

日本産フジヤスデ属の3新種

誌名	Edaphologia
ISSN	03891445
著者名	篠原,圭三郎
発行元	日本土壤動物研究会
巻/号	42号
巻号補足	
掲載ページ	p. 21-25
発行年月	1990年3月

農林水産省 農林水産技術会議事務局筑波産学連携支援センター
Tsukuba Business-Academia Cooperation Support Center, Agriculture, Forestry and Fisheries Research Council
Secretariat



Three New Species of the Genus *Anaulaciulus* (Diplopoda : Julidae) from Japan

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Abstract Three new species, *Anaulaciulus okinawaensis* sp. nov. from Okinawa Island, the Ryukyus, *A. ryugadensis* sp. nov. from Ryûga-dô cave, Shikoku and *A. takanoi* sp. nov. from Mt. Takamatsuyama, Kanagawa, Honshu, are described. Each new species is characterized by having a unique branch in posterior gonopod of male.

Diplopods of the genus *Anaulaciulus* is distributed in East Asia (ATTEMS, 1909; TAKAKUWA, 1954). From Japan, twenty species of the genus have already been known (MIYOSI, 1959; MURAKAMI, 1966). In the present paper, three more *Anaulaciulus* species are added into the Japanese fauna. They are all new species, that is *A. okinawaensis*, *A. ryugadensis* and *A. takanoi*. The type series of the new species are deposited in the collection of the National Science Museum (Natural History), Tokyo.

Anaulaciulus okinawaensis sp. nov.

(Fig. 1a-j)

Diagnosis. This new species resembles *A. bilobus* (TAKAKUWA, 1941) in male anterior gonopod (peltogonopod), but it differs from *bilobus* in posterior gonopod (proper) which has a small process on the distal end.

Description. Body length *ca.* 14mm or more (14.2mm in the holotype). General coloration deep purplish brown, preclypeal field slightly paler than metacrypeus, collum deep purplish brown with fine spots, each podal segments with irregular pale brown speckles on upper and lateral sides, and the tip of tailend whitish yellow. Head round; ocelli *ca.* 40 or more (about 45 in the holotype) in number in the roundtriangle ocular field; stipes of mandible thick in female but thin in male. Antennae composed of seven antennomeres; 5th antennomere largest, 2nd, 3rd and 4th antennomeres almost equal each other in length, and 7th antennomere shortest; 6th and 7th antennomeres with several sensory spurs on each distal edge.

Gnathochilarium normal; lingual plates with four pairs of long setae and several short hairs in a median longitudinal row. Collum longitudinally with short flutings near the posterior edge. Abdominal somites narrowest at the 3rd or 4th body segment. Each prozonite with many slanting and transverse fine striae extending all around the ring, while metazonites longitudinally with very close striae, and the tail segment (pre-anal ring) with

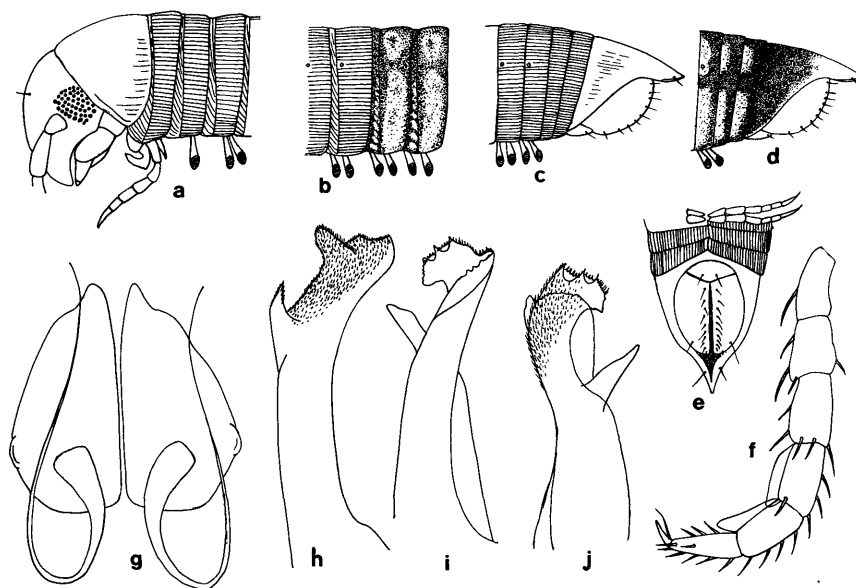


Fig. 1. *Anaulaciulus okinawaensis* sp. nov.
 a, Male head and thorax, lateral view; b, abdominal segments;
 c-e, body end; f, male 7th leg; g, male anterior gonopod; h-j,
 male posterior gonopod.

indistinct striae. Ozopores present on metazonites mid-laterally and near the anterior border. First pair of male legs modified into a pair of hooks as well as those of the congeners; the other male legs with postfemoral and tibial pads; each podomere of legs with 2-3 setae on ventral sides; each claw with a sensory spur.

Anterior gonopod of male rather round triangle, but the tip has a small swelling on the exterior edge; telopodite rudimentary.

Posterior gonopod (proper) of male bowed, with a small thorn-like process on interior side near the distal end; distal flat lobe of telopodite with complicated and serrated margin, and ventrally covered by minute hairs.

Type series. Holotype, male, Yonabaru-cho, Okinawa, Ryukyus, Nov. 10, 1979, Y. HIGA. Paratype, 1 female, same data as the holotype.

Anaulaciulus ryugadensis sp. nov.

(Fig. 2a-p)

Diagnosis. Very similar to *A. hirosaminus* ATTEMS in the shape of anterior gonopod, but this species differs from it in the shape of posterior gonopod, which has a lobe and a slender twig at the tip.

Description. Body length ca. 20 mm or more (21 mm in the holotype). Abdominal segments 52 (in the holotype) and 54 (in the paratype) in number. General coloration purplish brown with irregular pale speckles in lateral surfaces of trunk; head pale, collum

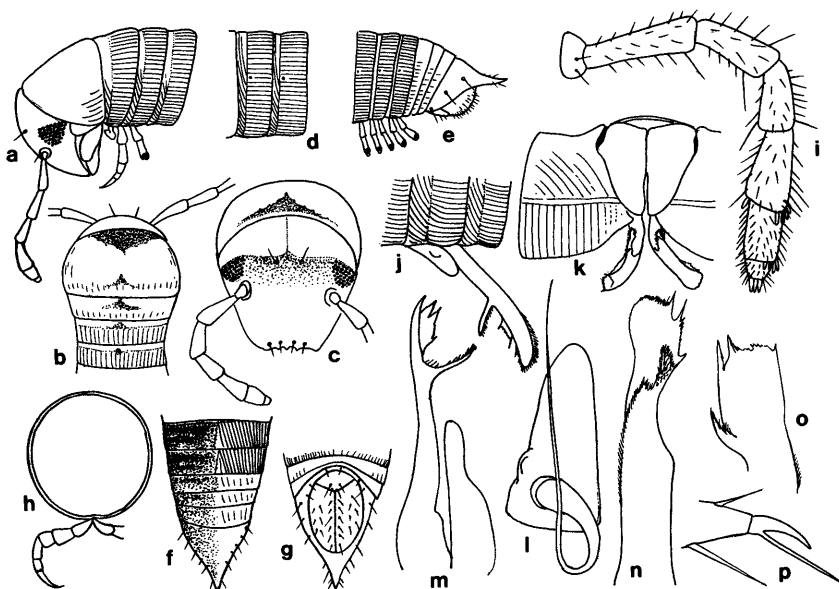


Fig. 2. *Anaulaciulus ryugadensis* sp. nov.

a-c, Head and thorax; d, abdominal segments; e-g, body end;
h, sectional diagram of somite; i, antennae; j-k, male gonopod
(in situ); l, male anterior gonopod; m-o, male posterior gonopod;
p, claw of leg.

deeply coloured in anterior margin. Ocelli approximately 40 or more (45 in the holotype) in number, arranged in 6-7 rows in round triangle ocular field. Collum with indistinct short striae at both the sides. Abdominal somites with slanting and transverse fine striae on prozonites, and with many longitudinal flutings on metazonites as well as those of the congeners. Abdominal somites narrowest at the 3rd or 4th podal segment. Telson (pre-anal ring) without striae, but with several long setae. Anal valve with several setae in 3 longitudinal rows. In male, first pair of legs modified into hooks. Second and successive legs normal, each leg with a pad on ventral surface of each postfemur and tibia. Sensory spur of claw longer than that of the congeners.

Anterior gonopod of male slimly round triangle; telopodite rudimentary. Posterior gonopod of male slender, with a hairy slender twig branch near the outer distal end; distal thin lobe of the telopodite with serrated margin.

Type series. Holotype, male, Ryûga-dô cave, Kôchi Pref., Shikoku, Oct. 24, 1953, S. HIROMATSU. Paratype 1 male, same data as the holotype.

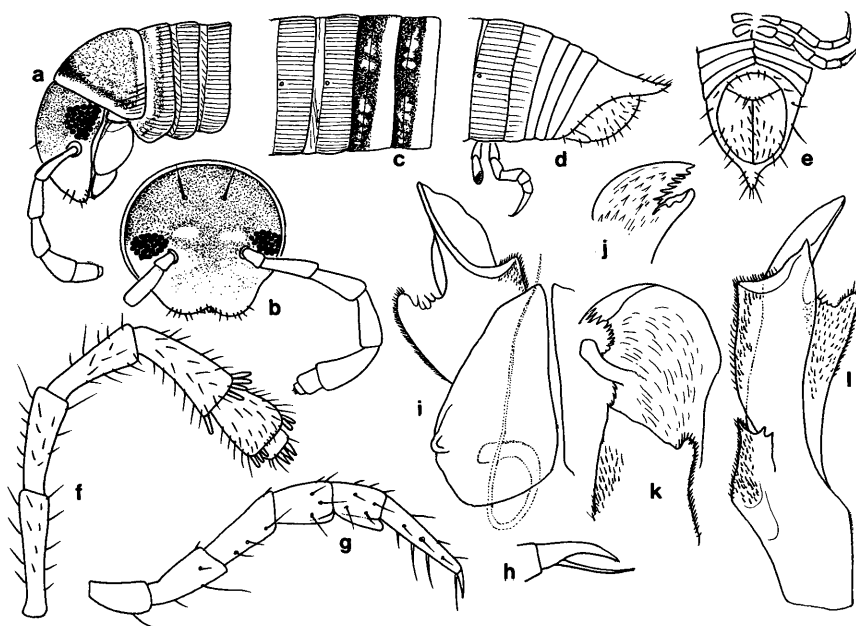


Fig. 3. *Anaulaciulus takanoi* sp. nov.

a, Head and thorax; b, head; c, abdominal segments; d-e, body end; f, antennae; g, male leg; h, claw of leg; i, male gonopods; j-l, male posterior gonopod.

***Anaulaciulus takanoi* sp. nov.**

(Fig. 3a-l)

Diagnosis. This new form is closely akin to *A. quadratus* (TAKAKUWA, 1941) in general appearance, but it differs from *quadratus* in the shape of male gonopod.

Description. Body length *ca.* 25 mm or so (25 mm in the holotype). Abdominal segments 50 (in the holotype) in number. General coloration dark brown (in the specimen in alcohol); each lateral side of somites with large irregular speckles. Head dark, but precrypeal field pale. Frontal setae present. Ocelli *ca.* 40 or so (*ca.* 32 in the holotype) in number; ocular field round triangle. Antennae slender, each antennomeres expanded in the distal part; 6th and 7th articles with several sensory setae. Gnathochilarium similar to that of the congeners. Collum with several fine striae on each side. Other abdominal segments with many minute longitudinal striae on metazonites, but prozonites has a few fine transverse striae; position of ozopores normal. Some posterior apodal segments and telson (pre-anal ring) without striae. Telson transversely with marginal setae. Anal valve hairy. First pair of male legs modified into hooks. Second and the rearer legs with thin pads on each postfemur and tibia; each claw with a long sensory spur.

Anterior gonopod of male round triangle; telopodite rudimentary. Posterior gonopod of male broad; telopodite with an obtuse process covered by minute hairs on the exterior

edge, a squarish process also bearing minute hairs at the interior edge, and a small hairy squarish process at the middle part, and the apical part formed thin leaf-like lobe with a small finger process.

Type series. Holotype, male, Mt. Takamatsu-yama, Kanagawa Pref., Honshu, Nov. 9, 1980, H. OKAMURA. Paratype, 1 female, same data as the holotype.

Notes. This new species is dedicated to Mr. Mitsuo TAKANO who studied this new form at Hakone, Kanagawa Prefecture, about twenty years ago.

Acknowledgments

I wish to express my hearty thanks to Mrs. Yoshiko HIGA, Okinawa Prefectural Institute of Public Health, Dr. Seiichiro HIROMATSU, Aki City, Kochi Prefecture, and Mr. Hidetada OKAMURA, Tokyo, for their kindness in offering me the specimens used in this paper.

摘 要

篠原圭三郎（東京都立小岩高等学校）：日本産フジヤスデ属の3新種。

Edaphologia, No. 42: 21-25. 1990

フジヤスデ属（*Anaulaciulus*）は東アジア特産属で日本には既知20種がある。本報ではさらに沖縄、四国、本州から次の3新種を追加記載した。

Anaulaciulus okinawaensis sp. nov. オキナワフジヤスデ（新称）、模式産地：沖縄県与名原町；*A. ryugadensis* sp. nov. リュウガフジヤスデ（新称）、模式産地：高知県龍河洞；*A. takanoi* sp. nov. タカノフジヤスデ（新称）、模式産地：神奈川県高松山。

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