

Morphological variability in and distributional data on *Phaleria bimaculata* populations from islands of the Central Mediterranean area

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Abstract

This study aimed to collect new taxonomic and distribution data on *Phaleria bimaculata* (L.) (Coleoptera Tenebrionidae) from Sicily (southern Italy), the circum-Sicilian islands and the Maltese archipelago. Particular attention was paid to the diagnostic morphological features observed in the populations sampled, focusing on the subspecies *Phaleria bimaculata marcuzzii* Aliquò. *P. bimaculata* individuals were collected from 20 different locations, of which 2 were located in the Sicilian mainland, 9 in circum-Sicilian islands and 9 in the Maltese Islands. In addition, four *Phaleria acuminata* Kuster populations were also recorded along southern Sicilian shores. The two *Phaleria* species were never recorded in sympatry within the current study. Geometric morphometrics were deployed to quantify and analyze the intra-specific differentiation in the shape of two external anatomical structures, i.e. the pronotum and the elytra. The elytra of the individuals from the Aeolian island of Vulcano, *locus typicus* of the ssp. *marcuzzii*, were more elongated and elliptical in comparison to the Maltese and the Sicilian individuals, underscoring the degree of genetic differentiation within different populations of the species.

Key words: *Phaleria bimaculata*, *Phaleria bimaculata marcuzzii*, sandy beaches, Central Mediterranean, morphology, Geometric morphometrics.

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