First record in the Mediterranean basin of the alien leafhopper *Balclutha brevis* living on invasive *Pennisetum setaceum*

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Abstract

During a recent survey on the insect pests of ornamental plants in some Sicilian cities the authors found *Balclutha brevis* Lindberg (Rhynchota Cicadellidae). This species, probably native to Macaronesia, is recorded here for the first time to the Italian fauna in the Mediterranean basin. In Sicily, adults and immature stages of *B. brevis* have been found associated with the spike of *Pennisetum setaceum* (Forsskal) Chiovenda (Poaceae) practically all the year round.

Key words: Cicadellidae, *Balclutha brevis*, Europe, new record, *Pennisetum*, alien species.

Introduction

The crimson fountain grass, *Pennisetum setaceum* (Forsskal) Chiovenda (figure 1), often reported wrongly in the literature as *Pennisetum ruppelli* Steudel, is a perennial Poaceae with a thermo-cosmopolitan distribution. The orignals distribution of this species is North and East Africa, Near East and Arabian Peninsula; from these areas the species has spreads throughout South Africa, Indonesia, North America, Caribbean regions, Oceania, and recently to Mediterranean countries: Southern France, Southern Spain, Canary Islands, Balearic Islands and Italy (Sicily, Sardinia and Calabria) (Pasta et al., 2010). According to these authors, *P. setaceum* was reported in Sicily for the first time by Bruno (1939) (sub *P. ruppelli*) in the Botanical garden of Palermo, where the seeds imported from Abyssinia (actually Eritrea and Ethiopia) were planted in 1938. *P. setaceum* was recorded in the natural environment around 1959 in Palermo (Pellegrino Mount) (Pignatti-Wikus, 1963) and Catania (Borruso and Furnari, 1960) (sub *P. villosum* R. Brown). Currently, this species is in rapid expansion along the coastal areas and main roads of Sicily (D’Amico and Gianguzzi, 2006; Giardina et al., 2007; Pasta et al., 2010) where there are suitable ecological conditions.

Outside its native areas, *P. setaceum* is an invasive species that is able to modify and alter ecosystems and colonise new environments (Pasta et al., 2010).

A recent survey on the insect pests of ornamental plants, in various Sicilian cities, led us to discover associated with *P. setaceum* the leafhopper *Balclutha brevis* Lindberg (Rhynchota Cicadellidae) (figure 2). This is the first record of this species among the Italian fauna in the Mediterranean basin. Further studies on the biocology and morphology of this species are in progress and will be the topic of another paper.

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*Balclutha brevis* Lindberg 1954

The genus *Balclutha* Kirkaldy has a cosmopolitan distribution. About seventy species have been described (McKamey, 2010) and 1/3 of these are also present in the Mediterranean area. In Italy five species have been recorded: *B. frontalis* (Ferrari 1882) [perhaps a synonym...]

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Figure 1. *P. setaceum* (Catania city).  
(In colour at www.bulletinofinsectology.org)
Distribution

B. brevis was described originally from the Canary Islands (Lindberg, 1954) and is also present in the Cape Verde Islands (Lindberg, 1958; Aguin Pombo et al., 2005). According to the most recent paper, it is probably a native taxon of the Cape Verde Archipelago. The presence in Sicily of this alien species could be due to its introduction via North Africa where B. brevis has not yet been reported probably due to the lack of fieldwork.

Examined material

SICILY – Catania city: first record 11.XII.2007 (5 ♂♂, 7 ♀♀); since December 2007 and during all months of next years, with a high presence of specimens (tens of adult and immature stages) in the rainy season; Palermo: Botanical Garden, 12.X.2007, 3 ♂♂, 2 ♀♀. All the specimens have been collected by S. Bella and V. D’Urso. Samples are stored at the Dipartimento di Gestione dei Sistemi Agroalimentari e Ambientali, and at the Dipartimento di Scienze Biologiche, Geologiche ed Ambientali, Sezione di Biologia Animale “Marcello La Greca”, University of Catania).

Conclusion

The species belonging to the genus Balcutha live on various grass species and some are vectors of plant diseases. According to Stores (1925), specimens of B. mbila Naude in South Africa are able to transmit streak disease to maize. To date, there is no evidence for a vector role of B. brevis and, moreover, the species is not found on any other grass species except for P. setaceum. As already emphasised by Pasta et al. (2010), P. setaceum is a strongly invasive species in rapid expansion in Sicily and it will be interesting to follow the capability of this new alien to spread into new habitats. In addition, this perennial grass is more and more widespread as an ornamental plant. This is due to its attractive appearance, low nutritional requirements and resistance to aridity of soil. According to Pasta et al. (2010) the continued dispersal of this alien plant is to be expected and as such it should be kept under control.
Figure 4. Genital structures of *B. brevis*. Male: A) aedeagus; B) style; C) connective. Female: D) 7th abdominal sternite. Scale bar = 0.05mm.

References


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Received February 23, 2012. Accepted June 16, 2012.