

Pest and non-pest rodents in the upland agricultural landscape of Laos: a progress report

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Abstract. Rodent communities have been monitored on a monthly basis since January 2000 in four provinces of Lao PDR using a regular trapping pattern across five habitats associated with upland agriculture. Rats have been collected sporadically from lowland habitats in two other provinces. The upland environment of Laos supports a rich array of rodent species, the great majority of which probably do little or no damage to crops. We recorded 21 different species of which 6 appear to be important pest species in crop production areas. Two forms of rats from the *Rattus rattus* complex (type A in the north and type B in the south) are the dominant rat species, and crop pest, in all six provinces. Population densities of both regional forms of *R. rattus* clearly fluctuate through the year in response to the availability of food resources, with a decline to very low resident populations and little or no breeding activity through the dry season. However, the same species also occupy the village habitat and these populations appear to be more stable and exhibit continuous breeding, presumably by feeding on high-quality stored grain as well as general refuse and household garden produce. Upland villages thus may represent a critical 'source' habitat for *R. rattus*, with migration into the fields once the cropping cycle is under way. Less certainly, the forest may also act as a refuge habitat through the dry season and a source of emigrants to the fields. Alternatively, the forest may be a 'sink' that absorbs individuals at the end of the cropping cycle but witnesses little, if any, subsequent breeding. These baseline studies provide a solid foundation for identifying key issues for developing ecologically based management of rodent pests and for conserving some non-pest rodent species that are classified by International Union for Nature and Natural Resources (IUCN) as 'vulnerable'.