

SHORT COMMUNICATION



First record of an indigenous South African parasitoid wasp on an imported biological control agent, the water hyacinth hopper

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ABSTRACT

Water hyacinth, *Pontederia crassipes* (Martius) [\equiv *Eichhornia crassipes* (Martius) Solms-Laubach] (Pontederiaceae), is native to South America, but has expanded its range to many other regions of the world including South Africa. *Megamelus scutellaris* Berg (Hemiptera: Delphacidae) was released as a biological control agent and has established in several regions. Recently, the indigenous species *Echthrodelpfax migratorius* Benoit, (Hymenoptera: Dryinidae) was discovered in South Africa parasitising *M. scutellaris*. This newly discovered relationship might have repercussions for the efficacy of biological control of water hyacinth by the delphacid. The wasp may negatively impact *M. scutellaris* populations making it difficult for the agent to successfully manage the invasive weed. Contrarily, the parasitoid may be beneficial by keeping the *M. scutellaris* populations stable, serving as a natural enemy.

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Water hyacinth, *Pontederia crassipes* (Martius) [\equiv *Eichhornia crassipes* (Martius) Solms-Laubach] (Pontederiaceae), is native to South America, but has expanded its range to many other regions of the world including the Afrotropical region. In the invasive range, this aquatic weed causes negative environmental and socio-economic impacts (Villamagna & Murphy, 2010). Water hyacinth in South Africa is managed via mechanical removal, herbicides, and biological control. Nine biological control agents have been introduced, including *Megamelus scutellaris* Berg (Hemiptera: Delphacidae) (Figures 1A-1C), which was released in 2013, and has established in several regions of the country (Hill & Coetzee, 2017).

Megamelus scutellaris is a hemimetabolous insect with five nymphal instars. Both the nymph and adult stages feed on plant xylem and phloem (Sosa, Lenicov, Mariani, & Cordo, 2005). The indigenous range encompasses areas of Peru, Brazil, Uruguay, and Argentina (Sosa, Lenicov, Mariani, & Cordo, 2004). In Argentina, dryinid and mymarid parasitoids of *M. scutellaris* have been recorded and identified as *Gonatopus hilaris* Olmi (Hymenoptera: Dryinidae) (Guglielmino, Olmi, & Bückle, 2013) and *Kalopolynema*