

NATURAL HISTORY, DISTRIBUTION AND HOSTS OF EUCALYPTUS GALL WASPS IN TURKEY

Fatih AY TAR

Department of Entomology, Mersin Regional Forest Directorate /Turkey | e-mail : f_aytar@hotmail.com / fatihaytar@yahoo.com

Eucalyptus is endemic to Australia. In Turkey for the first time *Eucalyptus camaldulensis* was used to railway between Adana and Mersin in 1885 during the built railway (1). The *Eucalyptus* tree is used plantation, recreation, residential and park areas in Turkey. Within 5 years, two eucalyptus galls wasps, *Leptocybe invasa* Fisher & LaSalle 2004 and *Ophelimus maskelli* (Ashmead,1900) (Hym.: Eulophidae) was found on eucalyptus trees in Turkey.

***Leptocybe invasa* Fisher & La Salle 2004, (Hymenoptera: Eulophidae) ;**
In 2000 years a new pest of eucalyptus trees was found to in northern and eastern Africa, the Middle East and Mediterranean countries (2). This wasp is a new genus and species of insects. It's taxonomical name is *Leptocybe invasa* Fisher & La Salle 2004, (Hymenoptera: Eulophidae) and is a new and serious pest of eucalyptus species in Turkey and other part of the World. It forms typical bump shaped gall on the leaf midribs, petioles and stems of *Eucalyptus* species. This wasp can cause substantial injury to young trees and may eventually seriously weaken the tree. Presently, the wasp is reported from **Algeria, Etyopia, Greece, Iran, Israel, Italy, Jordan, Kenya, Morocco, Spain, Syria, Portugal, Tanzania, Turkey, Uganda and Vietnam.** Suitable hosts for this insect include *Eucalyptus camaldulensis*, *E.glabulus*, *E.gunii*, *E.grandis*, *E.botryoides*, *E.saligna*, *E.robusta*, *E.bridgesiana*, *E.viminalis* and *E.tereticornis* (3,4,5,6,7,8,9,10,11,12,13, 14,15,16,17).



For the first time *L. invasa* was found to on leaves of *Eucalyptus camaldulensis* by Ay tar 2003(18) in Turkey in 2000. The wasp is the most important pests of the eucalyptus trees in Turkey. The wasp produces two or three overlapping generation annually in Turkey. Although it attacks nursery seedlings, young and old eucalyptus plantations. Nursery seedlings and young plantations are affected over than old plantations. Suitable hosts for this insect include *E.camaldulensis* (section Exsertaria) and *E.grandis* (section Transversaria) in Turkey. However some clones of *E. camaldulensis* are resistant for the attack of *L.invasa*. So, this topic has been studying to become dense. The Gall Wasp can lay eggs from ground up to 32.70 m on eucalyptus trees. Distribution of *L.invasa* was studied from 2005 to 2006 in detail. The gall wasp is determined almost everywhere in Mediterranean and Aegean coastal regions of Turkey (Map-1). Vertical distribution limit of *L. invasa* is 682 meters in Turkey.



Distribution of *Leptocybe invasa* in Turkey :1.Hatay Central, 2.Osmaniye Central, 3.Ceyhan (Adana), 4.Imamoğlu (Adana), 5.Adana Central, 6.Tarsus (Mersin), 7.Mersin Central, 8.Erdemli (Mersin), 9.Silifke (Mersin), 10.Mut (Mersin), 11.Aydıncık (Mersin), 12.Bozyazı (Mersin), 13.Anamur (Mersin), 14.Gazipaşa (Antalya), 15.Alanya (Antalya), 16.Manavgat (Antalya), 17.Serik (Antalya),18.Antalya Central, 19.Kemer (Antalya), 20.Kumluca (Antalya), 21.Finike (Antalya), 22.Kale (Antalya), 23.Kaş (Antalya), 24.Fethiye (Muğla), 25.Göcek (Muğla), 26.Ortaca (Muğla), 27.Dalaman (Muğla), 28.Köyceğiz (Muğla), 29.Marmaris (Muğla), 30.Muğla Central, 31.Izmir Central, 32.Menemen (Izmir), 33.Foça (Izmir).

***Ophelimus maskelli* (Ashmead,1900) (Hym.: Eulophidae) ;**
Ophelimus maskelli is another eucalyptus gall wasp and It is small than *Leptocybe invasa*. It forms bump shaped gall on surface of leaves of *Eucalyptus* species. Galls are small and well separated from one another. Repeated attacks can lead to loss of foliage from terminal branches. The wasp was reported from some countries : Israel (13,19) and New Zealand (20).



Ophelimus maskelli was first discovered in Turkey in 2005. Host for this insect include *E. camaldulensis* (section Exsertaria) only in Turkey. Biology of *O.maskelli* has been studied in Turkey. Adult measures about 1 mm in length, black in colour, and is difficult to see with naked eye. Antenna; 2 funicular segments; 3 club segments. Larvae are minute and white. They are found within galls on host plants. Larvae pupate within the galls and adults emerge through a hole that they cut to the surface. Egg-laying occurs soon after adult emergence. The gall wasp is determined in Mediterranean and Aegean coastal regions of Turkey (Map-2).

