



HOKKAIDO UNIVERSITY

Title	ISOLATION AND CHARACTERIZATION OF INFLUENZA VIRUSES AND PARAMYXOVIRUSES FROM FERAL BIRDS, AND ANTIGENIC DIFFERENTIATION BETWEEN PARAMYXOVIRUSES, PIGEON/OTARU/76 AND DOVE/TENNESSEE/75
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Citation	Japanese Journal of Veterinary Research, 31(2), 79-79
Issue Date	1983-05-13
Doc URL	https://hdl.handle.net/2115/2277
Type	departmental bulletin paper
File Information	KJ00002374104.pdf



Hokkaido University granted the degree of Master of Veterinary Medicine to the following twenty-two graduates of the Graduate School of Veterinary Medicine on 25 March, 1983

The authors' summaries of their these are as follows :

ISOLATION AND CHARACTERIZATION OF INFLUENZA VIRUSES
AND PARAMYXOVIRUSES
FROM FERAL BIRDS, AND ANTIGENIC DIFFERENTIATION
BETWEEN PARAMYXOVIRUSES,
PIGEON/OTARU/76 AND DOVE/TENNESSEE/75

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Eight influenza viruses and 12 paramyxoviruses were isolated from 411 feral birds comprising 287 waterfowls of 13 species and 124 small birds of 16 species.

Influenza viruses isolated from teals consisted of 3 H3N8, 1 H4N6, 1 H6N6, 1 H8N8 and 1 with H8 and neuraminidase that was not inhibited by any of the antisera to N1-N8 neuraminidases. One H4N6 strain was also isolated from a spot-billed duck. The H8N1 isolate represents the first isolation in nature of an influenza virus possessing such combination of hemagglutinin and neuraminidase.

Of the 12 paramyxovirus isolates, 9 were from teals and the other 3 were from a Japanese bunting, a mallard and an eastern dunlin. Based on the antigenic specificities of their M proteins, 5 isolates from teals and that from an eastern dunlin were classified into species Newcastle disease virus, 4 isolates from teals and that from a Japanese bunting were classified into species Duck/Mississippi/75, and the isolate from a mallard was classified into the same species as Duck/Hong Kong/199/77.

In the course of characterizing the paramyxovirus isolates, it was found that 2 of the reference paramyxoviruses, Pigeon/Otaru/76 and Dove/Tennessee/75, were related in a manner that has not been previously observed in paramyxoviruses. These 2 viruses were found to be intimately related in hemagglutination-inhibition (HI) test, and immuno-double diffusion revealed that their HN proteins were antigenically related but their M proteins were different. This is a novel form of relationship between paramyxoviruses, and indicates that differences between paramyxoviruses could extend beyond what cross HI test can resolve.