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Report of *Leyptocybe invasa* Fisher & LaSalle (Hymenoptera: Eulophidae), a Gall Wasp of Eucalyptus in Khartoum State, Sudan

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Abstract: The presence of *Leyptocybe invasa* was noted on seedlings of *Eucalyptus camaldulensis*, showing galls, in the nursery of the National Forestry Corporation at Soba, Khartoum State, Sudan. Galling caused twisting of leaves and stunting of seedlings growth. About 100 000 seedlings were infested, and the percentage of infestation ranged between 85% and 100% on 1.5- 7.0 month-old seedlings. This is the first record of *L. invasa* in Sudan.

Key words: *Leyptocybe invasa;* gall wasp; eucalyptus, Sudan

The eucalyptus gall wasp, *Leyptocybe invasa*, is a small insect (1.1-1.4 mm) (Mendel *et al*. 2004). It is believed to be native to Australia. This wasp causes severe injury to several eucalyptus species including *Eucalyptus camaldulensis*, by inducing galls, mainly on petioles, leaf midribs and stems of seedlings and new growth of trees. Heavy infestations inflict severe damage due to leaf distortion and stunting of growth. Outside its native range, it was first recorded in the Middle East in 2000; in Uganda, Kenya, India and Algeria in 2002; in Tanzania in 2005 and in South Africa and Morocco in 2007 (ftp.fao.org/docrep/fao/011/i0640e/i06).

Seedlings of *Eucalyptus camaldulensis*, showing galls, were collected from the nursery of the National Forestry Corporation at Soba, Ministry of Environment and Tourism, Khartoum State. The infested seedlings were covered with finely perforated plastic bags to determine the presence of the gall wasp. Galls, longitudinal sections through the galls, and the adult insects were examined under a digital microscope (Digital Blue QX5 computer microscope, (www.digiblue.com).

Numerous galls were observed on leaf midribs, stems and shoot tips. About 100 000 seedlings were affected, and the percentage of infestation ranged between 85% and 100% on 1.5-7.0 month-old seedlings. Heavy galling caused twisting of leaves and stunting of seedlings. Galls on the shoot tip (Fig.1a), stem (Fig.1b) and leaf mid-vein (Fig.1c) were typical galls of *Leptocybe invasa* Fisher & LaSalle (Ankita and Poorani 2009; Dr. John LaSalle, pers. comm.). Fig.1d shows mature galls and the pest exit holes. Longitudinal sections through the galls show larvae of the insect pest (Fig.2a; Fig.2b) and pupae (Fig.2c). Adult wasps collected from perforated bags were typical of *L. invasa* (Fig.2d). No associated parasitoid or other arthropods were found.

The formation of galls similar to those formed by *Lepotocybe invasa* and the photographs of larvae, pupae and adults constitute strong evidence that the causal agent of galls on eucalyptus in Khartoum State is *L. invasa*. This is the first report of *Leyptocybe invasa* (Fisher & LaSalle) on *E. camaldulensis* in Sudan.

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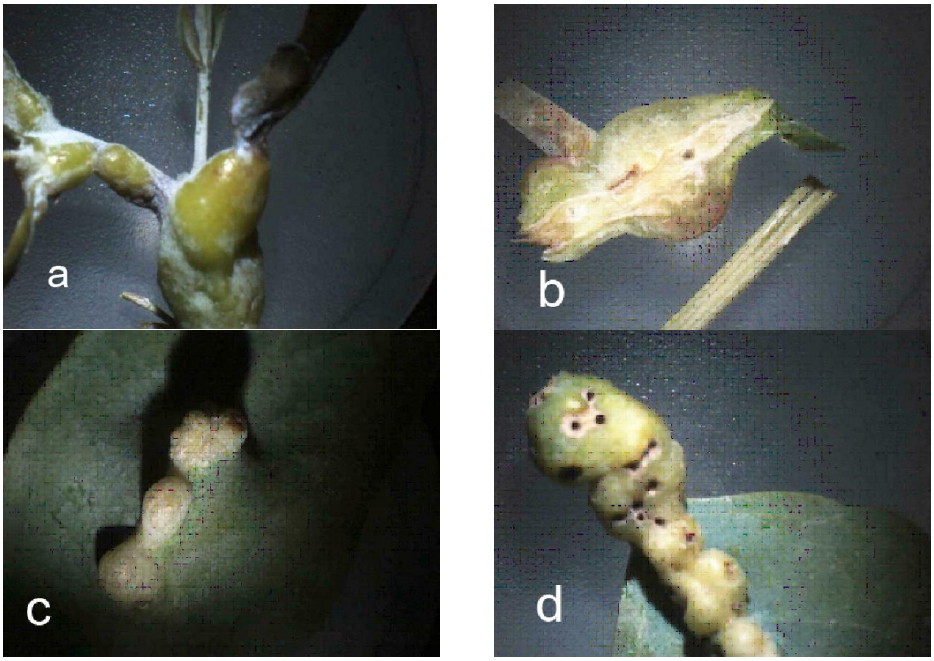

Fig.1. Galls of *L. invasa*: a- galls on shoot tip, b- galls on seedling stem, c- gall on leaf midrib and d- exit holes of adult insects

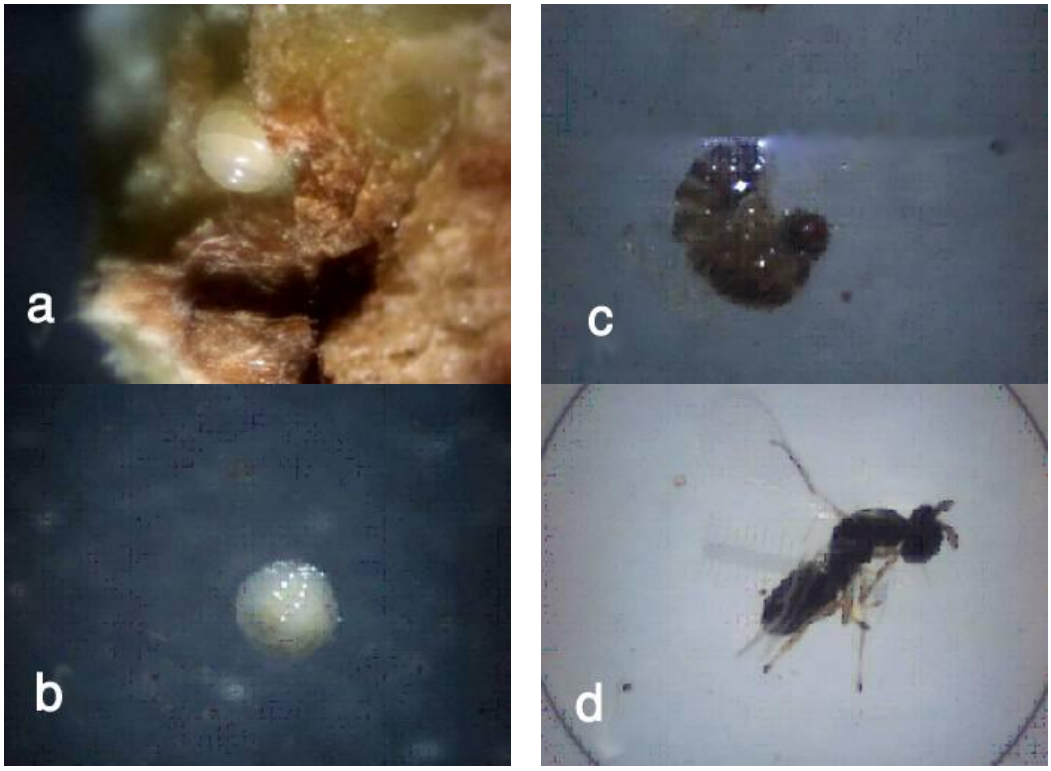

Fig.2. Life cycle of *L. invasa*: a- larva inside the gall, b- larva freed from the gall, c- pupa and d- adult

مجلة جامعة الخرطوم للعلوم الزراعية : المجلد التاسع عشر – العدد الثانى ، 2011م

رصد لوجود دبور العفص على أشجار البان بولاية الخرطوم ، السودان

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المستخلص: تم رصد لحشرة دبور العفص (*Leyptocybe invasa* Fisher & LaSalle) على شتلات أشجار البان بمشتل الهيئة القومية للغابات فى سوبا ، ولاية الخرطوم ، السودان . أدت الأصابة إلى التفاف الأوراق وتقزم الشتلات. تأثرت نحو 100 000 شتلة بهذه الحشرة وتراوحت نسبة الأصابة بين 85% و 100% فى شتلات بعمر شهر ونصف إلى سبعة اشهر . يعد هذا أول تسجيل للحشرة فى السودان .