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Two new species of *Agrilus* Curtis, 1825 (Coleoptera Buprestidae) from Sicily, with one of Maghreb gravitation

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ABSTRACT *Agrilus odysseus* n. sp. (Coleoptera Buprestidae) from Sicily and Tunisia belonging to the "*cinctus* group" sensu Curletti, 1983 and *A. contarinii* from Sicily belonging to the "*solieri* group" sensu Schaefer, 1949 are described.

KEY WORDS Italy; Sicily; Tunisia; Peloritani Mounts; *Agrilus*; new species.

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INTRODUCTION

The material object of this contribution is part of specimens collected on the Peloritani Mountains (NE Sicily) in the years 1981-1998 as part of the studies promoted by the National Research Council for the sub-project "Terrestrial zoocenosis", that was largely already identified and published (Contarini, 2007). Among this material, two specimens of Buprestidae belonging to the genus *Agrilus* Curtis, 1825 had been awaiting identification due to the impossibility to take a look at the types of some related taxa. Thanks to the help of friend and colleague Eduard Jendek, it was finally possible to see the lectotype female of *Agrilus trinacriae* Obenberger, 1924, and the holotype female of the ssp. *teucrii* Schaefer, 1949 of *A. elegans* Mulsant et Rey 1863 to which the two new Sicilian taxa are allied. Their comparison allowed to resolve some doubts and to establish that the two specimens collected on the Peloritani belong to two unpublished species that are described here.

MATERIAL AND METHODS

The specimens are prepared dry and glued on mounting boards. The extracted male genitalia were glued to the side of the specimen in dorsal position. The syndetic used is gum arabic. The photographs of the specimens were taken with a Nikon P6000 camera fixed to the zoom Leica MZ6 stereomicroscope. The same were then processed with the stacking technique using the Combine ZP program and processed with the Photoshop Limited Edition program (Adobe Systems Inc.). The descriptions follow the procedure proposed by Curletti (2011, 2012, 2015) and Curletti & Migliore (2013), which thanks to the use of photographs allows to discern an appropriate and concrete habitus of the taxa and to omit repetitive morphological characters, not necessary or useless, highlighting those that are difficult to describe. The disclosure of these two new entities comes after years of uncertainties that only after further research, comparisons and insights have been partially overcome.

RESULTS

Agrilus (Agrilus) odysseus n. sp. (Figs. 1–4)
http://zoobank.org/urn:lsid:zoobank.org:act:9DBBEC11-BA5C-4E1C-8974-BC1A9D40FD0D

MATERIAL EXAMINED. Holotypus male: Italia, Sicilia, M.ti Peloritani, Malabotta, 14.VI.1981, E. Contarini leg. (coll. Curletti). Paratypus male: Tunisie, 29.V.1995, Le Kef, b.ge Mellègue, Curletti & Gianasso legg. (coll. Curletti).

DESCRIPTION OF THE HOLOTYPE. Male. Length 4.8 mm. Dorsal color bronzed. Moderately globular vertex, rounded in dorsal view. Eyes small, not protruding. Frons superiorly slightly sinuate longitudinally, with ivory white pubescence, long, slightly woolly, more thickened in middle and at the base (Fig. 3). Clypeus separate by a transverse carina that joins the eye holes. Short and stubby antennae, toothed from the IV antennomer. Transverse and gibbous pronotum, wider anteriorly. Anterior margin almost straight. Regularly rounded lateral margins with right basal angle. Disc with large continuous median depression. Wrinkled, regular, transverse sculpture. White pubescence visible in the median and lateral depressions. Prehumeral carinula slightly arcuate, parallel to the lateral margin. Submarginal carina barely visible anteriorly, divided from the marginal carina also posteriorly. Gular lobe with rounded anterior margin. Prosternal plate with parallel margins. Scutellum microsculptured, carinate. Pubescent elytra, with rounded and microdenticulate apex. There is a vague perisutural depression where the pubescence is more thickened. Laterotergites, meso- and metaepisternum with more dense pubescence (Fig. 2). Ventrites almost glabrous. Short legs, concolour. Anterior and median claws bifid, posterior mucronate. Metatibia longer than the metatarsus. Metatarsal formula 1=2 + 3. Aedeagus claviform, flattened, slightly sclerified. Median lobe with rounded apex (Fig. 4).

VARIABILITY. Description of the paratype male. Length 5.8 mm. The vertex sculpture is stronger, semicircular. Frontal pubescence is lesser visible, less long and thick. The pronotum is less broad and gibbous, the scutellar carina forms an open V, the aedeagus is more strongly sclerified. These slight morphological details could suggest a differentiation at subspecific level, but the smallness of the material prevents any further consideration.

ETYMOLOGY. From the second name of Ulysses who crossed the two Countries (Sicily and Tunisia) on his return to Ithaca after the siege of Troy.

COMPARATIVE NOTES. The presence of the elytral perisutural depression places *A. odysseus* n. sp. in the "*cinctus* group" (Curletti, 1983). However, the small size and reduced pubescence on elytra can be interpreted as an intermediate form with the "*hyperici* group" which includes in the western Mediterranean

Figures 1–4. *Agrilus odysseus* n. sp. holotypus male. Fig. 1: dorsal view. Fig. 2: lateral view. Fig. 3: head. Fig. 4: aedeagus 1.15 mm.

area various entities not yet well defined, such as *A. globulifrons* Obenberger, 1920, *A. hypericicola* Abeille de Perrin, 1893, *A. ibericus* Sánches Sobrino et Tolosa Sánchez, 2005, *A. chobauti* Abeille de Perrin, 1897. *A. odysseus* n. sp. differs easily for the aedeagus form and for the large median depression of the pronotum covered with white pubescence.

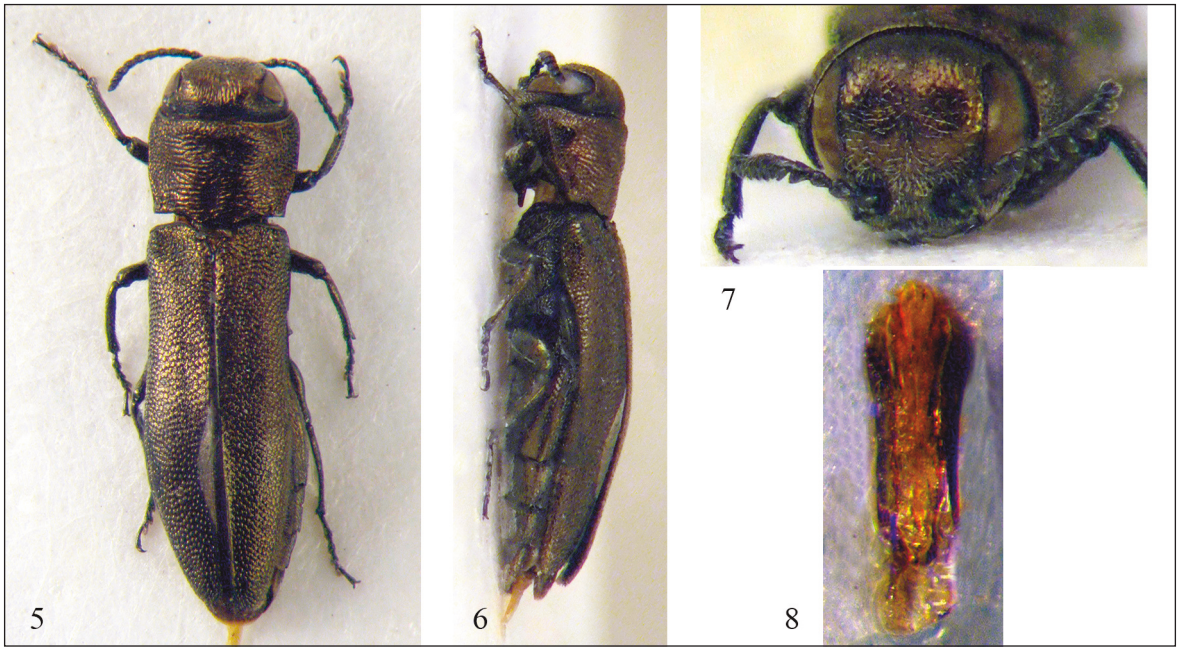
The holotype of *A. odysseus* n. sp. was already been reported as *A. trinacriae* Obenberger, 1924 by Curletti (1983), with dubious attribution pending the study of Obenberger's type. Contarini (2007) reported this in the synthesis work on the research he made on the Peloritani mountains. Following this description, both reports must be corrected.

Agrilus trinacriae has been placed in synonymy of *A. hyperici* (Creutzer, 1799) by Löbl & Löbl (2016), synonymy that is only partially shared, waiting to be able to clarify the problem with the acquisition of further material; the form of the head and the denser elytral pubescence along the suture would place *A. trinacriae* more similar to *A. globulifrons* Obenberger, 1920.

Agrilus (Agrilus) contarinii n. sp. (Figs. 5–8)
http://zoobank.org/urn:lsid:zoobank.org:act:4EF8E73D-DC49-46F1-A1FE-397A812C2379

MATERIAL EXAMINED. Holotypus male: Italy, Sicily, M.ti Peloritani, Malabotta, 26.VI.1981, E. Contarini leg. (coll. Curletti).

DESCRIPTION OF THE HOLOTYPE. Male. Length 4.3 mm. Entirely bronzed not very bright. Vertex convex, rounded, about half the width of the anterior margin of pronotum. Small eyes, barely visible dorsally. Concolour front, longitudinally furrowed, with short and thin pubescence more visible at the base and on the clypeus, this last separated by an obsolete transverse carina, and raised respect to the front line (Fig. 7). Short and thick antennae, toothed from the IV antennomer. Glabrous pronotum, wider anteriorly, with right posterior angles. Anterior margin not advanced in the median part. Fine, regular, transversal sculpture. Prehumeral carinulae clearly visible even if short, strongly curved. Marginal carinae divided also posteriorly. Gular lobe rounded and entire. Prosternal plate parallel. Scutellum transversely carinate. Elytra with short, regular white pubescence. Apex rounded and not denticulate. Ventral side brighter, with regular short white pubescence and less visible than the dorsal one (Fig. 6). Short and sturdy legs; protarsus almost as long as the metatarsus. Anterior claws bifid; median claws with the external bifid and the internal one mucronate; posterior claws mucronate.



Figures 5–8. *Agrilus contarinii* n. sp. holotypus male. Fig. 5: dorsal view. Fig. 6: lateral view. Fig. 7: head. Fig. 8: aedeagus 0.9 mm.

Metatarsus shorter than the metatibia. Metatarsal formula 1=2 + 3. Aedeagus diaphanous, slightly sclerified. Parallel parameres, waisted in the middle. Apex of the median lobe rounded (Fig. 8).

ETYMOLOGY. The species is named after the friend and colleague Ettore Contarini who carried out the research that led to the discovery of the two species described here.

COMPARATIVE NOTES. According to Schaefer (1949), in France there are two species belonging to the "*solieri* group": *A. solieri* Gory & Laporte, 1837 and *A. elegans* Mulsant et Rey 1863, both present in the Italian fauna. The not very bright dark bronzed color, the presence of short and curved prehumeral carinulae, the uniform elytral pubescence, the form of the mesotarsal claws, place the species systematically close to *A. elegans*, from which it differs mainly for the sculpture of pronotum thinner and more regular, for the posterior angles almost obtuse, for the different form of the aedeagus. In particular, the length of the protarsus differentiates it from all the species of the "*solieri* group" and of the "*hyperici* group".

According to Contarini (2007), the holotype was found, like the previous one, in ground fall traps triggered with vinegar, an unusual capture for Buprestidae in general. The biotope, marked as M-4, is described in a geographically detailed way by Brandmayr & Pizzolotto (1990) and was characterized (Contarini, 2007) by "*pascolo in località M. Polverello con strato erbaceo rado, in buona parte su substrato roccioso affiorante, a* Teucrium chamaedrys *e* Thymus spinulosus*; inclin. 35° e altitudine circa m 1295; espos. S*". The species has morphological characters that suggest a larval biology linked to shrubby or herbaceous plants. Schaefer (1949) describes the ssp. *teucrii* of *A. elegans*, collected on a single female specimen, ex nymph, from the roots of *Teucrium polium*. Given the affinity of *A. contarinii* n. sp. with the "elegans group", it cannot be excluded that this Sicilian species may also live at the larval stage in the roots of the *Teucrium* present on the Peloritani Mounts. The comparison with the holotype of the ssp. *teucrii* highlights substantial differences: *A. contarinii* n. sp. has a more transverse, less elongated pronotum, more elongated prehumeral carinulae, more sparse and less thickened elytral pubescence along the suture, posterior angles of pronotum right, more furrowed vertex.

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