

DISTRIBUTION

The known distribution of the larger grain borer was reviewed by Wright (1984), Dobic (1988a) and Laborious [=Laborius](1988). The species appears to be indigenous to Mexico and parts of Central America. Records from elsewhere probably represent discrete introductions, in most cases only temporary. Only in Africa has the larger grain borer become extensively established as a major exotic pest.

Pest outbreaks in Africa apparently resulted from two separate introductions, reported from Tanzania (Dunstan & Magazini, 1981; Golob & Hodges, 1982) and Togo (Krall, 1984; Harnisch & Krall, 1984). A more recently reported outbreak in Guinea may represent a third discrete introduction, or may be the result of intra-regional trade. From Tanzania the larger grain borer has spread into Kenya, where it currently affects only south-eastern parts of the country (Giles, verbal report to coordination meeting in Togo, 1990), and Burundi, where infestation is widespread but apparently of low intensity (Golob, 1988b; Autrique, unpublished data, 1990). From Togo, the pest has spread into Benin (Anonymous [=Krall & Favi], 1986) and Ghana (Dick *et al.*, 1989). From the known distribution in the countries cited above, it is likely that Burkina Faso, Uganda and Zaire are already affected, while Rwanda, Zambia, Malawi and Mozambique are at risk.

The likely distribution of larger grain borer in Asia is more difficult to assess. A record from Thailand (Sukprakam, 1976) appears to have been based on a misidentification. However, specimens found on imported exhibits from China (Lesne, 1939) and, more recently, on dried lily blossoms from Hong Kong (Zimmerman, 1990) were authoritatively identified. More recent reports from India (Verma & Lal, 1987; Verma *et al.* 1988) have not been confirmed by independently identified specimens.

A puzzling aspect of larger grain borer incidence has previously been its seemingly sporadic and discontinuous occurrence within its general area of distribution. The use of newly available pheromone-baited flight traps (reviewed below) has revealed, however, that larger grain borer is much more widely and continuously distributed than previously suspected, based on sampling of stored commodities alone. For instance, the species was found in 131 out of 139 20km squares sampled in Togo (Richter & Biliwa, 1990 & 1991). In Mexico, trapping studies have shown that larger grain borer is extensively distributed in Yucatan and Quintana Roo (Herrera *et al.*, 1989; Rees *et al.*, 1990b) and in central and southern states of the country