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A NEW *ANTHAXIA* FROM THE AEOLIAN ISLANDS (Coleoptera, Buprestidae)

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The buprestids of the Aeolian Islands have been investigated only recently, and though lacking a contribution specifically dedicated to this group, some faunal data were reported by Curletti (1994), Sparacio (1999) and Lo Cascio et al. (2006). This latter, in particular, concerns the preliminary results of a general update of knowledge about beetles faunas of the archipelago, based on field investigations carried out since 1994 and still ongoing. During these researches we had the opportunity to collect a number of specimens apparently resembling *Anthaxia (Haplanthaxia) scutellaris* (Gené, 1839) but, as emerged through further examination, belonging to a new species, whose description is given in the present paper.

Anthaxia (Haplanthaxia) f l a v i a e n. sp.

EXAMINED MATERIAL. Holotypus (♂): Salina Island, Monte Fossa delle Felci, 22.V.2009, P. Lo Cascio & F. Grita leg.; allotypus (♀): same data as holotypus; paratypi: Lipari Island, Urnazzo, 2.VI.1997, P. Lo Cascio leg. (1 ♂, 2 ♀♀); Lipari Island, Monte Chirica, 26.VI.2009, P. Lo Cascio & L. Dapporto leg. (1 ♂), and 20.V.2010, P. Lo Cascio & F. Grita leg. (5 ♂♂); Lipari Island, Capistello, 20.V.2010, P. Lo Cascio & F. Grita leg. (2 ♂♂); Panarea Island, Soldata, 20.V.2009, P. Lo Cascio & F. Grita leg. (6 ♂♂); Salina Island, Monte Fossa delle Felci, 20-22.V.2009, P. Lo Cascio & F. Grita leg. (4 ♂♂, 2 ♀♀). Holotypus deposited in Zoological Section of the Natural History Museum of the Florence University, MZUF Coll. n. 14416; allotypus and paratypi deposited in the authors' collections.

DESCRIPTION OF THE HOLOTYPUS. Medium size (length 5.8 mm; width 2.0 mm), brighty coloured species: frons golden green, vertex with blue lustre; pronotum green with golden reflections and with two large blue-black spots; scutellum black; elytra purple with golden green postscutel-

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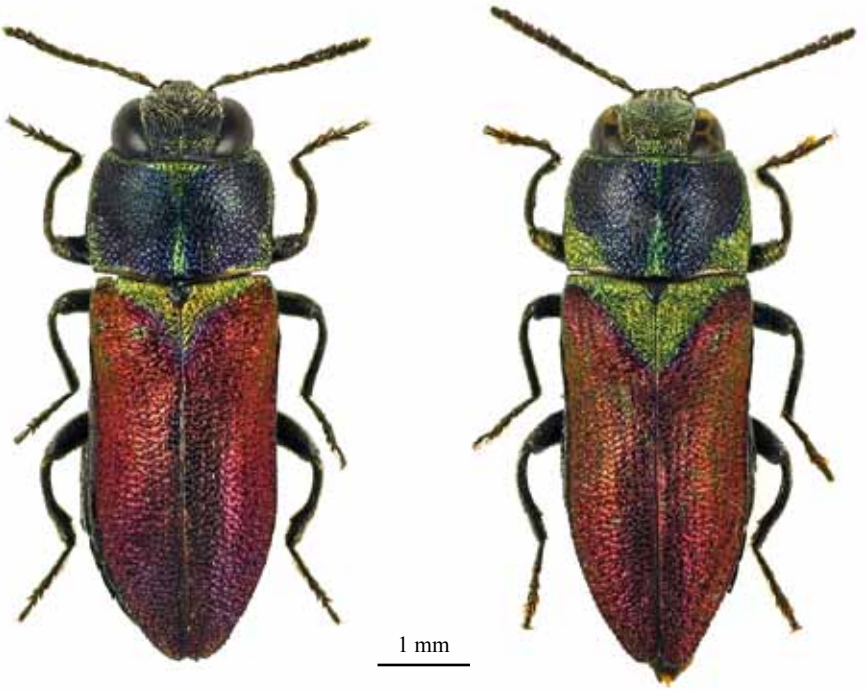
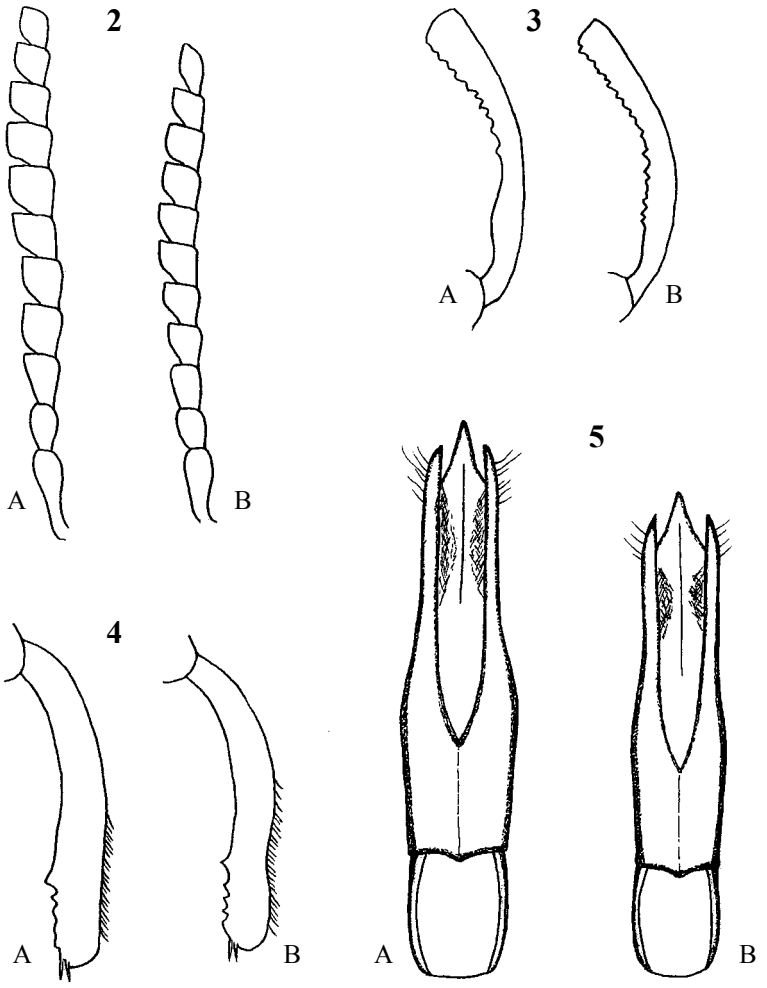


1 Fig. 1 – Left, *Anthaxia (Haplanthaxia) flaviae* sp. nov.: male paratype, Salina Island, Monte Fossa delle Felci, 22.V.2009, P. Lo Cascio & F. Grita leg.; right, *A. (H.) scutellaris* (Gené, 1839): male, Italy, Tuscany, Argentario, surroundings of Telegrafo, 22.V.1997, P. Lo Cascio leg.

lar triangular spot reaching one third of elytral lenght and, laterally, the humeri; ventral side of body dark golden green; legs and antennal segments dark green; frons and ventral side of body with short and white pubescence, very short on the elytra.

Head relatively small, as wide as anterior pronotal margin; frons flat, wide; eyes large and slightly projecting beyond outline of head; inner margins of eyes slightly diverging in the lowest part and moderately converging towards vertex; vertex large, about 2.25 times wider than eye's width; vertex and frontal sculpture consisting of a grid of small polygonal cells with large central grains; clypeus short, with a triangular incision on the anterior margin.

Antennae (fig. 2B) about 1.7 times longer than pronotum length; first antennal segment pear-shaped, the second one short and little longer than large, the third segment slightly dilatated at apex, segments 4 to 10



Figs 2-5 – Antenna of male of *Anthaxia scutellaris* (2A); the same of *A. flaviae* n. sp. (2B). Protibia of male of *Anthaxia scutellaris* (3A); the same of *A. flaviae* n. sp. (3B). Metatibia of male of *Anthaxia scutellaris* (4A); the same of *A. flaviae* n. sp. (4B). Aedeagus of *Anthaxia scutellaris*, 1.5 mm. (5A); the same of *A. flaviae* n. sp., 1.3 mm. (5B).

trapezoidal larger at apex, apical segment narrower, twice longer than its wide at base. Pronotum transverse, rather vaulted, 1.53 times wider than long, with anterior pronotal margin medially slightly lobated, and posterior margin bisinuated, lateral margins moderately rounded and anteriorly narrowed, maximum pronotal width in the basal half; pronotal sculpture consisting of a grid of oval and polygonal cells with large and rough

central grains with rugose spaces between these latter and the polygonal edges; the central grain size decreases from the base to the front edge of pronotum, and tend to disappear in some polygonal cells.

Scutellum triangular with arched lateral margins, almost as long as wide; surface microsculptured.

Elytra elongated, almost parallel, except at the apical third where they are restricted, slightly sinuate at middle, 2.05 times longer than wide at humeral part; humeral swellings few developed; basal transverse depressions shallow and incomplete; elitral epipleura narrow and not reaching the elytral apex; each elytron rounded separately backwards; elytral margins serrate at the apical third; elytra surface regularly rugose-punctate. Ventral surface dark green, sparkling, distinctly and densely sculptured on pro-, meso- and metasternum, less distinctly on abdomen, covered by white and short pubescence; prosternal process short and rounded at apex; anal ventrite truncate, with feebly emarginate apical margin and a pre-apical impression; anterior trocanthers with front corners inside like a tooth, while the rear are extended into a tooth curved inward. Legs slender; protibiae (fig. 3B) incurved with inner margin distinctly serrate at apical two thirds; mesotibiae simple, serrate at apical half; metatibiae (fig. 4B) incurved, slightly sinuate at external margin and serrate at apical third with the first toth bigger than the others.

Aedeagus slender, parameres moderately enlarged at the basal middle (fig. 5B).

VARIABILITY. Blue spots on pronotum can be widely expanded on the whole pronotal surface as well as on the head. Golden green post-scutellar triangular spot often reduced in size and not reaching laterally the humera. Red colour of elytra is sometimes less sparkling and darker. Size ranged in length from 4.80 to 6.60 mm, and in width from 1.70 to 2.21 mm. Females have pro- and metatibiae simple and regularly rounded apical sternite. Comparing the different populations, specimens from Salina and Panarea are smaller and characterized by greater extension of blue spots on pronotum.

DERIVATIO NOMINIS. We are glad to dedicate this new species to one of its collectors, Flavia Grita, who recently but passionately approached to the beautiful world of the entomology, wishing her new and interesting findings.

Biology and distribution. *Anthaxia flaviae* has been found so far only on three islands of the Aeolian Archipelago (NE Sicily): Lipari, Salina, and Panarea. Therefore, the species is currently regarded as strictly endemic to these islands. It seems to be widely distributed from 100 m a.s.l. to the top of the islands, with a maximum of 960 m a.s.l. at Salina, occurring in habitats characterized by maquis formations referred to the *Ericion arboreae* (Rivas-Martínez ex Rivas-Martínez et al. 1986) Rivas-Martínez 1987, and to the *Cisto-Ericion* Horvatič 1958, as well as in the edges of reforested areas. All the collected specimens were found on flowers and/or inflorescences of *Cistus* sp. pl., *Glebionis coronaria* (L.) Tzvelev and *Daucus carota* L. The host plant is yet unknown, because no specimens were so far obtained rearing plant material.

Comparative notes. *A. flaviae* n. sp. belongs to the *Anthaxia scutellaris* (Gené, 1839) complex (Novak 1988) within the species-group of *A. olympica* Kiesenwetter, 1880 (Obenberger 1917). The new species appears to be closely related to *A. scutellaris* (locus typicus: "Sardegna ed Etruria") which is the unique representative of this group distributed in the western Mediterranean and so far recorded for Italy (Curletti 1994; Gobbi & Platia 1995). From this latter, *A. flaviae* differs mainly for the smaller size (range between 4.8 and 6.6 mm, N = 25 examined specimens), the narrower body shape with more elongated and parallel elytra (fig. 1), the arrangement and extention of the colour pattern on the dorsal surface, the shape of antennomera (in particular the third one, which is less dilatated at apex) (fig. 2), the smaller size of central grains in the polygonal cells of pronotal sculpture, the serrated inner margin of the anterior tibiae (fig. 3), and the shape of aedeagus (fig. 5).

A. scutellaris s.l. is characterized by an average larger size (range between 5.0 and 8.1 mm, N = 46 examined specimens), more regular colour pattern, body shape anteriorly enlarged and restricted behind, bigger central grains in the pronotal sculpture, less wide serration on the inner margin of protibiae, and by the aedeagus that is bigger and strongly dilatated at its basal third. Apart from the nominal form, this species includes the following subspecies: *A. scutellaris atlasica* Théry, 1930 (locus typicus: Marocco) (Théry 1930; Novak 1988; Bílý 1997; Löbl & Smetana 2006) and *A. scutellaris semireducta* Pic, 1911 (locus typicus: Algeri); only the latter, reported for Sardinia, is doubtfully indicated for the Italian buprestid fauna (Curletti 1994; Gobbi & Platia 1995). We had the opportunity to examine the typus of this subspecies, a male labelled "Al-

gier - type - *croesus* in coll. Gacquet - *viminalis* var. *semireducta* Pic - TYPE", that results characterized by body sharply restricted backwards, periscutellar spot smaller but reaching the humeri, inner margin of anterior tibiae more extensively serrated, and by a shape of the aedeagus very similar to the nominal form; therefore, *A. scutellaris* ssp. *semireducta* results well differentiated from *A. flaviae*, while from a morphological point of view it seems to be strictly related to the nominal form. The actual distribution of this taxon is indeed controversial. Schaefer (1949) has referred to this subspecies all the Corsican populations, but since the typus is from Algeria, the name "*semireducta*" can not be used exclusively to indicate these latters (Bílý 1997; Löbl & Smetana 2006); anyway, further studies are needed to clarify the relationship between this subspecies and *A. scutellaris* s.s., considering also the remarkable variability that characterizes the latter.

Discussion. The emersion of the Aeolian Archipelago, a volcanic arc separated from Sicily and Italian Peninsula by sea channels of about 1000-2000 m depth (Allen & Morelli 1971), began about 500,000 years B.P. (Calanchi et al. 2007). Despite its relatively "young" age, as well as its continuing isolation during the Pleistocene falls in sea level, a fair number of endemics occurs on one or more islands, including some colepteran species which have been discovered and described mainly during the last years (see Lo Cascio & Pasta 2004; Fattorini 2009 and references therein). In fact, the whole occurring fauna has colonized these islands through stochastic invasions, which in most cases have been presumably originated by dispersal coming from neighboring lands. Therefore, the timeframe in which processes of differentiation and speciation may have occurred is quite low. According to Fattorini (2009), volcanic activity may have influenced structure and composition of the local faunas, and though it if is difficult to assess the impact of catastrophic events on animal communities, bottle-neck effects may be produced as results of extended tephra fallouts which happened with relative frequency during some volcanic cycles. A similar process can be a source of the differentiation of *Anthaxia flaviae*, which presumably took place in one island, from which the new species has successively spread in other places of the archipelago. On Lipari Island *A. flaviae* is sympatric with *A. scutellaris*, recorded by Lo Cascio et al. (2006) and confirmed by the examination of a male specimen. This simultaneous occurrence of both species can be explained by the process of "double invasion" (see Williamson 1981),

where new invaders colonize an island after that the original island population has become an endemic species; this hypothesis is strongly suggested, also, by the apparent lack of *A. scutellaris* on Salina and Panarea, where just the new species was found.

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RIASSUNTO

Una nuova Anthaxia *delle Isole Eolie (Coleoptera, Buprestidae).*

Viene descritta *Anthaxia (Haplanthaxia) flaviae* n. sp. delle Isole Eolie. La nuova specie appartiene al gruppo di *A. (H.) olympica* Kiesenwetter, 1880 e risulta affine ad *A. (H.) scutellaris* (Gené, 1839), dalla quale si distingue per le dimensioni e la forma complessiva, la colorazione dorsale, la forma degli antennomeri, il margine anteriore delle tibie e la forma dell'edeago. Alcune ipotesi zoogeografiche sulla distribuzione insulare di questo endemita sono brevemente discusse.

SUMMARY

Anthaxia (Haplanthaxia) flaviae n. sp. from the Aeolian Islands (Italy, Sicily) belonging to the *A. (H.) olympica* Kiesenwetter, 1880 species-group is described, illustrated and compared with *A. (H.) scutellaris* (Gené, 1839), the most closely related species. From this latter, the new species differs mainly for size and body shape, colour pattern of elytrae, shape of antennomera, margin of anterior tibiae and shape of aedeagus. Some zoogeographical considerations concerning the insular distribution of this endemic taxon are briefly discussed.

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