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A new particular finding of *Lethocerus patruelis* (Stål, 1854) (Hemiptera Heteroptera Belostomatidae) on the Calabria Ionian coast (Italy)

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ABSTRACT The first observation of *Lethocerus patruelis* (Stål, 1854) (Hemiptera Heteroptera Belostomatidae) on the Ionian coast of Crotone, in eastern Calabria (Italy), is documented. During some local naturalistic research on the Strongoli Marina beach a live adult specimen of this large Belostomatidae was collected and identified. The diffusion in Calabria and in general in Italy of this species, typical of Balkans, has not yet been completely ascertained thus the finding, albeit sporadic, represents an important event for the knowledge and control of the species. Only two other records of *Lethocerus patruelis* in Calabria are reported in the literature. One to the north in the city of Villapiana in the province of Cosenza and the other to the south in the small hamlet of Prunella in the municipality of Melito di Porto Salvo in the province of Reggio Calabria. This may indicate an increase of the presence of *Lethocerus patruelis* on the Calabrian Ionian coast.

KEY WORDS Belostomatidae; Crotone; Ionian coast; *Lethocerus*; Strongoli Marina.

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INTRODUCTION

Strongoli Marina is a seaside town in the province of Crotone, which develops on the Ionian coast of eastern Calabria (Italy) (Figs. 1, 2). The territory is characterized by a coastal ecosystem of great ecological importance. In this area there are dunes and a wide shoreline with peculiar granulometric and morphological characteristics (Fig. 3). An environment considered a nesting site for the *Caretta caretta* sea turtle and which is home to a rich fauna of invertebrates. In the first ten days of September 2021, a specimen of a giant waterbug was collected for the first time. In particular, this is the species *Lethocerus patruelis* (Stål, 1854), the only European member of the Belostomatids, a family of large aquatic insects widespread from Asia to South-Eastern Europe and present in Serbia, Bulgaria, Macedonia, Bosnia, Croatia, Albania, Greece (including Crete and Rhodes), Macedonia, Montenegro and Turkey. In the last twenty years this species has begun a shift towards the west probably from the Balkan peninsula towards Italy and has been reported in Abruzzo, Puglia and recently also in Calabria (Castiglione et al., 2021). It is not clear whether its presence in south-eastern Italy is linked to accidental introductions or to natural extension of its range towards the West.

DISCUSSION

The family Belostomatidae (Hemiptera Heteroptera Nepomorpha) includes numerous species

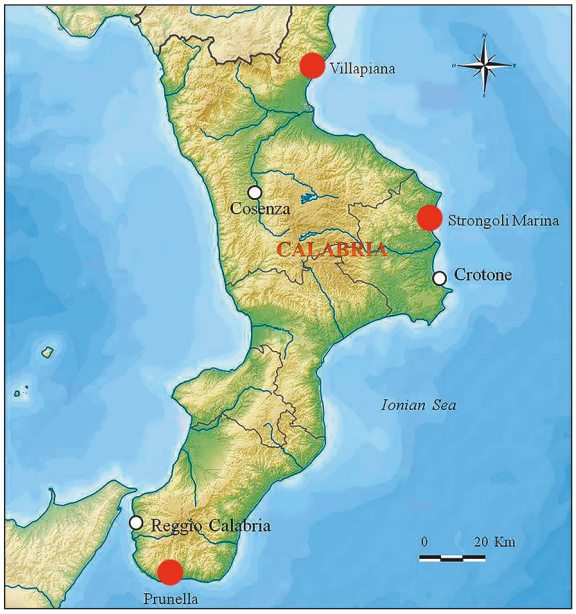

Figure 1. Records of *Lethocerus patruelis* in Calabria (Italy).

Figure 2. Strongoli Marina (Calabria, Italy).

Figure 3. Strongoli Marina beach (Calabria, Italy).

of predatory aquatic insects widespread in Europe and in the topical and subtropical areas. Divided into two subfamilies Lethocerinae and Belostomatinae (Orba, 2019).

The *Lethocerus* Mayr, 1853 genus belongs to the subfamily Lethocerinae with a very wide distribution that includes the Americas, Europe, Africa and Asia (Perez Goodwyn, 2006; Sareein et al., 2019). Two species of *Lethocerus* are present in the Palearctic region and in southern Africa: *Lethocerus cordofanus* (Mayr, 1853) distributed in tropical central Africa, south of the Sahara desert, from the Gulf of Guinea to Somalia (Perez Goodwyn, 2006; Novoselsky et al., 2018) and *Lethocerus patruelis* (Stål, 1854) (Fig. 4) distributed from Asia to South-Eastern Europe including the Balkan Peninsula and some Greek islands (Perez Goodwyn, 2006; Cianferoni & Nardi, 2013).

Lethocerus patruelis is the largest European heteropter, it moves on the ground, swims in water and is a good flier. The British call these insects electric light bugs for their propensity to be attracted to light. One of their main characteristics is precisely that of being endowed with positive phototropism. Skilled aquatic predator, it feeds mainly on the larvae of anuran amphibians, fish, but also small sea turtles, arthropods, molluscs and reptiles. Polyphagous and zoophagous, it eats everything. It neutralizes prey by injecting its digestive enzyme-rich saliva and once immobilized, it sucks up dissolved tissue with its sturdy beak. The front legs, raptatoria, are designed to grab and hold the prey. The sting is very painful and for this reason it is advisable to take the necessary precautions in case of sighting and possible collection. The female lays her eggs on the back of the male who carries out parental care.

The specimen collected alive in Strongoli Marina beach measures 67 mm and has two thin light stripes on the chest at the pronotum (Fig. 5). On the prosterno the characteristic ulu-shaped nail is visible (Fig. 6). The size of the body and the structure of the genital plate are typical of a male individual.

CONCLUSIONS

The occasional discovery of *Lethocerus patruelis* (Stål, 1854) is not a trivial event. The presence

Figures 4–6. *Lethocerus patruelis* from Strongoli Marina (Calabria, Italy). Fig. 4: *L. patruelis*. Fig. 5: narrow clear stripes on the pronotum. Fig. 6: prosternum with ulu-shaped keel

of an alien species in a given territory always arouses much concern. Uncontrolled spread can be a threat to the survival of native species and their habitats. The intensification of maritime traffic in the Ionian Sea and climate change on a regional scale are a risk factor that should not be underestimated.

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