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**ISOLATION OF ARIZONA FROM A SNAKE  
(*ELAPHE CLIMACOPHORA*) IN HOKKAIDO**

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LE MINOR et al. isolated Arizona organisms from 43.2 % of apparently normal snakes in France. In Japan, SAKAZAKI & NAKAYA stated in their review, that about 50 % of normal snakes carried the organisms. However their survey did not include Hokkaido district (a northern island of Japan).

This paper deals with a recent isolation of Arizona from a snake on the Island of Hokkaido.

Three adult snakes (*Elaphe climacophora*) were examined for the presence of Arizona in August of 1963. One of them was caught at a farm in Sapporo city, and two at a poultry farm in Tomakomai city. The heart, lung, liver, spleen, kidney, pancreas, small and large intestines, and cloaca of each reptile were cultured on DHL agar plates prepared according to the description of SAKAZAKI et al.<sup>7)</sup> The intestines and pooled materials of the remaining internal organs were cultured overnight in selenite broth. The overnight broth cultures were subcultured on DHL agar plates.

From a snake caught in Tomakomai city, Arizona organisms were isolated directly from the rectal and cloacal materials and from the enrichment culture of the intestines. The organisms belonged to serotype 19 : 27-25 (by enrichment culture only) and 26 : 23-30 (by both direct and enrichment culture). The isolates of Ar. 26 : 23-30 fermented lactose after overnight incubation as those of Ar. 19 : 27-25 did later. All of the isolates were positive in the test for utilization of malonate.

Isolation of these two serotypes from snakes in districts of Japan other than Hokkaido has been reported by SAKAZAKI & NAKAYA. SAKAZAKI et al.<sup>6)</sup> described five new Arizona serotypes from apparently normal snakes (*Agkistrodon halys blomhaffi*) in Japan. One serotype (19 : 27-25) of the isolates belonged to one of those types.

Fifteen day-old New Hampshire chicks were administered a 0.2 ml dose of the isolated serotype 26 : 23-30 broth culture per os. Three of the chicks died from septicemia 3~4 days postinoculation. The remaining birds excreted the organisms for a 1~4 week period following inoculation. Two of them shed the

organisms 5 weeks postinfection.

These results seem to indicate a pathogenicity of the isolate for chicks.

In the United States of America, the occurrence of Arizona in diseased or normal chickens has been reported, although the frequency of infection was lower than in turkeys<sup>4,5</sup>. In Japan only one report is available concerning Arizona infection in chickens. UEDA et al. isolated Arizona (serotype 10:17, 20) from chickens and their eggs which caused food poisoning.

HINSHAW & MCNEIL pointed out the possibility of reptiles being transmitters of salmonellosis and Paracolon infections of turkeys and chickens. A few years prior to the present isolation of Arizona from a snake, MIYAMAE & MIURA examined bacteriologically 135 dead chicks from the same farm where the Arizona-positive snake was caught but they could not isolate Arizona.

Recently SAKAZAKI & NAKAYA isolated Salmonella and Arizona from about 5% of frogs and earthworms in Japan. They supposed that these lower animals also may act as source of Salmonella or Arizona infections in domestic fowls and animals. More detailed investigations on the occurrence of Arizona organisms in chickens are needed in order to clarify this problem.

#### SUMMARY

Arizona serotypes of 19:27-25 and 26:23-30 were isolated from one of three apparently normal snakes (*Elaphe climacophora*) in Hokkaido. The isolate was pathogenic for day-old chicks.

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