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Selitrichodes neseri n. sp., a new parasitoid of the eucalyptus gall wasp *Leptocybe invasa* Fisher & La Salle (Hymenoptera: Eulophidae: Tetrastichinae)

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Abstract

Selitrichodes neseri Kelly & La Salle **n. sp.** (Hymenoptera: Eulophidae: Tetrastichinae), is described as a parasitoid of the invasive eucalyptus gall wasp *Leptocybe invasa* Fisher & La Salle (Hymenoptera: Eulophidae: Tetrastichinae), which is causing substantial damage particularly in commercial *Eucalyptus* plantations. *Selitrichodes neseri* was originally collected in Australia in 2010 when searching for biological control agents of *L. invasa.* It has since been reared in quarantine in South Africa where it is being evaluated for release as a biological control agent of *L. invasa*.

Key words: gall inducer , biological control

Introduction

The invasive eucalyptus gall wasp, *Leptocybe invasa* Fisher & La Salle (Hymenoptera: Eulophidae) is a global pest in *Eucalyptus* plantations. *Leptocybe invasa* is particularly damaging to the new growth of different *Eucalyptus* spp. and clones (Nyeko *et al*. 2010). Due to its preference of young leaves (including petioles) and shoots (Fig. 1) for oviposition, *L. invasa* is a problem especially in nurseries (Mendel *et al*. 2004). In instances when large numbers of *L. invasa* are present plants may become deformed (Fig. 1) and growth may be stunted due to heavy galling (Nyeko 2005).

Leptocybe invasa was originally detected in the Mediterranean Basin in 2000 (Mendel *et al*. 2004) initiating the description of this species and research on its biology. It has subsequently spread to Sub-Saharan Africa, India, Southeast Asia (CABI 2007), Brazil (Costa *et al*. 2008), and the USA (Florida) (Gaskill *et al*. 2009). In Africa, *L. invasa* was first reported in 2002 from Kenya (Mutitu 2003) and Uganda (Nyeko 2005), in June 2007 from South Africa (Neser *et al.* 2007) and Zimbabwe (Ministry of Environment & Natural Resources Management 2010) and in 2010 from Mozambique (Tree Protection News 2010). Since its initial detection, *L. invasa* has been reported from most areas in South Africa where *Eucalyptus* is commercially grown (Tree Protection News 2010).

Because *L. invasa* completes its development within the gall, control measures such as chemical control are not feasible, and may also interfere with existing biological control achieved against other *Eucalyptus* pests. Possible control measures would include breeding resistant/less susceptible *Eucalyptus* species and clones, as well as biological control. Kim *et al* (2008), Protasov *et al.* (2008) and Doğanlar *et al* (2010) reported on parasitoids of *L. invasa* from Australia, namely *Quadrastichus mendeli* Kim & La Salle (Eulophidae), *Selitrichodes kryceri* Kim & La Salle (Eulophidae) and *Megastigmus* species (Hymenopetra: Torymidae). Three additional *Megastigmus* spp. were found to be associated with *L. invasa* in Israel, India and Turkey (Protasov *et al*. 2008, Kulkarni *et al*. 2010), and *Megastigmus zebrinus* Grissell, presumed to be an Australian species (Grissell 2006), was reared from 2010

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