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Some East-Asiatic millipedes (*Diplopoda*) in the collection of the Institute of Zoology of the Polish Academy of Sciences[1]

[With 9 Text-figures]

In a small material of East-Asiatic millipedes kept in the collection of the Institute of Zoology, Polish Academy of Sciences, Warszawa, besides already known forms, there occurred two species new to science, one from China and another one from the Democratic People's Republic of Korea. I wish to express my sincere gratitude to Mr. W. JĘDRYCZKOWSKI for the opportunity to study the material. Apart for several duplicate specimens indicated herein as retained in the author's collection for a subsequent deposition in the Zoological Institute of the USSR Academy of Sciences, Leningrad, all the material is returned back to Warszawa, with all the types.

Order *Glomerida*

Family *Glomeridae*

1. *Hyleoglomeris koreana* GOLOVATCH, 1978.

Material, Korea, Mts. Mjohjang-san, distr. Hjangsan: Hjangam-ri, 2 ♂♂, 5 ♀♀ – 16.VI.1965 (leg. M. MROCZKOWSKI et A. RIEDEL); same locality: Sangvon-am, 1 ♂, 5 ♀♀, 2 juv. (plus 1 ♂, 1 ♀ retained) – 17.VI.1965 (leg. M. MROCZKOWSKI et A. RIEDEL); same locality: valley Munsu-tong, 1 ♂ – 18.VI.1965 (leg. M. MROCZKOWSKI et A. RIEDEL); same locality: valley Manphok-tong, 3 ♂♂, 4 ♀♀, 3 juv. – 19.VI.1965 (leg. M. MROCZKOWSKI et A. RIEDEL); same locality: Hjangam-ri, 1 ♀ – 23–24.IX.1966 (leg. C. DZIADOSZ et H. SZELĘGIEWICZ); Prov. Phjongan-pukto, distr. Kudžang, Džosan-ri, 4 ♂♂, 8 ♀♀, 1 juv. – 21.VI. 1965 (leg. M. MROCZKOWSKI et A. RIEDEL); Prov. Kesong-si, nearby Bakjŏng falls, 1 juv. – 27.VIII.1966 (leg. C. DZIADOSZ et H. SZELĘGIEWICZ); Prov. Phjŏngjang, Junha-ri, 40 km W of Phjŏngjang, 1 ♂, 2 ♀♀ – 13.IX.1970 (leg. R. BIELAWSKI et M. MROCZKOWSKI).

[1] Results of the Korea Expedition of the Institute of Zoology, Polish Academy of Sciences, Warszawa. Contribution No. 32.

Remarks. *Hyleoglomeris koreana* described from the environs of Kannyn (Golovatch, 1978) seems to be quite common in northern Korea. The species occurred somewhat variable as to both the coloration (some specimens with lighter anterior parts of all body terga except collum) and certain details of the structure of male leg-pairs 17 and 19 (the high and rounded outer coxal lamellae of the 17th pair may have marginal deep notches; the syncoxite medial lingual lamina of the 19th pair may be parallel-sided subbasally but always gently rounded at the apex; the tibial postero-medial process may be very obscure and poorly developed; tarsus may be bent more moderately and not so massive at the apex). What seems always characteristic of the species in question is the yellowish wide unbroken belt that occupies the anterior portion of the chest shield and widens laterad to cover the space below the schism up to the posterior bord of the tergum. The chest shield transverse striae are also quite stabile n number and arrangement.

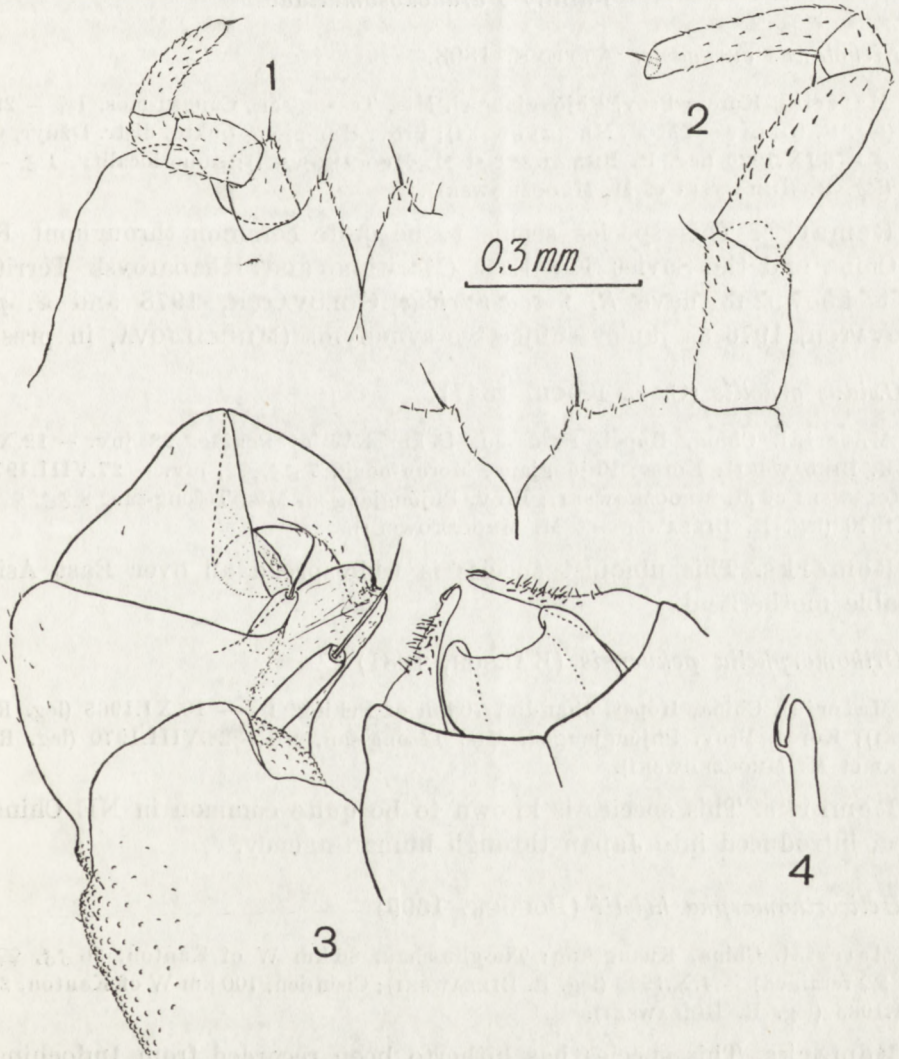
2. *Hyleoglomeris emarginata* sp. n.

Material. China, Kiangsu, Cisian-shan, 25 km S of Nanjing, 1 ♂ (holotype), 2 ♀♀ (paratypes) – 17.XI.1965 (leg. R. Bielawski).

Diagnosis. *Hyleoglomeris emarginata* sp. n. is apparently most closely related to *H. sinensis* (Bröl.) described from Tibet and Szechuan (Brölemann, 1896) and to *H. koreana* Gol. (see above), but clearly distinguishable from both of them by the coloration pattern, number and/or arrangement of chest striae and certain details of the structure of male leg-pairs 17 and 19.

Description. Holotype male ca. 7.0 mm long and 3.1 mm wide, the largest paratype female ca. 8.0 mm long and 3.5 mm wide. The background colour black brown. Dark collum with an obscure large marble central spot and two transverse striae. Chest shield dark as a whole, its light (white yellowish) parts are well defined and displayed as a rather broad axial stripe extending on the preceding terga as well, exclusive of pygidium, and a large spot from each side, transversely elongated, occupying the space from the very hind margin of the tergum below the schism and extending as a wide even belt along the lateral and anterior edges of the shield nearly to the axial stripe, still coming to naught before reaching the latter (unlike *H. koreana*, which lacks the axial stripe, the two lateral spots being well connected at the axis). Every of the subsequent terga except pygidium, aside of the axial stripe, from each side has an obscure large transverse-oval marble spot situated quite away from the lateral margin of the shield. Pygidium with a very big and well defined light central spot not reaching a bit the light caudal edge of the tergum. Black ocelli 5+1 (holotype and one of the paratypes) or 1+4+1 (one paratype) from each side of the head. Antennae usual, brown. Article 6 twice as long as wide. Chest shield with 6 or 7 transverse striae, two anteriormost of which never crossing the tergum, the rest crossing the dorsum completely. Pygidium with a very gentle median concavity at the caudal edge.

Male leg-pair 17 with 4-jointed telopodites. Coxal outer lobes high and rounded. Leg-pair 18 with a lancet notch of the syncoxite. Prefemur without inner projections. Leg-pair 19 (telopods) with a naked linguiform medial lamina provided with a gentle apical concavity. Syncoxite lateral horns apically nearly in contact, crowned with a short flagellum-like subapical outer seta each, covered with quite numerous setae laterally but not mesially. Prefemur with one outer and one inner papillar fields. The femoral postero-medial projection large and membraneous at the apex. Tibia without both the strong antero-medial seta and distinct postero-medial projection. Tarsus curved rather gently, slightly narrows to the rounded end provided with a strong subapical seta.



Figs. 1–4. *Hyleoglomeris emarginata* sp. n., ♂ holotype: 1 – leg-pair 17, 2 – leg-pair 18, 3 – leg-pair 19 (frontal view), 4 – apex of the right lateral horn of the 19th syncocite.

Order *Polydesmida*

Family *Xystodesmidae*

3. *Levizonus* sp.

Material. Korea, Prov. Hamgjŏng-pukto, distr. Džuyr, 2 ♀♀ – 5.IX.1970 (leg. R. Bielawski et M. Mroczkowski).

Remarks. The material contained females only, thus making an identification to species impossible.

Family *Paradoxosomatidae*

4. *Sichotanus eurygaster* Attems, 1898.

Material. Korea; Prov. Phjŏngjang-si, Mts. Tešong-san, Cangsu-mos, 1 ♀ – 29.VIII. 1970 (leg. R. Bielawski et M. Mroczkowski); Prov. Hamgjŏng-pukto, distr. Džuyr, Onpho-ri, 1 ♂ – 5.IX.1970 (leg. R. Bielawski et M. Mroczkowski); same locality, 1 ♂ – 7.IX. 1970 (leg. R. Bielawski et M. Mroczkowski).

Remarks. This species seems to be quite common throughout Korea, NE China and the Soviet Far East (Maritime and Khabarovsk Territories) and is known to have *S. mandshuricus* Golovatch, 1978 and *S. popovi* Golovatch, 1976 as junior subjective synonyms (Mikhaljova, in press).

5. *Oxidus gracilis* (C. L. Koch, 1847)

Material. China, Hopei, Pa-da-cu, 15 km NW of Peking, 28 juv. – 12.XI.1965 (leg. R. Bielawski); Korea, Phjŏngjang, Moran-bong, 7 ♂♂, ♀♀, juv. – 27.VIII.1970 (leg R. Bielawski et M. Mroczkowski); Prov. Phjŏngjang-si, Mts. Tešong-san, 8 ♂♂, ♀♀ – 28. VIII.1970 (leg. R. Bielawski et M. Mroczkowski).

Remarks. This ubiquist species is wide-spread all over East Asia, its probable motherland.

6. *Orthomorphella pekuensis* (Karsch, 1881)

Material. China, Hopei, Shan-lin, 70 km of Peking, 1 ♂ – 10.XI.1965 (leg. R. Bielawski); Korea, Prov. Phjŏngjang-si, Mts. Tešong-san, 1 ♀ – 28.VIII.1970 (leg. R. Bielawski et M. Mroczkowski).

Remarks. This species is known to be quite common in NE China and Korea, introduced into Japan through human agency.

7. *Helicorthomorpha holstii* (Pocock, 1895)

Material. China, Kuangtung: Tin-ghu-shan, 86 km W of Kanton, 36 ♂♂, ♀♀ (plus 2 ♂♂, 1 ♀ retained) – 4.X.1965 (leg. R. Bielawski); Cisin-ien, 100 km W of Kanton, 2 ♂♂ – 3.XII.1965 (leg. R. Bielawski).

Remarks. This species has hitherto been recorded from Indochina and China.

Family *Polydesmidae*

8. *Epanerchodus bifidus* TAKAKUWA, 1954

Material. Korea; Phjŏngjang, Moran-bong, 1 ♀, 2 juv. – 27.VIII.1970 (leg. R. BIELAWSKI et M. MROCZKOWSKI); Prov. Phjŏngjang-si, Mts. Tešong-san, 1 ♀, 2 juv. – 28.VIII 1970 (leg. R. BIELAWSKI et M. MROCZKOWSKI); same locality, Cangsu-mos, 1 juv. – 29.VIII 1970 (leg. R. BIELAWSKI et M. MROCZKOWSKI).

Remarks. This species is known as very common throughout Korea, also recorded from Kyushu, Japan, and the Maritime Prov., Soviet Far East.

9. *Epanerchodus* sp.

Material. Korea, Masin-rjong, 34 km W of Vŏnsan, 24 juv. – 16.IX.1970 (leg. R. BIELAWSKI et M. MROCZKOWSKI).

Remarks. The materials containing juveniles only, an identification to species being, therefore, impossible.

Order ***Callipodida***

Family *Caspiopetalidae*

10. *Bollmania* sp.

Material. China, Kiangsu, Cisian-shan, 25 km S of Nanjing, 2 ♀♀ – 17.XI.1965 (leg. R. BIELAWSKI).

Remarks. To the author's regret, the material contained only females, thus making a closer identification impossible. The discovery of this purely Central-Asiatic genus, the only hitherto known member of the *Caspiopetalidae*, in eastern China extends the range of the groups in question far to the east, making the pattern of distribution Central- and East-Asiatic.

Order ***Platydesmida***

Family *Platydesmidae*

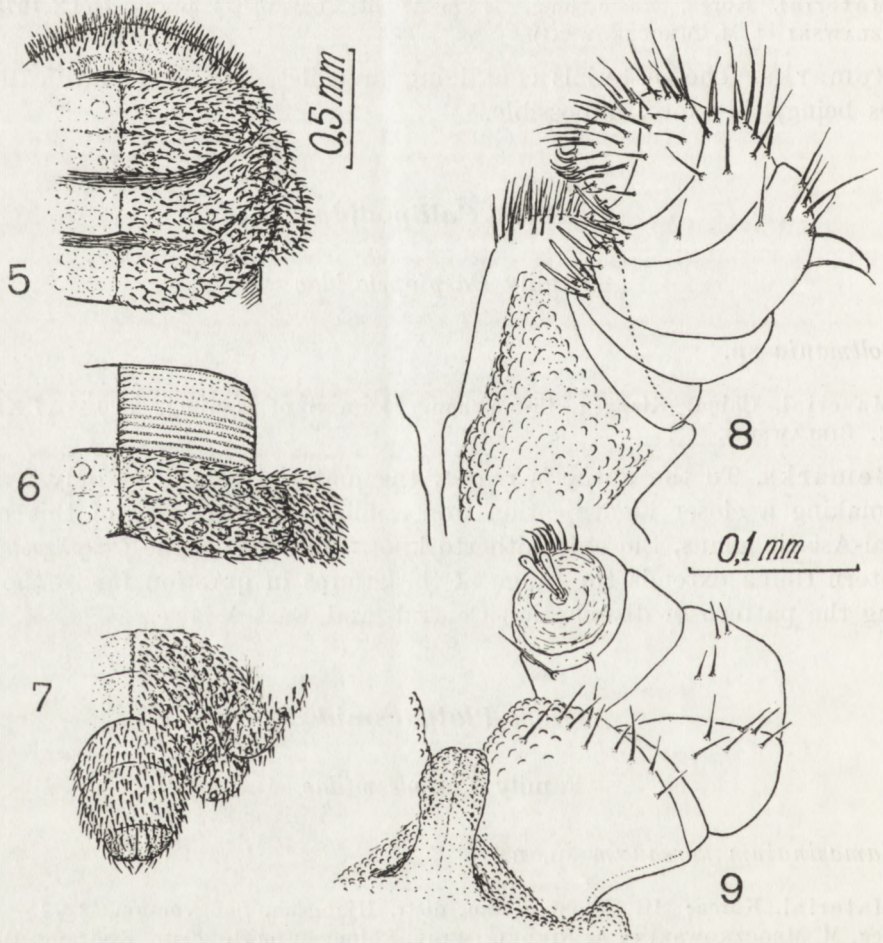
11. *Yamasinaium koreanum* sp. n.

Material. Korea; Mts. Mjohjang-san, distr. Hjangsan, Sangvŏn-am, 2 ♀♀ – 17.VI. 1965 (leg. M. MROCZKOWSKI et A. RIEDEL); Prov. Phjongan-pukto, distr. Kudžang, Džosan--ri, 1 ♂ – 21.VI.1965 (leg. M. MROCZKOWSKI et A. RIEDEL).

Diagnosis. *Yamasinaium koreanum* sp. n. is distinguishable from the only hitherto known species of the genus, *Y. noduligerum* VERH., inadequately descri-

bed from Okinawa, Japan (VERHOEFF, 1939), and later well revised by MIYOSI (1953), by both a poorer development of knobs on metazona and certain details of the gonopod configuration and armament.

Description. Holotype male ca. 28 mm long and 2.0 mm wide, of 75 (−1) body segments excluding telson. Female paratypes 22 and 26 mm long, ca. 1.8 and 2.0 mm wide, of 67 (−2) and 69 (−1) segments, respectively. Colour uniform whitish. Head triangular, distinctly stretched anteriorly and narrowly rounded apically; well defined lateral occipital lobes just behind antennal sockets; a gentle sulcus demarcating the frons and clypeus. Body flattened, mostly parallel-sided, quickly broadening to the 3rd or 4th rings, at the posterior portion narrowing at first gently and then abruptly to the level of three or



Figs. 5–9. *Yamasinaium koreanum* sp. n., ♂ holotype: 5 – anteriormost body part (dorsa view), 6 – a mid-body segment (dorsal view), 7 – posteriormost body part (dorsal view) 8 – anterior gonopods (frontal view), 9 – posterior gonopods (frontal view).

four pre-telson body segments. All body rings excluding telson provided with paraterga. Every metazonite has two transverse rows of quite poorly developed knobs; the knobs seem the more so obscure, as all the dorsal surface of metazona is very densely pubescent, the hairs being rather short and light. Collum and some three or four subsequent terga with especially poorly developed knobs; on a mid-body metazonite some 12 to 14 knobs in every row. A mid-body prozonite with some ten transverse parallel striae. A well developed axial suture along all body terga making a gentle depression in its area. The dorsum moderately convex, paraterga nearly horizontal and not very large. Defensive pores begin from the 5th segment; on this very segment they lie as far back as ca. 1/3 of the paratergite length from its posterior edge. On subsequent body rings pores are situated a bit in front of the paratergite postero-lateral angle not touching it. Only two or three of the very pre-telson paraterga with the pores just at the angle. Telson usual, far from being exceeded by the paraterga of the penultimate (the very pre-telson) segment.

Legs relatively long and slender, in situ reaching the lateral edge of the respective paratergite. A well developed median sternal knob well dividing leg coxae of each pair. Some two or three of the anteriormost leg-pairs a little crassate as compared to subsequent ones.

Both the anterior and posterior gonopods 7-jointed, quite simple. Anterior ones with distinct inner bacilli on nearly every article of the telopodite. Coxae apically and caudally densely setose, with a large frontal papillar field. The last joint of the telopodite is denser setose and apically with a number of acute hook-like strong setae. Posterior gonopods resemble to some extent the anterior ones, but longer; coxae mesially with a papillar field. Tarsus with two long flattened sabre-like apical setae.

Order *Polyzoniida*

Family *Polyzoniidae*

12. *Polyzonium bonum* Mikhaljova, 1979

Material. Korea; Prov. Hamgjong-pukto, distr. Kjŏng-sŏng, Mts. Kvanmo-bong, Mehjang-ri, 1 ♀, 1 juv. – 4.VI.1965 (leg. M. Mroczkowski et A. Riedel); Mts. Mjohjang-san, distr. Hjangsan, Sangvŏn-am, 1 ♂, 1 juv. – 17.VI.1965 (leg. M. Mroczkowski et A. Riedel); Prov. Phjŏngjang-si, Mts. Tešong-san, 2 ♂♂ – 23.V.1965 (leg. M. Mroczkowski et A. Riedel); same locality, 88 ♂♂, ♀♀, juv. – 20.IX.1966 (leg. C. Dziadosz et H. Szelęgiewicz); same locality, 1 ♂ – 28.VIII.1970 (leg. R. Bielawski et M. Mroczkowski).

Remarks. This species described from the Maritime Province, Soviet Far East (Mikhaljova, 1979) has already been recorded from North Korea. The Korean specimens are somewhat different from the typical ones as to the gonopod structure – anterior gonopods in general squater, the inner lobe of

the coxal process shorter. Still it seems yet premature to allot the Korean populations a taxonomic rank. It is just sufficient to remind the great variability of the gonopods in *Polyzonium germanicum* BRDT., a common European species.

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STRESZCZENIE

[Tytuł: Niektóre wschodnioazjatyckie krocionogi (*Diplopoda*) w kolekcji Instytutu Zoologii Polskiej Akademii Nauk]

W niewielkim materiale wschodnioazjatyckich krocionogów, znajdującym się w kolekcji Instytutu Zoologii PAN (Warszawa), stwierdzono 12 gatunków, z których dwa są nowe dla nauki: *Hyleoglomeris emarginata* (*Glomeridae*) z Chin i *Yamasinaium koreanum* (*Platydesmidae*) z północnej części półwyspu Koreańskiego.

РЕЗЮМЕ

[Заглавие: Некоторые восточно-азиатские многоножки (*Diplopoda*) в коллекции Зоологического института Польской академии наук]

В небольших материалах по восточно-азиатским многоножкам из коллекции Зоологического института Польской академии наук (Варшава) обнаружено 12 видов, включая два вида, новых для науки: *Hyleoglomeris emarginata* (*Glomeridae*) из Китая и *Yamasinaium koreanum* (*Platydesmidae*) из северной части Корейского полуострова.
