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TAXONOMICAL AND ECOLOGICAL STUDIES ON THE HELMINTHS OF VOLES IN HOKKAIDO

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Helminths were studied on 415 specimens of *Clethrionomys rufocanus bedfordiae*, *Apodemus argenteus hokkaidi* and *A. speciosus ainu*. The animals were captured in the forest in the vicinity of Nopporo, Hokkaido, Japan. Fifteen helminth species were described: *Paranoplocephala omphalodes*, *Coronacanthus apodemi*, *Cladothyridium* sp., *Strobilocercus fasciolaris*, *Cysticercus* sp., *Plagiorchis muris*, *Heligmosomum yamagutii*, *H.* sp., *Longistriata hokkaidensis*, *Mammaniduloides hokkaidensis*, *Syphacia emileromani*, *S. montana*, *Heterakis spumosa*, *Trichuris* sp. and *Capillaria hepatica*.

The food habit is the most important of the various ecological factors concerning voles. The herbivorous vole is less prone to cestode infections than the insectivorous vole. No sex resistance of voles against helminth infections was revealed. The increase of the incidence of helminths with the age of the host can be explained by the increase of opportunities of infection. Seasonal analyses of helminth fauna were also discussed, and differences between two experimental areas were considered. (Detailed report will appear in this Journal)

STUDIES ON THE DETERMINANT GROUP OF *LEPTOSPIRA* *CANICOLA* TYPE SPECIFIC ANTIGEN

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The antigenic determinant group of the type specific antigen extracted from *Leptospira canicola* strain Hond Utrecht IV was studied. The type specific antigen was extracted following the method of Shinagawa & Yanagawa.

Chemically, the type specific antigen was lipopolysaccharideprotein. The carbohydrate content was 42%. Twenty-two per cent hexose (glucose as a reference standard), 23% pentose (arabinose as a reference standard), 15% 6-deoxyhexose (rhamnose as a reference standard), 7.5% hexosamine (glucosamine-

HCl as a reference standard) and 6% uronic acid (glucuronic acid as a reference standard) were found. Neutral and acid sugars contained in the type specific antigen were identified as rhamnose, xylose, arabinose, galactose and uronic acid.

A sharp fall in antigenicity was recognized by the complement fixation test after the type specific antigen was treated with 0.02 M sodium periodate.

The antigenic determinant group was located in the partially hydrolyzed type specific antigen by the complement fixation inhibition test. The type specific antigen was hydrolyzed with 0.5 N and 2 N HCl at 100°C for two hours and fractionated with a small column of Dowex 50 (H form) and the successive elution with water, 0.5 N and 2 N HCl. A strong inhibition was shown by the fractions eluted with 0.5 N and 2 N HCl, which contained hexosamine. Slight inhibition or none was shown by the fractions eluted with water, which contained on hexosamine. A correlation was found between the hexosamine content in these fractions and the per cent of inhibition. The antigenic determinant of the leptospiral type specific antigen is, therefore, considered essentially related to hexosamine.

RADIATION EFFECTS ON THE STRUCTURE OF POSTERIOR SILKGLAND RIBOSOMES IN VITRO

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In the present study it was attempted to obtain information on ribosomal dissociation following X-irradiation. Ribosomes prepared from the posterior silk glands of silkworm (*Bombyx mori* L.) would seem to afford a suitable material in terms of the ribosomes.

Ribosomal dissociations were examined by sucrose gradient centrifugation after the dialysis against buffer solutions with various magnesium concentrations. Ribosomes dialyzed against a buffer with 0.2~0.05 mM magnesium were dissociated into ribosomal subunits, which were observed in the sedimentation profile, while ribosomes with 5 mM magnesium concentration were not. Ribosomal subunits showed a tendency of unfolding in the magnesium concentrations below 0.02 mM.

Ribosomal dissociation and association were also examined by using analytical ultracentrifuge equipped with ultraviolet optics. The sedimentation coeffi-