus* sind in Mitteleuropa neben dem einmal im Schwarzwald nachgewiesenen, heute aber in Deutschland fraglichen südlichen *Deronectes aubei* Muls. die einzigen und zudem recht seltenen Vertreter der Gattung *Deronectes* s. str.. Ihr charakteristisches Habitat ist der beschattete, kalte Gebirgsbach mit grobem Geröll und Gesteinsblöcken, wo sich die Tiere unter Schotter versteckt halten und deshalb