The stimuli to which dispersing larger grain borer respond need to be investigated in various situations to examine whether, and under what circumstances, maize actually attracts the beetles. Studies are also needed to establish whether dispersing populations of larger grain borer are genetically identical with pest populations in maize stores and, if not, to investigate how they differ in behavioral and biological characteristics.

TRAPS AND MONITORING

The development of pheromone-baited traps for monitoring of larger grain borer has been very important for both research on the pest and efforts to control it. Hodges (1986) mentions the early development of a cardboard crevice trap, baited either with the aggregation pheromones of *Rhyzopertha dominica* (Dominicalure 1 and 2) (Hodges et al., 1983b) or with the first-identified component of the *P. truncatus* pheromone (Trunc-call 1 or T1) (Hodges *et al.*, 1984). Subsequently, the second component of the pheromone (Trunc-call 2 or T2) has been fully described and synthesized (Dendy *et al.*, 1991). Pitfall traps containing a mixture of the two pheromones (Trunc-call 1 and 2) tested in maize fields caught ten times as many beetles as those baited with only the first component (Dendy *et al.*, 1989b), but crevice traps (with the combined pheromone) placed in stores did not give significantly higher catches. Subsequently, flight traps of two different designs were found to be more effective than pitfall traps (Dendy *et al.*, 1989a). Improved crevice traps for placing in stores, consisting of a plastic sandwich, lined with glue rather than insecticide to detain the insects, have also been developed. Delta-type flight traps, baited with the two-component pheromone, have now been widely used, as noted above, to document the true extent of *P. truncatus* distribution in various African countries (e.g. Richter & Biliwa, 1991), and to investigate the presence and flight activity of the insect in various different habitats (Herrera *et al.*, 1991; Novillo, 1991; Ramírez *et al.*, 1991; Rees *et al.*, 1990b; Ríos, 1991).

Various studies have concentrated on the action of the traps themselves. Dendy *et al.* (1989b) showed that daily captures reached a maximum 3 to 6 days after exposure; catches were then lower from 6 to 12 days, even though dispensers of the same type were shown to hold 25% of the original charge of T1 and 40% of the T2 after 17 days. Ríos (1991) obtained a similar early increase in catches over the first three days of exposure. However, he also noted that, over the longer term, maximum numbers were caught in the third week, and catches declined slowly thereafter. Traps