

Helminth Fauna of Bats in Japan XLIX

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ABSTRACT-Three genera and four species of hymenolepidid cestode are recorded from bats collected at Kagoshima, Wakayama and Niigata Prefectures in 1994. The data of the cestode parasites are arranged along their hosts and localities.

Introduction

As a continuation of my serial studies on the cestode parasites of the Japanese bats, the present paper reports known two hymenolepidid cestodes from bats collected at such uninvestigated localities as Kagoshima, Wakayama and Niigata Prefectures during the period from April to September, 1994.

Materials and Methods

A total of 52 bats composed of three genera and four species were captured at Kuchinoerabu Jima, Yaku Shima and Izumi City (Kagoshima Pref.), Kamitonda-chô (Wakayama Pref.), Kashiwazaki City and Muramatsu-chô (Niigata Pref.). The bats were autopsied after capture and their intestinal tracts were fixed in Carnoy's fluid and brought to my laboratory. The methods used are described in the previous paper (Sawada, 1989). Measurements are given in millimeters.

Results

Localities of bats examined and their cestode parasites are shown in Figure 1 and Table 1. The cestode parasites obtained are as follows: *Hymenolepis rashomonensis* and *Vampirolepis isensis*. No cestode parasites were found from *Rhinolophus cornutus cornutus* of Kuchinoerabu Jima, *Miniopterus schreibersii fuliginosus* of Yaku Sima and *Myotis macrodactylus* of Kamitonda-chô.

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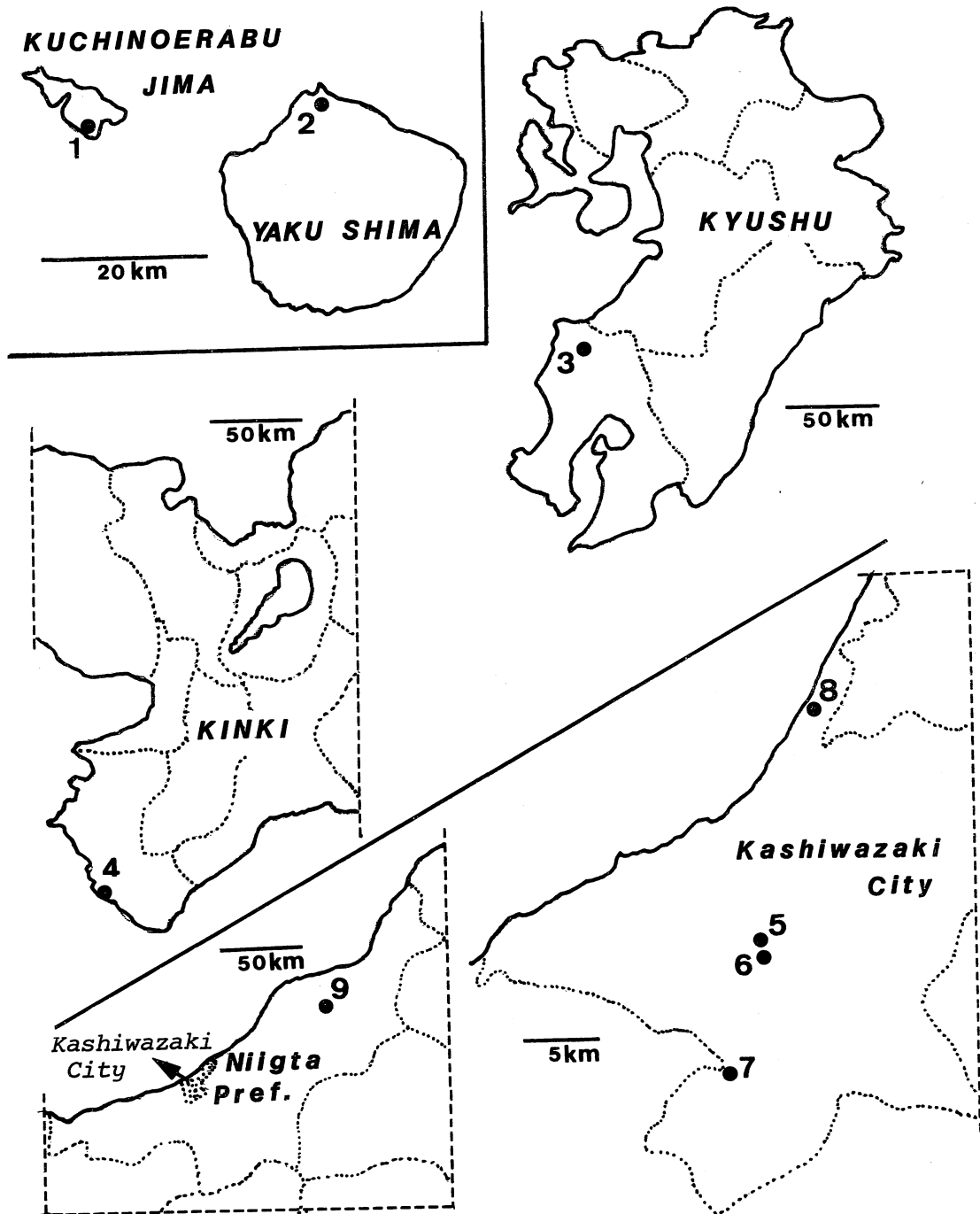


Fig. 1. Map showing the collection sites of bats. For the locality number, see Table 1.

Hymenolepis Weinland, 1858

Hymenolepis rashomonensis Sawada, 1972

Hymenolepis rashomonensis Sawada, 1972, pp. 27-30, figs. 1-4.

Description: Small-sized hymenolepidid; worm length 21-29, maximum width at

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Table 1. Localities and dates of bats examined, and their cestode parasites in 1994

Host Habitat and locality	Date	No. of bats		Cestode species
		examined	infected	
Rhinolophidae				
(1) <i>Rhinolophus ferrumequinum nippon</i>				
3) Disused air-raid shelter Izumi City, Kagoshima Pref.	Sept. 10	7	1	<i>Hymenolepis rashomonensis</i>
5) Artificial cave Shindô, Kashiwazaki City, Niigata Pref.	Sept. 28	2	1	<i>H. rashomonensis</i>
6) Artificial cave Kurotaki, Kashiwazaki City, Niigata Pref.	Aug. 23	1	1	<i>H. rashomonensis</i>
7) Artificial cave Takaharada, Kashiwazaki City, Niigata Pref.	Sept. 17	1	1	<i>H. rashomonensis</i>
8) Artificial cave Arahama, Kashiwazaki City, Niigata Pref.	Aug. 23	5	3	<i>H. rashomonensis</i>
(2) <i>Rhinolophus cornutus cornutus</i>				
1) Natural cave Kuchinoerabu Jima, Kagoshima Pref.	May 1	3	0	
9) Ohsawa-dô Muramatsu-chô, Niigata Pref.	Aug. 22	15	1	<i>Vampirolepis isensis</i>
Vespertilionidae				
(3) <i>Miniopterus schreibersii fuliginosus</i>				
2) Disused tunnel Kamiyaku-chô, Kagoshima Pref.	Apr. 28	6	0	
(4) <i>Myotis macrodactylus</i>				
4) Disused water tunnel Kamitonda-chô, Wakayama Pref.	Jul. 1	12	0	

posterior end of strobila 0.5–0.6. Scolex 0.238–0.348 long and 0.236–0.306 wide. Strobila consisting of 90–108 segments. Suckers unarmed, 0.098–0.118 in diameter. Rostellum rudimentary. Genital pores unilateral, located anterior to middle of segment margin. Cirrus sac small, 0.063–0.077 long and 0.028–0.035 wide. Internal seminal vesicle 0.056–0.063 long and 0.028–0.035 wide. External seminal vesicle 0.091–0.105 long and 0.042 wide. Testes three in number, spherical, 0.042–0.056 by 0.049–0.056, one poral and two aporal, arranged triangularly. Seminal receptacle 0.046–0.053 long and 0.018–0.021 wide. Ovary oval, 0.032–0.035 by 0.052–0.060. Vitelline gland weakly developed, 0.042–0.049 by 0.032–0.041. Egg spherical, 0.040–0.048 in diameter. Onchosphere spherical, 0.028–0.032 in diameter; embryonic hook 0.014 long.

Remarks: *Hymenolepis rashomonensis* was described for the first time from *Rhinolophus ferrumequinum nippon* captured in Rashomon-cave at Niimi City, Okayama

Prefecture (Sawada, 1972). *H. rashomonensis* is the commonest species parasitic on *R. ferrumequinum nippon* throughout Japan (Sawada, 1988). *R. quelpartis* of Chezu Island, Korea and *R. f. korai* of Korea have been infected with *H. rashomonensis* (Sawada, Kagei and Lee, 1983; Sawada, Harada and Yoon, 1991).

Vampirolepis Spassky, 1954

Vampirolepis isensis Sawada, 1966

Vampirolepis isensis Sawada, 1966, pp. 51-57, figs. 1-6.

Description: Medium-sized hymenolepidid; strobila 62-84 in length and 1.2-2.2 in maximum width. Segments wider than long. Scolex 0.350-0.490 long and 0.158-0.268 wide, set off from neck. Rostellum elliptical, 0.140-0.175 long and 0.098-0.105 wide, armed with 30-32 hooks measuring 0.032 long. Rostellar sac 0.280-0.350 long and 0.098-0.140 wide.

Genital pores unilateral, located anterior to middle of segment margin. Cirrus sac 0.035-0.039 long and 0.014-0.018 wide. Internal seminal vesicle 0.052-0.060 long and 0.035-0.042 wide. External seminal vesicle 0.070-0.077 long and 0.032 wide. Testes three in number, arranged in a transverse row, one poral and two aporal in position. Seminal receptacle 0.070-0.077 long and 0.053-0.056 wide. Ovary transversely elongate, 0.098-0.101 in transverse diameter. Vitelline gland post-ovarian, 0.028 by 0.042. Egg oval, 0.035-0.039 in diameter, surrounded by four envelopes, outermost one of which thick, the rest very thin. Onchosphere spherical, 0.021 by 0.028; embryonic hook 0.011-0.014 long.

Remarks: *Vampirolepis isensis* was described for the first time from *Rhinolophus cornutus cornutus* captured in Shûrei-no-mizuana at Ise City, Mie Prefecture (Sawada, 1966). Rhinolophid bats of the pusillus group in Japan and Formosa contain three species and two subspecies of *R. cornutus*; *R. c. cornutus*, *R. c. orii*, *R. perditus*, *R. imaizumii* and *R. monoceros*. *V. isensis* are commonly parasitic on *R. c. cornutus* of the various places in Japan with Tanegashima at their southernmost limit, *R. c. orii* of Amami-ohsima and Tokuno-shima, *R. perditus* of Ishigaki-jima and *R. imaizumii* of Iriomote-jima (Sawada, 1988). *R. monoceros* of Formosa, too, has been found infected with *V. isensis* (Sawada and Harada, 1988).

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