

## Studies on the Entozoa of Man in New Zealand.\*

### Part 2.—Results from the Examination of a Small Number of Non-clinical Individuals.

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[Read before Wellington Branch, October 27, 1943; received by the Editor, October 21, 1943; issued separately, December, 1943.]

THIS paper presents the data obtained from the examination of a single stool sample preserved in 5 per cent. formalin from each of 25 non-clinical individuals of various ages and occupations. The results of the study are given at this time as the group is now closed, and we see no opportunity of extending it to include further individuals.

The group consists of Home-guardsmen and their families. As such it is heterogeneous, and within its limitations tends to be cross-sectional. The results obtained are of interest as an indication of the nature of the intestinal fauna within the general community. Of the group, 17 individuals were negative for entozoa, although 12 of these were positive for *Blastocystis hominis*. Seven of the infested individuals showed simple infestations by one species only. The eighth individual, a young woman aged 20, was infested by two species—*E. histolytica* and *Iodamoeba bütschli*. Intestinal yeasts were observed in the majority of stools.

The material examined was obtained from the members of 12 separate families. Six families were represented by one member only, and it is of interest to note that in two of the remaining six families similar infestations were recorded among the members of the family.

The technique employed is that described in the previous paper in the series. Working entirely with formalinised material, there is no possibility of obtaining data for the non-cyst-forming *Trichomonas hominis*, and we would draw attention to the fact that with this material we obtained no records of *Chilomastix mesnili* or of *E. nana*. *Trichuris trichiura* was not observed.

#### SPECIES RECORDED.

##### **Entamoeba histolytica.**

Cysts of this species were observed in the stool of a young woman aged 20. New Zealand-born, this woman has never left the Dominion. The cysts were mainly binucleate, and ranging from 10 microns to 12 microns in diameter were typical of the medium race of this species, which is the race most commonly encountered. The infestation was associated with an infestation by *I. bütschli*.

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\* This paper has been published through a grant from the Publications Fund of Victoria University College.

**Entamoeba coli.**

This species is recorded on the basis of cysts present in the stools of three individuals, a woman of 40; her son, 15; and a third case of a man aged 44. All three are New Zealand-born, and none has resided outside of this country. The infestation of the mother and her son is of interest. Spherical and ovoidal cysts were present in the stools from both individuals. Thirty-four spherical cysts ranging in size from 14 microns to 18 microns were observed in preparations from the mother; and 17 cysts from the son varied from 14 to 20 microns. Both are accordingly infestations with the medium race of this species, and the similarity of the infestations is strengthened by the fact that ovoidal cysts, which were observed in only a few of the infestations recorded for *E. coli* in the previous study, were present in the stools from both of the cases, although ovoidal cysts were more numerous in the stool from the mother and were slightly smaller than the ovoidal cysts found in the sample from the son. Nineteen ovoidal cysts in the former ranged from 16 microns to 18 microns by 13 microns to 16 microns; and in the case of the son, only three ovoidal cysts were observed. These ranged from 19 microns to 21 microns by 12 microns to 16 microns. The general agreement is sufficiently close to support the hypothesis that this is an instance of common infestation.

**Iodamoeba butschli.**

This species was determined by the presence of cysts in the stools of two individuals, the mother and a daughter of the same family. The cysts in the stool from the former were well preserved, showing the nuclear characteristics and the typical iodophilous vacuole most clearly. The cysts ranged from spheres 12 microns in diameter to ovoidal shapes measuring 13 microns by 14 microns. The cysts in preparations from the daughter were similar, but not as well preserved.

**Giardia intestinalis.**

Cysts of this species were observed in one stool, that from a woman aged 40. Cysts were abundant, and though it was clear that the woman is a chronic carrier, no cysts of this species were observed in the sample from the husband, or the two children both less than ten years of age and within the age-group most heavily infested by this flagellate.

**Enterobius vermicularis.**

Pin-worm ova were recorded in the stools of two children both less than ten years of age and of different families. One child showed a very heavy infestation for this species of worm. Owing to the peculiar ovipositing habits of the female, eggs are not commonly abundant in fecal samples, and generally the presence of this worm is diagnosed, from the usual wet-preparation put up without concentration, by only one or two eggs per cover-slip. In this case, the majority of fields contained eggs, and in many fields up to seven eggs were seen.