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A specimen of a subterranean asellid isopod, *Nipponasellus hubrichti* (Matsumoto) from Kokubunji, Tokyo, Central Japan*

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東京都国分寺市から発見された地下水生ミズムシ *Nipponasllus hubrichti* (Matsumoto) の一標本

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東京都国分寺市真姿の池湧水からミズムシ１個体が発見された。付属肢の形態を調査したところ *Nipponasellus hubrichti* (Matsumoto) の雌個体であることが判明した。今回の標本は原記載によく符合するが、原記載とは顎脚内葉内側の突起が多いこと、第１小顎外肢先端の数などの若干の差異が認められたものの、これは変異のうちと考えられる。また、原記載に無かった雌個体のいくつかの付属肢の形態を記録した。なお、標本は富山市科学文化センター (TOYA　Cr-13016) で保管される。

Key words：*Nipponasellus hubrichti*, Isopoda, Asellota, Asellidae, Tokyo, Japan
キーワード：*Nipponasellus hubrichti*, 地下水種, ミズムシ, 東京

During the faunal survey in Kokubunji City, the junior author happed to find a subterranean isopod from the spring and later the specimen was sent to the senior author and appendages were dissected, then it proved to represent to be a female specimen of *Nipponasellus hubrichti* (Matsumoto, 1956). The present specimen agrees the Matsumoto's original description. But some slight differences were recognized and this species is rescribed.

Before going further, the junior author would like to express his sincere gratitude to Ms. Nana Murata and Mr. Hiroshi Kamiya for their help in collecting the specimen, and to Ms. Harumi Kusano for her help in identification on amphipod specimens.

Nipponasellus hubrichti (Matsumoto, 1956)

Asellus hubrichti Matsumoto (1956) p.222-1224,Pl.2,fig.A-P(original description).
Nipponasellus hubrichti (Matsumoto, 1956)
Description. Body 4.6 times as long as wide. Color white. Cephalon rounded. Eye lacking. Almost all the pereonal

＊Contributions from the Toyama Science Museum, No. 295

somites parallel. Pleotelson rectangular. Antennules (Fig.1B) with 2 peduncular segments and 4 flagellar segments. Antenna (Fig. 1C), reaching the posterior border of sixth pereonal somite; 5 pedunclar segments and 23-30 segments.

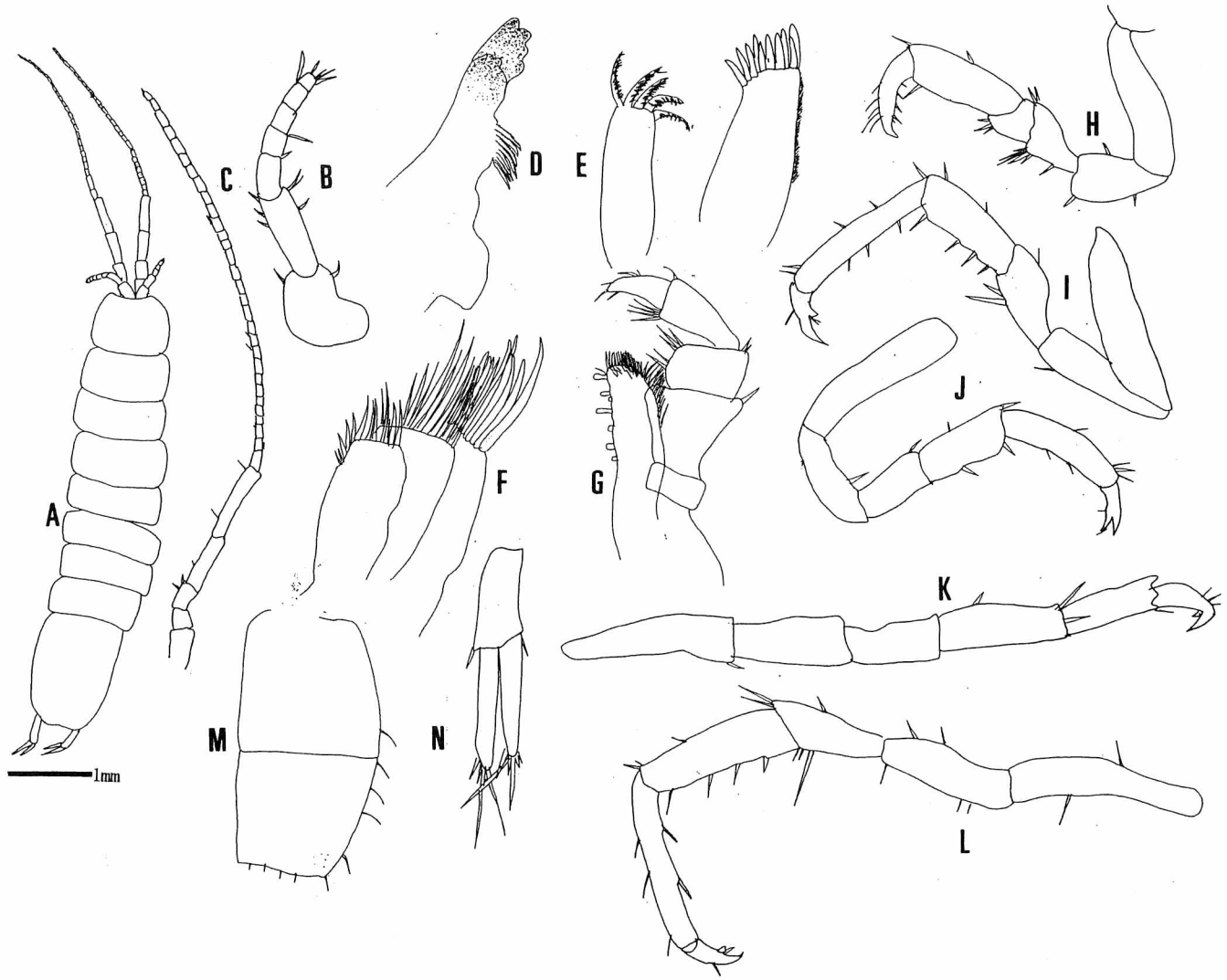


Fig.1 *Nipponasellus hubrichti* (Matsumoto, 1956)
A, Dorsal view; B, antennule; C: antenna, D:mandible; E, maxillula; F, maxilla; G, maxilliped; H, pereopod 1; I, pereopod 2; J, pereopod 3; K: peropoed 6; L:pereopod 7; M, pleopod 3; N, uropod (All: female).

Mandible (Fig.1D): Pars incisiva 3-toothed; lacinia mobilis 2 or 3-toothed; 7-8 serrated setae; processus molaris small ; palp single-segmented. Maxillula (Fig.1E): endopod with 5 plumose setae on distal margin; exopod with 10 setae on apical margin. Maxilla (Fig.1F): inner lobe with 12 setae; inner ramus of outer lobe with 16-17 setae and about 10 setae on outer lobe of the same. Maxilliped (Fig.1G): endite, with 8 coupling hooks on lateral border and 13-14 setae on distal margin. Palp 5-seegmented: palpal segment 1 rectangular with a seta; segment 2 biggest with 8-9 setae on inner margin and 2 setae on outer margin; segment 3 round; segments 4 and 5 abruptly narrower than the basal three segments. Epipodite narrow.

Mutual length of 7 pereopods is subequal in length. Pereopod 1 (Fig.1H): basis rectangular, 3 times as long as wide, with 2 setae on inner margin and a seta on outer margin; ischium half the length of basis; merus pentagonal, 1.3 times as long as wide, with 2 setae on inner margin and 2 setae on outer distal angle; carpus short and triangular; propodus 3/4 as long as basis, with 1-2 setae on inner margin; dactylus with 3 setae on inner margin and 4 relatively long setae on inner margin.

Pereopod 2 (Fig.1I): basis 3.6 times as long as wide; ischium 85% as long as basis; merus 2/3 as long as ischium;

carpus triangular, propodus 0.7 times as long as basis; dactyls with 4-5 setae on inner margin and 4 setae on outer margin.

Pereopods 3-5 (Fig.1J): basis 3.8 times as long as wide; ischium 0.7 times as long as basis; merus 0.6 times as long as ischium, carpus rectangular, 1.2 times longer than merus; propodus 1.4 times as longer than carpus, and almost as long as ischium: dactyls without seta.

Pereopod 6 (Fig.1K): basis 4.0 times as long as wide; ischium rectangular, 66% as long as basis; merus 0.8 times as long as ischium; carpus a little longer than ischium, 1.3 times longer than merus; propodus almost as long as merus.

Pereopod 7 (Fig.1L): longer than the preceding ones, basis rectangular, 4.5 times as long as wide, with a seta on both margins seta on outer margin; ischium 60% as long as basis with 2 setae on inner margin and a seta on outer margin; merus 69% as long as ischium, with 3 setae on inner margin and 2 relatively longer setae at outer distal angle; carpus 1.2 times as long as merus, with 3-4 setae on inner margin and 3 setae on outer margin; propodus almost as long as carpus, with 3 setae on inner margin and 3 setae on outer margin.

Pleopod 1 semicircular. Pleopod 3 (Fig.1M): rectangular, with a suture line.

Uropod short (Fig.1N): basis 2.5 times as long as wide, endopod as long as basis; exopod a little longer than endopod.

Material examined. 1♀ (5.3 mm in body length). Masugata-no-ike, Kokubunji, Tokyo. Nov. 14, 2003, coll. Sazuki Shinoda. This specimen is deposited at the Toyama Science Museum (TOYA Cr-13016).

Remarks: The specimen can be identified as *Nipponasellus hubrichti* (Matsumoto, 1956). But the present specimen is different from the original description of the type from Hachioji City, Tokyo in the following features: (1) numerous coupling hooks on the lateral border of maxillipedal endite and (2) less numerous teeth on maxillula.

Environments

The present specimen was collected from the springhead of small stream, which runs from the subterranean environment. (Fig.2)

Water temperature: 16.8℃.

Depth: 0.1m.

Sediment: Gravel (Pebble); size of main gravel-stones are 10-30mm.

This specimen was collected together with the following animals:

Amphipoda

Eocrangonyx sp.

Eoniphargus sp.

Isopoda

Asellus hilgendorfi hilgendorfi (Bovallius)

Decapoda

Procambarus clarkii (Girard)

Geothelphusa dehaani (White)

Hemiptera

Metrocoris histrio (B. White)

Diptera

Tanypodinae gen. sp.

Chironomidae gen. sp.

Trichoptera

Geora japanica Banks

Apatania ? sp.

Eobrachycentrus sp.

"Masugata-no-ike and fountainheads" is one of most famous spring in Kokubunji Cliff Lines. The Ministry of the

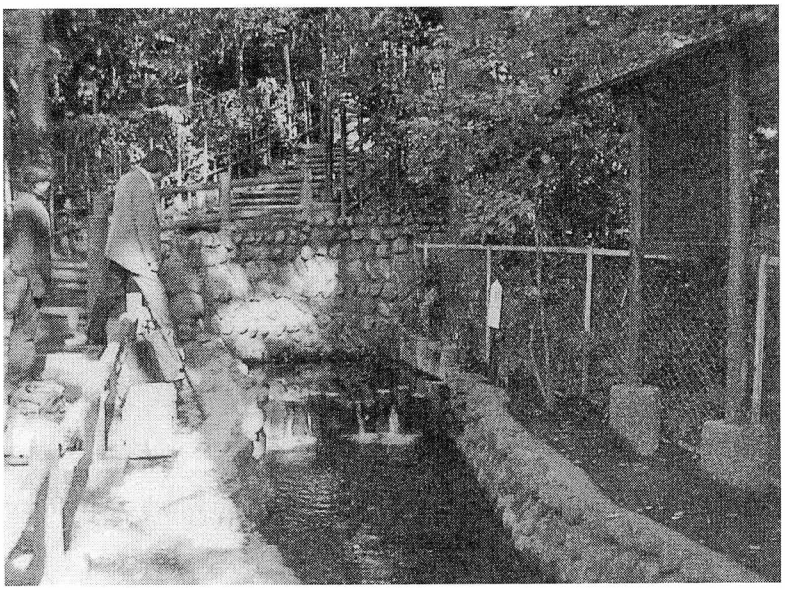
environment has nominated it as one of 100 best water resources in Japan.

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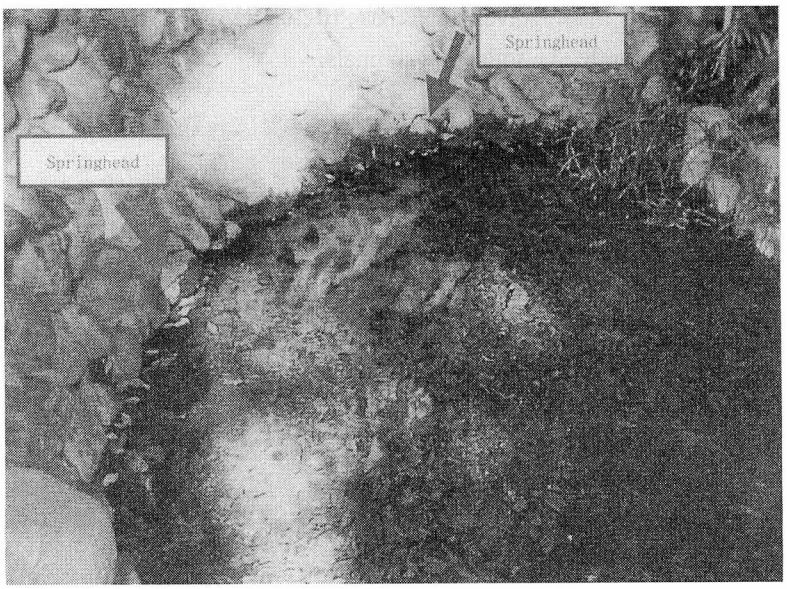
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A, Complete view



B, Sampling spot

Fig.2 The discovery site of *Nipponasellus hubrichti* (Matsumoto, 1956)