

**A Survey on Cestodes from Japanese Bats, with Descriptions of
Five New Species of the Genus *Vampirolepis*
(Cestoda: Hymenolepididae)**

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Abstract

Ten (including five new) species and an unidentified juvenile of the hymenolepidid cestodes were obtained through the examination of 143 rhinolophid bats and 102 vespertilionid bats collected at the various places in Japan in 1987.

Vampirolepis ikezakii sp. n. from *Rhinolophus cornutus cornutus* closely resembles *V. isensis* Sawada, 1966, but differs from it in the larger number of rostellar hooks and the position of genital pores. *V. stenocephala* sp. n. from *Nyctalus lasiopterus aviator* closely resembles *V. iriomotensis* Sawada, 1983, but differs from it in the larger rostellum, the longer rostellar hooks and the shape of ovary and vitelline gland. *V. uchimakiensis* sp. n. from *Myotis hosonoi* closely resembles *V. hidaensis* Sawada, 1969 and *V. fujiensis* Sawada, 1978, but differs from the former in the position of genital pores, the arrangement of testes and the shape of ovary, and differs from the latter in the position of genital pores and the larger rostellar sac. *V. brevihamata* sp. n. from *Myotis nattereri bombinus* closely resembles *V. uchimakiensis*, but differs from it in the shorter rostellar hooks, the longer neck, the arrangement of testes and the shape of vitelline gland. *V. toohokuensis* sp. n. from *Nyctalus lasiopterus aviator* closely resembles *V. rikuchiuensis* Sawada, 1987, but differs from it in the shape of rostellar hooks, the position of genital pores, the larger size of seminal receptacle and the shape of ovary. Unidentified juvenile *Vampirolepis* sp. is reported from *Nyctalus lasiopterus aviator*.

Key words: Hymenolepidid cestodes, tree-roosting bats, cave-dwelling bats

Introduction

As a continuation of my serial studies on the cestode parasites of the Japanese bats, here are summarized results obtained from the tree-roosting bats collected at Aomori and Iwate Prefectures, and the cave-dwelling bats collected at such uninvestigated localities as Shizuoka, Hyōgo, Miyazaki, Nagasaki and Okinawa Prefectures, in 1987. At present, there have been only a few reports on the cestode parasites of the Japanese tree-roosting bats (Sawada, 1980, 1982, 1986, 1987) with the

exception of one by Yamashita and Mori (1953), who first described *Hymenolepis bacillaris* Gieze from *Nyctalus maximus aviator* Thomas collected at Sapporo.

Materials and Methods

The tree-roosting bats of the four species and five subspecies belonging to the five genera, and the cave-dwelling bats of two species and three subspecies belonging to the three genera were collected at the various places in Japan from March to December, 1987. The bats were autopsied immediately after capture and their intestinal tracts were fixed in Carnoy's fluid and brought to my laboratory. After being soaked in 45% acetic acid for five hr for expanding, they were cut open in 70% alcohol and examined for cestodes. The morphological

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features of scoleces, eggs and a part of mature segments were observed under the interference contrast light microscope. In order to observe the number and the shape of rostellar hooks, a part of scolex was cut up. The strobilae were stained with alcohol-hydrochloride-carmin, dehydrated in alcohol, cleared in xylene, and

mounted in Canada balsam. Measurements are given in millimeters.

Results

The localities and dates of bats examined and cestodes obtained are shown in Fig. 1 and

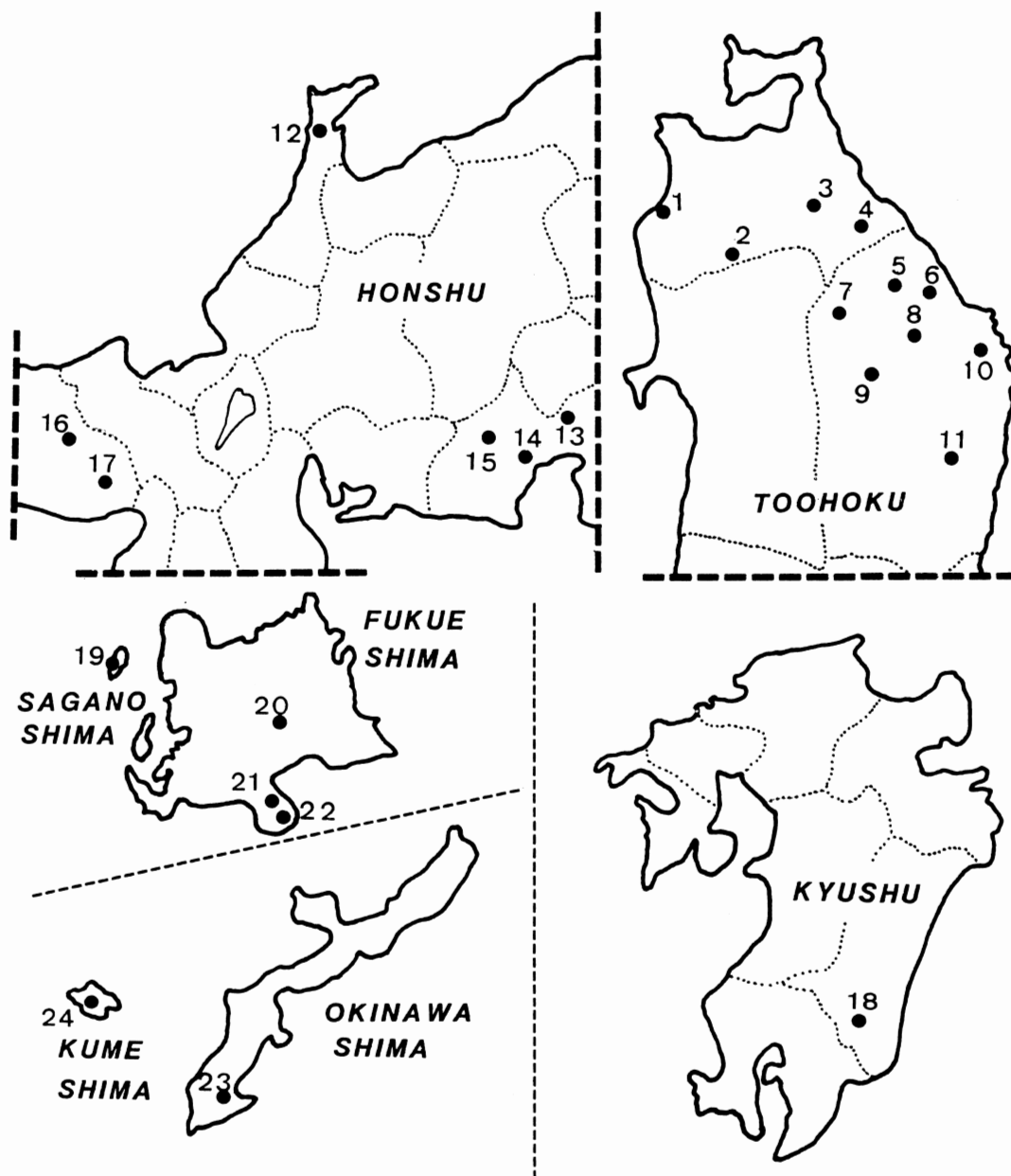


Fig. 1. Map showing the collection sites of bats. For the locality number, see Table 1.

Table 1. Localities and dates of bats examined and their cestode parasites in 1987

Host species Cave and locality*	Date	Number of bats			Cestode species
		examined	infected	%	
Rhinolophidae					
(1) <i>Rhinolophus cornutus cornutus</i>					
1) Artificial cave Fukaura-chô, Aomori Pref.	Jul. 1	4	0	0	
11) Kômorî-ana Kamigô-chô, Iwate Pref.	Jun. 13	6	0	0	
12) Abandoned mine Shiga-chô, Ishikawa Pref.	Mar. 18	4	0	0	
14) Abandoned mine Aburano, Shizuoka-shi, Shizuoka Pref.	{Mar. 16 {Dec. 5	48 9	3 0	6 0	<i>Vampirolepis isensis</i>
15) Artificial cave Honkawane-chô, Shizuoka Pref.	Dec. 6	16	1	6	<i>V. isensis</i>
21) No-ana Tomie-chô, Nagasaki Pref.	May 23	20	{2 {1	10 5	<i>V. isensis</i> <i>V. ikezakii</i> sp. n.
(2) <i>Rhinolophus pumilus</i>					
23) Onaga-dô Gushichan-son, Okinawa Pref.	Mar. 5	15	0	0	
24) Yajagama Kume-shima, Okinawa Pref.	Mar. 6	3	0	0	
(3) <i>Rhinolophus ferrumequinum nippon</i>					
13) Uzura-ana Fujimiya-shi, Shizuoka Pref.	Feb. 1	2	0	0	
15) Artificial cave	Dec. 6	3	2	67	<i>Hymenolepis rashomonensis</i>
17) Abandoned mine Inagawa-chô, Hyôgo Pref.	Mar. 18	1	1	100	<i>H. rashomonensis</i>
19) Sea-eroded cave Sagano-shima, Nagasaki Pref.	Nov. 15	1	1	100	<i>H. rashomonensis</i>
20) Abandoned mine (No. 1)	Nov. 14	5	2	40	<i>H. rashomonensis</i>
" (No. 2)	"	2	2	100	<i>H. rashomonensis</i>
Fukue-shima, Nagasaki Pref.					
21) No-ana	May 23	4	2	50	<i>H. rashomonensis</i>
Vespertilionidae					
(4) <i>Miniopterus schreibersii fuliginosus</i>					
1) Artificial cave	Oct. 14	3	0	0	
7) Street lamps Yasuyo-chô, Iwate Pref.†	Oct. 10	4	0	0	
19) Sea-eroded cave	Nov. 15	8	1	13	<i>V. hidaensis</i>
22) I-ana, Tomie-chô, Nagasaki Pref.	May 23	2	0	0	
(5) <i>Myotis macrodactylus</i>					
1) Artificial cave	Oct. 14	1	0	0	
21) No-ana	{May 23 {Dec. 15	6 18	0 0	0 0	
22) I-ana	May 23	3	0	0	

(6) <i>Myotis hosonoi</i>					
2) Forest	Sept. 3	1	0	0	
Nishimeya-mura, Aomori Pref.					
3) Forest	Aug. 12	1	0	0	
Shingô-mura, Aomori Pref.					
5) Forest	Jun. 14	3	2	67	<i>V. rikuchuensis</i>
Ichinohe-chô, Iwate Pref.					
6) Forest	{Aug. 27	2	1	50	<i>V. uchimakiensis</i> sp. n.
	{Sept. 10	1	0	0	
Yamagata-mura, Iwate Pref.					
7) Forest	{Aug. 24	1	0	0	
	{Sept. 19	1	0	0	
9) Forest	Jun. 23	1	0	0	
Tamayama-mura, Iwate Pref.					
(7) <i>Myotis frater kaguyae</i>					
3) Forest	Aug. 12	1	0	0	
7) Forest	Aug. 8	2	1	50	<i>Hymenolepis</i> sp.
8) Forest	Jun. 21	1	1	100	<i>V. kaguyae</i>
Kuzumaki-chô, Iwate Pref.					
(8) <i>Myotis pruinus</i>					
6) Forest	Sept. 10	1	0	0	
7) Forest	{Aug. 24	2	0	0	
	{Oct. 10	1	0	0	
(9) <i>Myotis nattereri bombinus</i>					
7) Forest	Aug. 15	1	1	100	<i>V. brevihamata</i> sp. n.
18) Obirano-dô	{Aug. 28	5	3	60	<i>Hymenolepis rashomonensis</i>
	{Oct. 22	5	1	20	
Miyakonojô-shi, Miyazaki Pref.					
(10) <i>Pipistrellus endoi</i>					
4) Forest	Jul. 21	7	0	0	
Sannohe-chô, Aomori Pref.					
7) Forest	Jun. 23	1	0	0	
(11) <i>Barbastella leucomelas darjelingensis</i>					
6) Forest	Sept. 10	2	0	0	
9) Forest	Sept. 16	2	0	0	
10) Forest	Jul. 21	1	1	0	
Iwaizumi-chô, Iwate Pref.					
(12) <i>Nyctalus lasiopterus aviator</i>					
4) Forest	Aug. 5	9	{1	11	<i>V. stenocephala</i> sp. n.
			{2	22	
Sannohe-chô, Aomori Pref.					
7) Street lamps	Oct. 30	1	0	0	
7) Forest	Oct. 11	1	1	100	<i>V. toohokuensis</i> sp. n.
(13) <i>Nyctalus furvus</i>					
9) Forest	Sept. 15	1	0	0	
10) Forest	Jul. 21	1	0	0	
(14) <i>Murina leucogaster hilgendorfi</i>					
16) Abandoned mine	Mar. 18	1	0	0	
Sasayama-chô, Hyôgo Pref.					

* Locality numbers correspond to those in Fig. 1.

† First record on the Pacific side of Toohoku district.

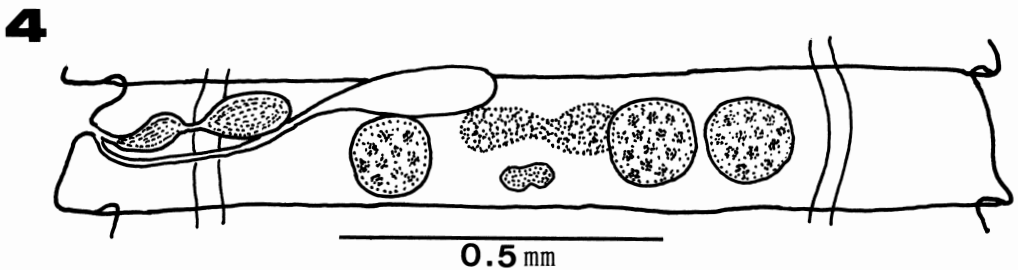
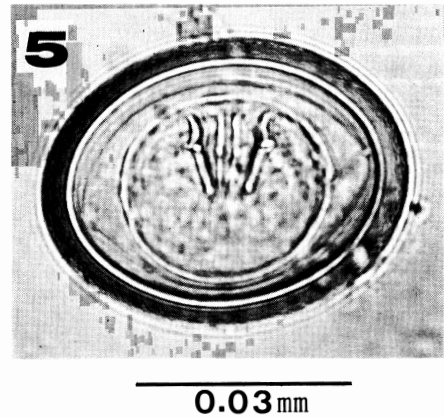
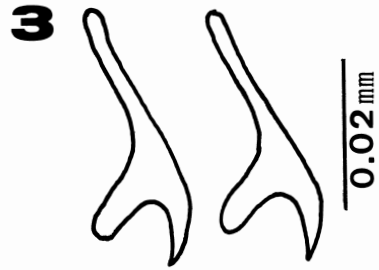
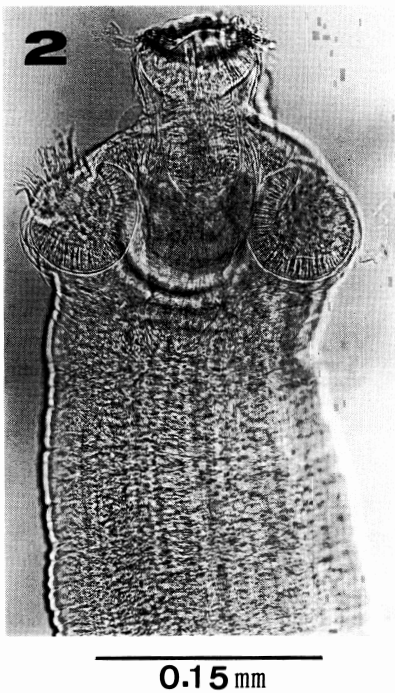
Table 1. The cestodes found are as follows: *Vampirolepis ikezakii* sp. n., *V. stenocephala* sp. n., *V. uchimakiensis* sp. n., *V. brevihamata* sp. n., *V. tohokuensis* sp. n., *V. isensis*, *V. hidaensis*, *V. rikuchuenensis*, *V. kaguyae*, *Hymenolepis rashomonensis* and *Hymenolepis* sp.

Vampirolepis Spassky, 1954

Vampirolepis ikezakii sp. n.
(Figs. 2–5)

On May 21, 1987, 20 specimens of the least horseshoe bats, *Rhinolophus cornutus cornutus*, were collected in the No-ana cave (lava cave) at Fukue-shima, Gotō Islands, Nagasaki Pref. One of them was found infected with two mature specimens of this cestode.

Description: Medium-sized hymenolepidid; mature worm length 43–48; maximum width 1.2–1.4. Metamerism distinct, craspedote, margins slightly serrate. Segments wider than long. Scolex 0.182 long by 0.217 wide, slightly



Figs. 2–5. *Vampirolepis ikezakii* sp. n.

2: Scolex. 3: Rostellar hooks. 4: Mature segment, ventral view. 5: Ripe egg.

set off from neck region. Rostellum mushroom-shaped, 0.161 long by 0.105 wide, armed with a single circle of 34–35 spanner-shaped hooks measuring 0.028 long. Hook handle slender and slightly curved against guard; guard prominent, round at its end, about equal to blade in length; blade remarkably sharp at its end. Rostellum retractable into rostellar sac measuring 0.280 long by 0.105 wide, extending beyond base of suckers. Suckers discoid, 0.091–0.098 in diameter.

Genital pores irregularly alternating, located a little anterior to the middle of segment margins, not protruding. Testes three in number, spherical to oval, 0.111–0.138, arranged in a transverse row, one poral and two aporal. Cirrus sac pyriform, 0.221–0.277 long by 0.042–0.055 wide, not crossing osmoregulatory canals. Internal seminal vesicle 0.069–0.083 long by 0.041 wide, enlarging until it fills portion of cirrus sac. External seminal vesicle 0.207–0.249 long by 0.055 wide, situated in anterior half of segment. Vagina initially posterior to cirrus sac, passing beneath cirrus sac, crossing osmoregulatory canals and gradually expanding into voluminous seminal receptacle measuring 0.207 long by 0.055 wide. Ovary transversely elongate, bilobate, 0.084–0.091 wide. Vitelline gland compactly bilobate, 0.049–0.056 by 0.021–0.028, median, posterior to ovary. Eggs ellipsoidal to spherical, 0.049–0.056 by 0.046–0.049, surrounded by four envelopes; outermost chorion thick. Onchospheres spherical, 0.028–0.032 in diameter; embryonic hooks 0.014 long.

Type host: *Rhinolophus cornutus cornutus* Temmink, 1835.

Site of infection: Small intestine.

Type locality and date: Tomie-chô, Fukushima, Nagasaki Prefecture; May 23, 1987.

Type specimen: Holotype: NSU Lab. Coll. No. 8808.

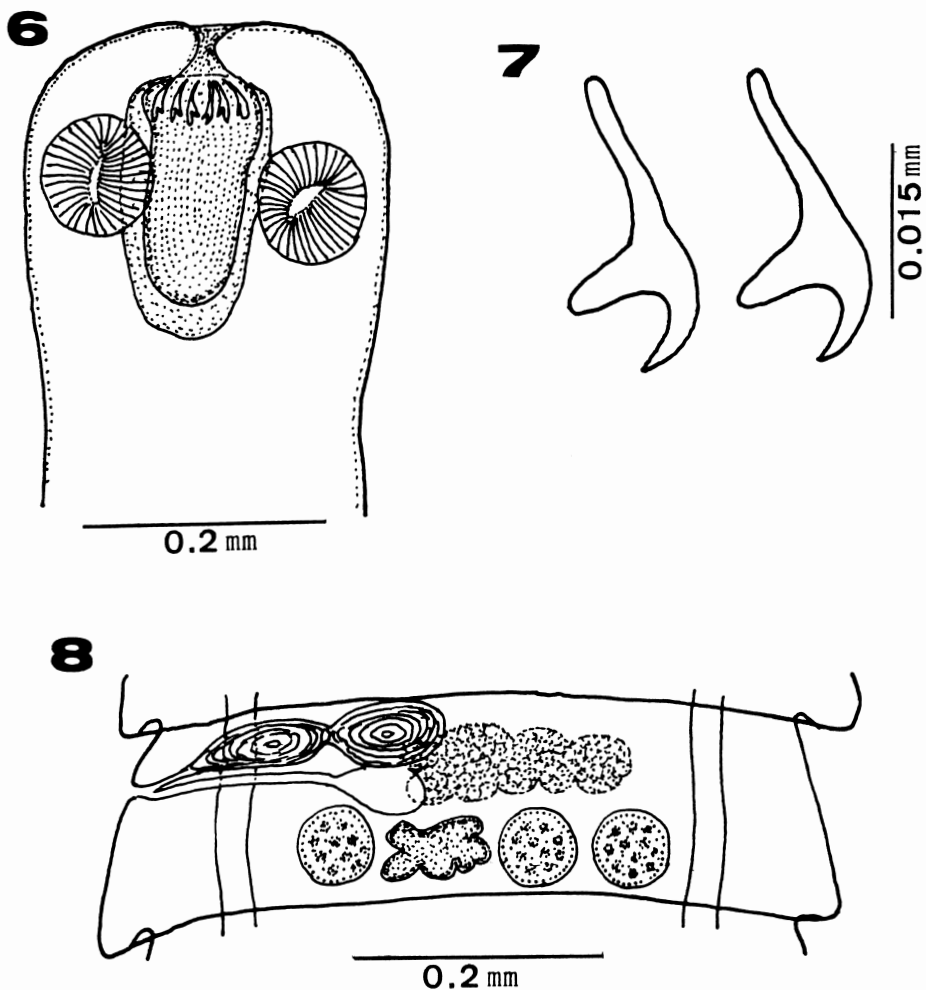
Remarks: The present new species, *V. ikezakii* closely resembles *V. isensis* Sawada, 1966. However, it differs from *V. isensis* in the larger number of rostellar hooks (34 vs. 22–25) and the position of genital pores (irregularly alternate vs. unilateral).

Vampirolepis stenocephala sp. n.
(Figs. 6–8)

On August 5, nine specimens of the large Japanese noctule, *Nyctalus lasiopterus aviator*, were collected by Mukooyama from the hollows of beech at Sannohe-chô, Aomori Prefecture. One of them was found infected with 15 mature specimens of this cestode. They were fully mature, but not gravid.

Description: Small-sized hymenolepidid; strobila length 21–26; maximum width 0.62–0.72. Metamerism distinct, margins serrate. Segments wider than long. Scolex 0.252–0.280 long by 0.273–0.343 wide, not demarcated from neck. Rostellum elongate, 0.140–0.182 long by 0.084–0.126 wide, armed with a single circle of 21–26 spanner-shaped hooks measuring 0.025 long. Hook handle slender and slightly curved against guard; guard round at its end, slightly longer than blade; blade remarkably shape at its end. Rostellar sac elongate, 0.196–0.224 long by 0.105–0.140 wide, extending far posterior to suckers. Suckers discoid to ovoid, 0.084–0.105 long by 0.084–0.126 wide. Unsegmented neck region long, 0.43–0.56 long by 0.18–0.20 wide.

Genital pores unilateral, located anterior to the middle of segment margins. Testes three in number, spherical to subspherical, 0.084–0.091 by 0.070, arranged in a transverse row, one poral and two aporal. External seminal vesicle elongate, 0.126–0.140 long by 0.056–0.070 wide, directly dorsal to seminal receptacle, situated in anterior half of segment. Internal seminal vesicle 0.091–0.098 long by 0.042–0.049 wide, occupying almost whole of cirrus sac. Cirrus sac pyriform, 0.133–0.161 long by 0.042–0.049 wide, positioned anteromedial from genital atrium, extending beyond osmoregulatory canals. Vagina initially posterior to cirrus sac, passing behind cirrus sac, gradually expanding into voluminous seminal receptacle measuring 0.091–0.105 long by 0.035–0.042 wide. Ovary transversely elongate, frequently irregularly lobate, in anterior half of segment. Vitelline gland irregularly lobate, 0.126–0.140 by 0.056–0.091, posterior to ovary.



Figs. 6–8. *Vampirolepis stenocephala* sp. n.
6: Scolex. 7: Rostellar hooks. 8: Mature segment, dorsal view.

Type host: *Nyctalus lasiopterus aviator* Thomas, 1911.

Site of infection: Small intestine.

Type locality and date: Sannohe-chō, Aomori Prefecture; August 5, 1987.

Type specimen: Holotype NSU Lab. Coll. No. 8809, Paratypes No. 8810.

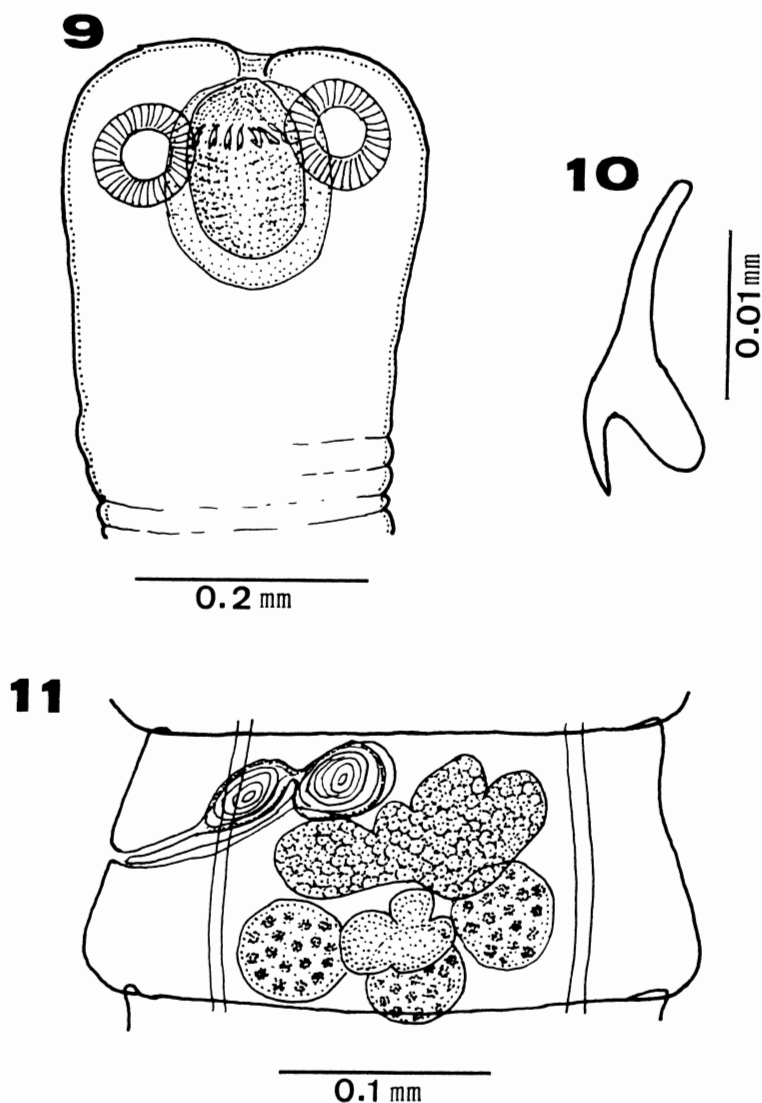
Remarks: *Vampirolepis stenocephala* sp. n. most closely resembles *V. iriomotensis* Sawada, 1983 from *R. imaizumii* in the shape and the number of rostellar hooks. However, it differs from *V. iriomotensis* in the larger rostellum (0.140–0.182 long by 0.084–0.126 wide vs. 0.084–0.091 long by 0.098–0.105 wide), the

longer rostellar hooks (0.025 vs. 0.018–0.021), the shape of ovary (irregularly lobate vs. trilobate) and the shape of vitelline gland (transversely elongate and irregularly lobate vs. weakly lobate).

Vampirolepis uchimakiensis sp. n.
(Figs. 9–11)

On August 27, 1987, two specimens of the Hosono's whiskered bat, *Myotis hosonoi* were captured by Mukooyama around street lamps at Uchimaki, Yamagata-mura, Iwate Pref.

One of them was found infected with two



Figs. 9–11. *Vampirolepis uchimakiensis* sp. n.

9: Scolex. 10: Rostellar hook. 11: Mature segment, ventral view.

specimens of this cestode. They were fully mature, but not gravid.

Description: Small-sized hymenolepidid; strobila without gravid and senile segments, 8–11 in length and 0.3–0.4 in maximum width. Metamerism distinct, craspedote, segment margins slightly serrate. Scolex 0.210–0.217 long by 0.259–0.301 wide, not sharply demarcated from neck region. Rostellum pyriform, 0.154–0.210 long by 0.084–0.091 wide, armed with

a crown of 27–28 spanner-shaped hooks measuring 0.021 long. Hook handle long; guard prominent, round at its end, about equal to blade in length; blade sharp at its end. Rostellar sac elliptic, 0.175 long by 0.203–0.210 wide, extending far posterior to suckers. Suckers discoid, 0.084–0.091 in diameter.

Genital pores unilateral, located a little posterior or at the middle of segment margins. Testes three in number, ovoid to spherical,

0.063 by 0.070–0.077, arranged in a form triangle, one poral and two aporal, not in contact with longitudinal osmoregulatory canals laterally. Cirrus sac cylindrical, 0.126–0.154 long by 0.028 wide, extending far beyond osmoregulatory canals. Internal seminal vesicle, 0.063–0.070 long by 0.028 wide, occupying proximal portion of cirrus sac. External seminal vesicle, 0.056–0.084 long by 0.042–0.056 wide. Ovary tetralobate to pentalobate, 0.164 across. Vitelline gland trilobate, 0.077 by 0.056, laying posterior to ovary. Seminal receptacle saccate, 0.056–0.070 long by 0.042–0.049 wide, overlapping external seminal vesicle.

Type host: *Myotis hosonoi* Imaizumi, 1954.

Site of infection: Small intestine.

Type locality and date: Uchimaki, Yamagatamura, Iwate Prefecture; August 27, 1987.

Type specimen: Holotype: NSU Lab. Coll. No. 8811.

Remarks: *V. uchimakiensis* sp. n. closely resembles *V. hidaensis* Sawada, 1967 and *V. fujiensis* Sawada, 1978 in the number, the length and the shape of rostellar hooks. However, it differs from the former in the position of genital pores (located a little posterior to the middle of segment margins vs. located at the middle of segment margins), the arrangement of testes (triangular distribution vs. transverse row) and the shape of ovary (tetralobate or pentalobate vs. transversely elongate and dilobate). Furthermore, it differs from the latter in the position of genital pores (located a little posterior to the middle vs. located at the middle) and the larger rostellar sac (0.175 by 0.203–0.210 vs. 0.098 by 0.070–0.077).

Vampirolepis brevihamata sp. n.

(Figs. 12–15)

On August 15, 1987, a single specimen of this cestode was obtained from a Natterer's bat, *Myotis nattereri bombinus*, collected by Mukooyama in a forest at Yasuyo-chô, Iwate Prefecture.

Description: Medium-sized hymenolepidid; worm length 38, maximum width in gravid segment, 1.1. All segments wider than long.

Genital pores unilateral, located a little posterior to the lateral margins.

Scolex 0.237 long by 0.266 wide, not sharply demarcated from neck region. Rostellum 0.119 long by 0.077 wide, armed with a single circle of 26 spanner-shaped hooks measuring 0.018 long. Hook handle somewhat short and slightly curved against guard; guard round at its end, slightly shorter than or equal to blade; blade sharp at its end. Rostellar sac 0.245 long by 0.098 wide, muscular, elongate, extending posterior to suckers. Suckers discoid, 0.098–0.112 in diameter. Neck region 0.245 long by 0.11 wide. Testes three in number, subspherical, 0.063–0.077 by 0.077–0.091, arranged in a transverse row, one poral and two aporal. Cirrus sac 0.168–0.189 long by 0.042–0.049 wide, extending beyond osmoregulatory canals, occupied by internal seminal vesicle measuring 0.070–0.091 long by 0.042–0.049 wide. External seminal vesicle oval, 0.070–0.105 long by 0.056–0.063 wide, directly dorsal to seminal receptacle, in anterior field of segment. Vagina initially posterior to cirrus sac, passing beneath cirrus sac just prior to crossing osmoregulatory canals, gradually expanding into voluminous seminal receptacle measuring 0.140–0.175 long by 0.070 wide. Ovary 0.280–0.294 across, medial transversely elongate, irregularly lobate, in anterior field of segment. Vitelline gland compact, lobate, 0.091–0.112 by 0.063, located posterior to ovary. Uterus arising directly from ovarian lobes as a lobe sac, gradually enlarging, filling entire whole part of segment. Eggs oval to spherical, 0.042–0.046 by 0.026–0.032, surrounded by four envelopes; outermost chorion slightly thick with smooth surface. Onchospheres spherical, 0.028–0.032 in diameter; embryonic hooks 0.014 long.

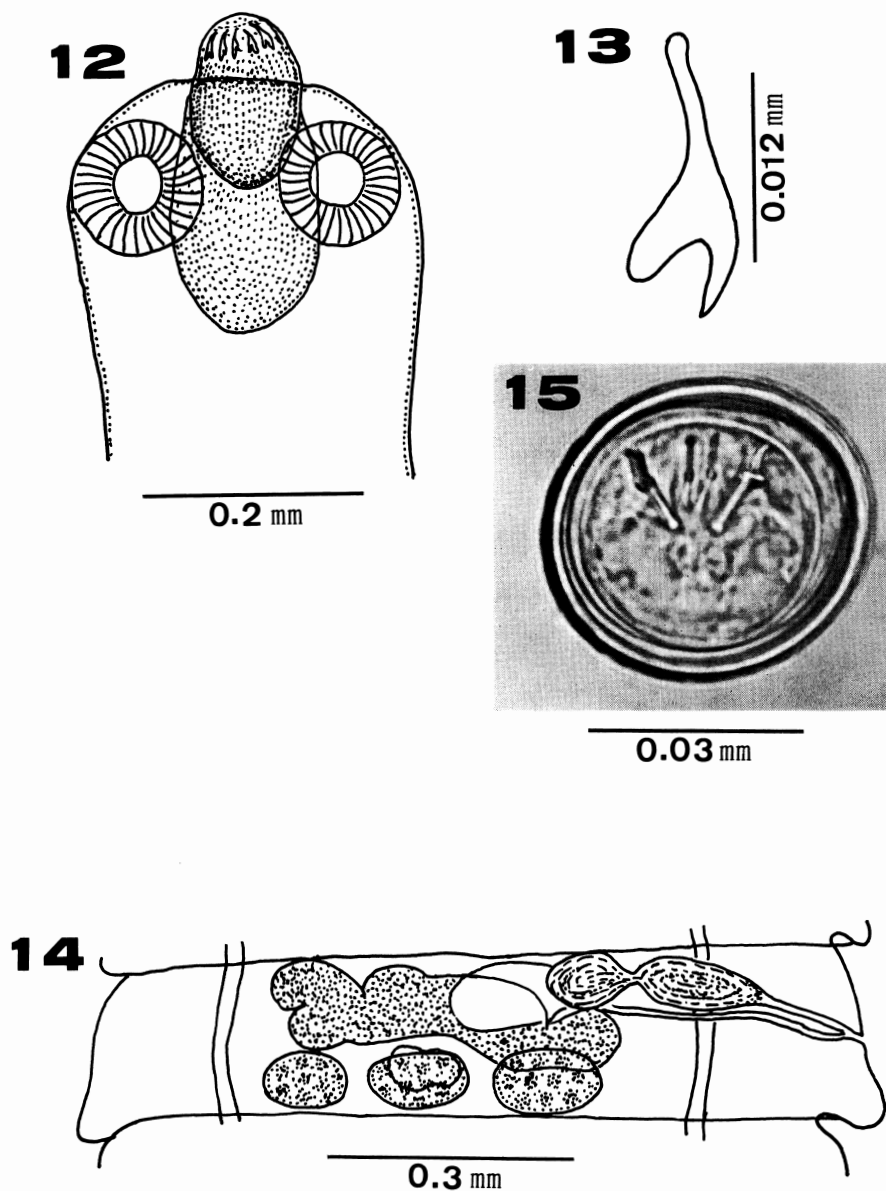
Type host: *Myotis nattereri bombinus* Thomas, 1905.

Site of infection: Small intestine.

Type locality and date: Yasuyo-chô, Iwate Prefecture; August 15, 1987.

Type specimen: Holotype: NSU Lab. Coll. No. 8812.

Remarks: The present new species most

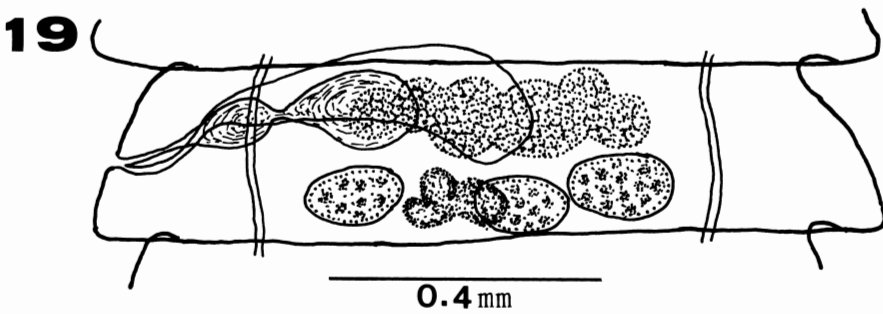
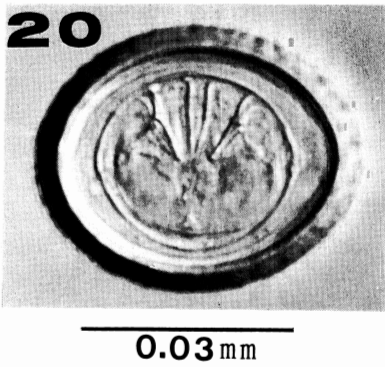
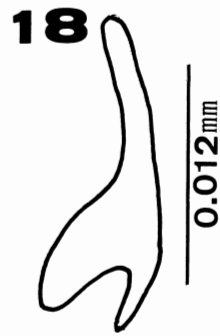
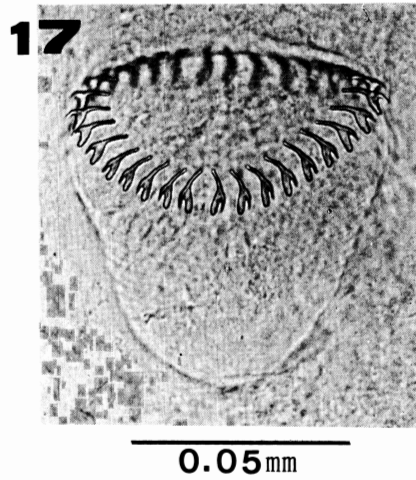
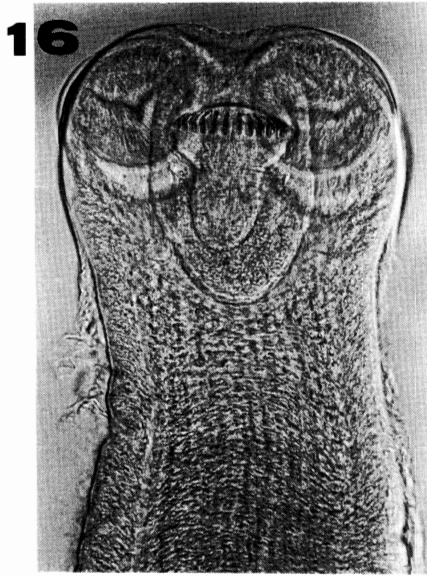


Figs. 12–15. *Vampirolepis brevihamata* sp. n.
12: Scolex. 13: Rostellar hook. 14: Mature segment, dorsal view. 15: Ripe egg.

closely resembles the foregoing *V. uchimakiensis* in the number and the shape of rostellar hooks. However, it differs from *V. uchimakiensis* in the shorter rostellar hooks (0.018 vs. 0.021), the longer neck region (0.245 long vs. absent), the arrangement of testes (transverse row vs. triangle) and the shape of vitelline gland (compact lobe vs. trilobate).

Vampirolepis tohokuensis sp. n.
(Figs. 16–20)

On October 11, 1987, a specimen of a large Japanese noctule, *Nyctalus lasiopterus aviator* was captured by Mukooyama from the hollows of beech at Yasuyo-chô, Iwate Prefecture, and was examined for cestodes. The bat was found



Figs. 16–20. *Vampirolepis tohokuensis* sp. n.
16: Scolex. 17: Rostellum. 18: Rostellar hook. 19: Mature segment, ventral view. 20: Ripe egg.

infected with seven mature specimens of this cestode.

Description: Medium-sized hymenolepidid; mature worm 58–67 in length and 1.1–1.3 in maximum width. Metamerism distinct, segment margins serrate. Scolex 0.266–0.294 long by 0.315–0.357 wide, not set off from neck region. Suckers discoid, 0.105 in diameter. Rostellum mushroom-shape, 0.119–0.154 long by 0.098–0.105 wide, armed with a single circle of 32–34 spanner-shaped hooks measuring 0.018 long. Hook handle long and attenuate, guard prominent, round at its end, longer than blade; blade shape at its end. Rostellar sac 0.182–0.210 long by 0.133–0.154 wide, muscular, pyriform, extending posterior to suckers.

Genital pores unilateral, located posterior to the middle of segment margins. Cirrus sac pyriform, 0.147–0.154 long by 0.042 wide, extending beyond osmoregulatory canals, and occupied by internal seminal vesicle measuring 0.049–0.077 long by 0.042 wide. External seminal vesicle subspherical, 0.105–0.133 long by 0.056–0.063 wide, situated in anterior field of segment. Vagina initially posterior to cirrus sac, passing beneath cirrus sac just prior to crossing osmoregulatory canals, gradually expanding into voluminous seminal receptacle measuring 0.266–0.280 long by 0.063–0.077 wide. Testes three in number, subspherical, 0.105–0.112 by 0.056–0.063 wide, arranged in a transverse row. Ovary transversely elongated and multilobate, 0.244–0.259 across. Vitelline gland, trilobate, 0.105 by 0.056–0.063, located posterior to ovary. Eggs subspherical, 0.053–0.056 by 0.046, surrounded by four envelopes; outermost chorion thick. Onchospheres spherical, 0.028–0.032 in diameter; embryonic hooks 0.014 long.

Type host: *Nyctalus lasiopterus aviator* Thomas, 1911

Site of infection: Small intestine.

Type locality and date: Yasuyo-chō, Iwate Prefecture; October 10, 1987.

Type specimen: Holotype NSU Lab. Coll. No. 8813; Paratypes 8814.

Remarks: The present new species closely

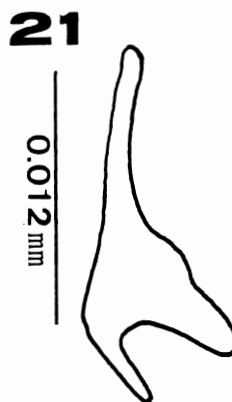


Fig. 21. Rostellar hook of *V. rikuchuensis*.

resembles *V. rikuchuensis* Sawada, 1987 from *Myotis hosonoi* in the length of rostellar hooks, the arrangement of testes, the size and form of eggs and the length of embryonic hooks. However, it differs from *V. rikuchuensis* in the shape of rostellar hooks (Fig. 21), the location of genital pores (located a little posterior to the middle of segment margins vs. a little anterior to the middle), the larger size of seminal receptacle (0.266–0.280 by 0.063–0.077 vs. 0.070–0.077 by 0.049–0.056) and the shape of ovary (multilobate vs. transversely elongate).

Vampirolepis isensis Sawada, 1966

Host: *Rhinolophus cornutus cornutus*. For locality, see Table 1 and Fig. 1.

Vampirolepis hidaensis Sawada, 1967

Host: *Miniopterus schreibersii fuliginosus*. For locality, see Table 1 and Fig. 1.

Vampirolepis rikuchuensis Sawada, 1987

Host: *Myotis hosonoi*. For locality, see Table 1 and Fig. 1.

Vampirolepis kaguyae Sawada, 1987

Host: *Myotis frater kaguyae*. For locality, see Table 1 and Fig. 1.

Hymenolepis Weinland, 1858

Hymenolepis rashomonensis Sawada, 1972

Host: *Rhinolophus ferrumequinum nippon*
and *Myotis nattereri bombinus*.

The latter is a new host of this cestode in Japan.
For locality, see Table 1 and Fig. 1.

Hymenolepis sp.

Of nine specimens of the large Japanese noctule, *Nyctalus lasiopterus aviator*, collected from the hollows of beech at Sannohe-chô, Aomori Prefecture on August 5, 1987, two each contained 17 and 1 juvenile cestodes belonging to the genus *Hymenolepis*.

Description: Juvenile worms 3.1–8.0 long by 0.3–0.4 wide. Metamerism distinct, margins serrate. Scolex 0.210–0.217 long by 0.203–0.224 wide, not sharply demarcated from neck region. Rostellum unarmed, rudimentary, 0.084–0.112 long by 0.042–0.056 wide. Suckers discoid, 0.098 in diameter. Neck region 0.5–0.7 long by 0.08–0.09 wide. Genital pores unilateral, situated in the middle of each segment margins. Testes three in number, spherical to subspherical, 0.039–0.042 by 0.021–0.025. Female genitalia not yet fully developed in any specimens examined.

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