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## Radar based studies of the migratory flight of grasshoppers in the middle Niger area of Mali†

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[Abstract only]

Some grasshopper species are pests of subsistence agriculture in the Sahelian zone of West Africa. Formulation of effective control strategies against these pests requires some knowledge of their migratory ability.

In this paper, a study is described in which radar was used to observe aspects of the nocturnal migratory behaviour of grasshoppers in the middle Niger delta. Mass take-off at dusk, layering and common orientation were regularly observed. Layering appeared to be related to air temperature. Mean orientation was often downwind but at other times crosswind headings occurred which added to the southerly component of the insects' displacement. Quantitative measurements of heading distribution revealed that different mean headings were adopted by different groups of insects in the same aerial environment. Probable source areas of insects overflying the radar were identified by calculations of the insects' back-trajectories.

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