

QUEENSLAND RATS OF ECONOMIC IMPORTANCE, AND NEW FORMS OF *RATTUS* AND *THETOMYS*.

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Since the latter part of 1935 large numbers of indigenous and introduced Murinae have been submitted for identification to the Australian Museum by the School of Public Health and Tropical Medicine within the University of Sydney, also the Health Department and Bureau of Sugar Experiment Stations of Queensland, and the Colonial Sugar Refining Company, in connection with various investigations relating to the incidence of disease and economic damage in cane field areas, caused by the prolific rat population attracted thereto.

The importance of an ecological survey of the mammalian fauna is emphasized by the fact that no less than six genera of indigenous rats, including eleven species, have been identified from coastal Queensland, of which several are involved as carriers of Leptospirosis (Weil's disease). A great deal of economic loss is caused by the gnawing and breaking down of the cane, which has been vastly increased of recent years by the burning-off necessary to prevent infection, with a corresponding increase in the cost of gathering the crop. It is notable that the two introduced rats have not so far played a part in the cane fields comparable with that of several indigenous species which thrive under the specially favourable conditions. One of these, which may be known as the "Dusky Field Rat", *Rattus conatus*,¹ hitherto tentatively named *R. culmorum*, has apparently assumed the role played by the "Brown" or "Norway Rat" as a reservoir of Leptospirosis in other countries.

The work of identification has been complicated by the absence of original specimens of the old and most of the newly described species, as well as by the very unsatisfactory descriptions, and lack of illustration. The apparently complete disappearance of *R. sordidus* from the Darling Downs region, recent extension of the range of the Swamp Rat (*R. lutreolus imbil*)² to southern Queensland, and the coincident range of externally similar species in the north have added to the difficulties of final determination.

The rather bright greyish-brown, relatively small-footed and short-tailed rat, *R. culmorum*,³ originally described from the Inkerman district south of Townsville as probably "the commonest species of Central Queensland", would actually seem to be of decidedly restricted habitat throughout the wide coastal range accorded it. Specimens of the true *culmorum* have been identified only from the region of Mackay, amongst the extensive series of rats examined from the cane field area, from the Hambleden Mill district near Cairns to Mackay.

¹ Thomas.—Ann. Mag. Nat. Hist., (9) xii, 1923, p. 159.

² Troughton.—Australian Zoologist, viii, 4, 1937, p. 283.

³ Thomas and Dollman.—Proc. Zool. Soc., 1908 (1909), p. 790.