

# DIAGNOSES OF NEW RATS FROM THE NEW GUINEA AREA.

By ELLIS TROUGHTON, F.R.Z.S., C.M.Z.S.,  
Mammalogist, The Australian Museum.

Since inception of the Department of Mammals in 1919, attention has been given to obtaining collections from New Guinea and the South-West Pacific, for which the Museum was mainly dependent upon the voluntary activities of residents and administrative officers. Appreciative acknowledgement is made for the following collections, which included rat species of importance regarding the scrub typhus problem in war time:

From the Mount Lamington District, inland from Dobodura, Northern Division of Papua, from 1927-1929, representative mammal collections<sup>1</sup> were received from Mr. C. T. McNamara, Resident Magistrate. From the Buin district of Bougainville Island collections were obtained from the Rev. Father J. B. Poncelet, S.M., of especial interest for the discovery of a giant rat, *Unicomys ponceleti*,<sup>2</sup> which Rummler and Ellerman have since wrongly relegated to the genus *Melomys*. Included also was an insular race of *Rattus praetor*,<sup>3</sup> first described from Guadalcanal by Thomas, and mistakenly recorded from New Guinea by Tate. From 1936-1939 interesting series of mammals were received for identification from Dr. C. E. M. Gunther, Medical Officer of the Bulolo Gold Dredging Company, as potential "animal reservoirs" of scrub typhus in the Wau-Bulolo area.

As stated in a paper, "Diagnoses of New Mammals from the South-West Pacific",<sup>4</sup> several collections relevant to war-time investigations of scrub typhus were submitted for identification by A.I.F. and U.S. research units. The major collection, submitted during 1944 by Colonel Cornelius B. Philip and Major Glen M. Kohls, on behalf of the U.S. of America Typhus Commission, covered not less than six consignments totalling about 600 specimens. Resulting from work on these collections, field-work was carried out by the author in the New Guinea area,<sup>5</sup> as recommended by Colonel Philip. Following on the period of service with the Tropical Scientific Section, A.I.F., under direction of the Commonwealth Scientific Liaison Bureau, it was hoped to prepare a comprehensive review of the relevant mammal species.

Unfortunately, various difficulties and additional duties have militated against completion of the work. In the present paper, therefore, it seems advisable to provide preliminary diagnoses of various new forms of *Rattus*, with a brief résumé of their complicated group affinities.

Most of the present confusion has resulted from disregard by authors of the basic characters used by Oldfield Thomas for the definition of species and genera, especially in the hastily prepared, inconclusive, and often misleading work of Rummler.<sup>6</sup> For example, disregard for the importance of the mammary formula concerning group affinities within the *Rattus* genus, must have contributed to his error in transferring the stout-skulled and broad-footed *Rattus mordax* of N.E. Papua, together with the much larger Vogelkop species *coenorom* and *bandiculus* (2-2=8 mammae), to the genus *Stenomys* (1-2=6) which Thomas diagnosed as having slender feet, and a smooth "scarcely ridged" skull with a long narrow muzzle.

<sup>1</sup> Troughton.—REC. AUSTR. MUS., xx, 2, 1937, pp. 117-127.

<sup>2</sup> Troughton.—REC. AUSTR. MUS., xix, 4, 1935, pp. 259-262, pl. xix.

<sup>3</sup> Troughton.—REC. AUSTR. MUS., xix, 5, 1936, pp. 341-353.

<sup>4</sup> Troughton.—REC. AUSTR. MUS., xxi, 6, 1945, pp. 373-5.

<sup>5</sup> Troughton.—Review of Field Investigations concerning the Mammal Reservoirs of Scrub Typhus—Commonwealth (Restricted) Report, Trop. Sci. Sect., 2, 1945.

<sup>6</sup> Rummler.—Die Systematik und Verbreitung der Muriden Neuguineas. Mitt. Zool. Mus. Berlin. 1938, Vol. 23, 1, pp. 1-297. pls. i-ix.