

New Plymouth, 1910, from *Rattus norvegicus* and *Canis familiaris*, leg. W. W. Smith: many ♂ ♀; 1912, from *Rattus rattus*, leg. W. W. Smith: 1 ♀ (Hopkins & Rothschild, 1953: 113).

Porirua, 5.X.1959, from a factory, leg. M. A. Ordish: 1 ♀ (DM).

Wellington, 14.X.1954, from *Homo sapiens*, leg. E. Munster: 2 ♀; XII.1954, from *Canis familiaris*, leg. A. Rawnsley: 1 ♂ 3 ♀; 18.XI.1960, host unknown, leg. R. G. Ordish: 1 ♀ (DM); 26.II.1961, from a house, leg. R. G. Ordish: 1 ♀ (DM).

SOUTH ISLAND

Westland prov. dist., IV.1916, host unknown, leg. J. W. Hende: 1 ♀ (UC).

Moat Knave, 1911-1912, from *Homo sapiens*, leg. R. P. Cormack: 1 ♀ (Hopkins & Rothschild, 1953: 113).

Christchurch, II.1957, from *Homo sapiens*: 1 ♂ 2 ♀ (UC).

This, the so-called human-flea, is actually a parasite of mammals which live in large burrows (e.g., fox and badger) or bigger dwellings (man and domestic pig). Man belongs to a homeless and flea-less group of mammals (Primates) and evidently did not suffer from *Pulex irritans* until he began to occupy a more or less permanent home which must have been—and actually still is—not altogether unlike a large hole. The human flea has been transported by man all over the world and is only absent in areas where climatic conditions are entirely unsuitable. Pig-sties and fields fertilised with pig manure may become heavily infested with this flea, and several instances are known of human fleas swarming on beaches (the larvae developing in decaying seaweeds above tide line or at places where people undress for bathing). Owing to improvement of the standard of hygiene the human flea is much less frequently encountered in urban districts than formerly.

Laird (1951: 21) reported that canine filariasis, or heartworm of dogs, caused by the nematode *Dirofilaria immitis*, is absent from New Zealand but common in Fiji. Since the human flea (*P. irritans*) and also the dog flea (*C. canis*) and the cat flea (*C. f. felis*) are among the intermediate hosts for this nematode and doubtless present in Fiji, Laird surmised that it is possible for fleas infected with cysts of *D. immitis* to be imported by means of aeroplanes arriving by way of the Fiji Islands.

Xenopsylla cheopis (Rothschild, 1903)

NORTH ISLAND

Auckland, 1948, from *Rattus norvegicus* and *Rattus rattus*, leg. G. M. Wimsett & F. B. Sill: 43 specimens (Maclean, 1955: 142); 1950, from rats, leg. V. J. Enwright, C. Grieve-Dingwall and M. G. Goodey: 79 specimens (Maclean, 1955: 142).

This rat-flea, the well-known vector of bubonic plague, is cosmopolitan. It is carried all over the world by ship rats (chiefly *Rattus rattus*) and is therefore often found in ports.

Maclean (1955) published a valuable paper on the history of plague, the threat of which brought about the establishment of the Department of Health, in New Zealand. Between 1900 and 1911 there were 21 human cases of the disease, 9 of which were fatal; 17 of the 21 cases occurred in Auckland, 3 in