Acarologia is proudly non-profit, with no page charges and free open access

Please help us maintain this system by encouraging your institutes to subscribe to the print version of the journal and by sending us your high quality research on the Acari.

Subscriptions: Year 2020 (Volume 60): 450 €
http://www1.montpellier.inra.fr/CBGP/acarologia/subscribe.php
Previous volumes (2010-2018): 250 € / year (4 issues)
Acarologia, CBGP, CS 30016, 34988 MONTFERRIER-sur-LEZ Cedex, France
ISSN 0044-586X (print), ISSN 2107-7207 (electronic)

The digitalization of Acarologia papers prior to 2000 was supported by Agropolis Fondation under the reference ID 1500-024 through the « Investissements d’avenir » programme (Labex Agro: ANR-10-LABX-0001-01)

Acarologia is under free license and distributed under the terms of the Creative Commons-BY-NC-ND which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author and source are credited.
A NEW GENUS AND A NEW SPECIES OF SYMBIORIBATIDAE (ACARI, ORIBATIDA) FROM SOUTH JAPAN

BY T. MATSUSHIMA¹, Y.-N. NAKAMURA² & Y. NAKAMURA³

(Accepted November 2008)

NEW GENUS
NEW SPECIES
ORIBATIDA
SOUTH JAPAN
SYMBIORIBATIDAE

SUMMARY: A new species of a new genus Separatoribates kujuensis gen. nov., sp. nov., (Symbioribatidae) was collected from the pasture of Kuju-cho in Oita Prefecture, Japan, was described.

Résumé: Une espèce nouvelle, Separatoribates kujuensis gen. nov., sp. nov. (Symbioribatidae), récoltée dans pâture de Kuju-cho, Oita Préfecture dans Japon, est décrite.

Three species belonging to two genera have been known as members of the family Symbioribatidae, according to Subías (2004) and Fujikawa’s private information. Dorsosejugal suture of these members is absent. The present specimen has conspicuous dorsosejugal suture. From the form of prodorsum, rostrum and other important characters, this specimen should be treated as a new member of a new genus. As far as the authors know, three species and an undescribed species have hitherto been described: Symbioribates papuensis Aoki (1966) from New Guinea, Symbioribates aokii Karasawa &t Behan-Pelletier (2007) from Okinawa Prefecture, Japan, Symbioribates sp. from Okinawa Prefecture, Japan (Karasawa and Shimano, 2006), and Piffliella eduardi Hammer (1979) from Java.

In the present paper, the authors describe a new species belonging to a new genus of the family Symbioribatidae, collected from the pasture in Oita Prefecture, Japan.

Separatoribates gen. nov.
[Japanese name: Koerisasaradani]

Diagnosis: Family Symbioribatidae Aoki, 1966. Prodorsal / notgastral separation present. Rostrum rounded. Lamellae narrow, situated on lateral side, half as long as prodorsum. Interlamella setae developed. Sensillus globular apically. Notogastral anterior margin weakly angulated on each side, without pteromophae. Notogaster bearing four pairs of areae porosae and ten pairs of setae. Genito-anal setae, 4-0-1-3. Epimeral setae, 3-1-2-1. Diathric subcapitulum bearing 3 pairs of setae, a, m, h. Bothridium completely hidden beneath the anterior margin of notogaster. Adanal setae $a_{d1}$ and $a_{d2}$ situated in

1. Koshi-shi, Kumamoto Prefecture, 861-1102, Japan
2. National Agricultural Center for Kyushu Okinawa Region, Koshi-shi, Kumamoto Prefecture, 861-1192, Japan
3. Ehime University, Matsuyama-shi, Ehime Prefecture, 790-8566, Japan

postanal region, $ad_2$ in preanal region. All legs monodactyle. Solenidiotaxy: I (1-2-2); II (1-1-2); III (1-1-0); IV (0-1-0). Tarsus I truncate anteriorly with angulation on each side. Solenidia $\omega_1$I and $\omega_2$I inserted close together, near anterior margin of tarsus I. Terrestrial animal.

**Type species:** *Separatoribates kujuensis* sp. nov.

**Etymology:** After the presence of dorsosejugal suture.

**Remarks:** The new genus has some characters in common with other members of the family Symbioribatidae Aoki 1966. However, the new genus differs from *Symbioribates Aoki 1966 and Piffliella Hammer, 1979 in the presence of distinct dorsosejugal suture and rounded rostrum.

**Separatoribates kujuensis** sp. nov.

[Japanese name: Kuju-koerisarasadani]

(Figs.1-4)

**Material examined:** Holotype (Female) (NSMT-Ac 13015) from the pasture in Kujuku-cho, Oita Prefecture, May-21-2007, K. NAKAMURA. The type is deposited in the National Museum of Nature and Science, Tokyo.

**Etymology:** After the local name of sampling area.
Fig. 2. Separatoribates kujuensis gen. nov., sp. nov., Holotype (NSMT-Ac 13015 ?; × 1,500). A.— Left side of notogaster; B.— Tarsus, tibia and genu of right leg I; C.— Femur of right leg I. c, la, lp, lm, h1, h2, p1, p2, p3; Dorsal setae; Aa, A1, A2, A3; Area porosae; im, ih, ip; Lyrifissures; gla: Opening of latero-opisthosomatic gland; ε: Famulus on tarsus of leg I; ω1, ω2, Φ1, Φ2, σ: Solenidia on tarsus, tibia and genu of leg, respectively.
Fig. 3.— Ventral view of *Separatoribates kujuensis* gen. nov., sp. nov. Holotype (NSMT-Ac 13015 ?; × 1,500). Dorsal setae; *ips*: Lyrifissure; *g*, *an*, *ad*: Genital, anal and adnal setae, respectively; *iad*: Adanal lyrifissure; 1a, 1b, 1c, 2a, 3a, 3b, 4a; Epimeral setae; *a*, *m*, *h*: Anterior, medial and posterior subcapitular setae, respectively.

PRODORSUM (Fig. 1): Prodorsum triangular in form. Rostral anterior margin weakly undulated. Rostral setae (ro) inserted far from the anterior margin of rostrum, near on the lateral side. Lamellae discernible, originating from antero-median margin of bothridia, convergent anteriorly to each other, only reaching halfway to the tip of rostrum. Lamellar setae inserted at the tip of costula. Interlamellar setae originating near dorsosejugal suture. Rostral, lamellar and interlamellar setae setiform, ciliate, shorter than their mutual distances, without apophyses. Bothridium completely hidden beneath the anterior margin, conic in form, opening anteriorly. Sensillus consisting of barbed globular head and thin smooth stalk. Exobothridial seta virtual, setal pore located antero-median to bothridium. Relative lengths of prodorsal setae and distances between them in>le>ro>ss; (ss-ss)>(ex-ex)>(in-in)>(le-le)>(ro-ro)>(le-in)>(ro-le).

NOTOGASTER: Width almost equal to length, evenly arched in lateral view, rolled ventrally. Dorsosejugal suture distinct, convex at the middle part, slightly angulated on each side. Ten pairs of notogastral setae thick, barbed, about half as long as interlamellar setae. Four pairs of areae porosae present; Aa median to c, A1 anterior to lm, A2 close and anterolateral to h2, A3 situated adjacent to h1. Five pairs of lyrifissure present (Figs. 1, 2A, 3); ia visible in ventral view, lateral to c; im anterolateral to lm; ih posterior to p3, ip adjacent and anterior to h1. Opening of latero-opisthosomac gland situated posterolateral to lm.

VENTRAL REGION (Fig. 3): Circumpedal ridge remarkable, mid part narrow. Anal opening appreciably longer than genital opening, equal in length to interspace between genital and anal openings. Genito-anal setae, 4-0-1-3. Genital setae thin, smooth; g1 inserted near anteromedian corner of each plate; g2 posterior to g1, g3 posterior to g2, g4 near posterior margin of plates. Aggenital setae absent. A pair of anal setae and three pairs of adanal setae thick, roughened; ad1 and ad2 slightly thicker than ad3. Anal setae inserted at mid-distance along the length of plates. Lyrifissures iad aligned longitudinally, in paraanal position. Adanal setae ad1 postanal, ad2 adanal and ad3 preanal. Genital and adanal setae variable in length. The relative distances: (ad2 - ad3) > (ad2 - ad3) > (ad1 - ad1) > (ad3 - ad3) > (g2 - g3) > (g1 - g2) > (ad1 - ad2) ≅ (an - an) ≅ (g1 - g1) > (g3 - g4). Sternal ridge absent. Apodemata SJ, III and IV visible. Epimeral setal formula: 3-1-2-1; setae smooth, variable in length; lb the longest, la the shortest. Diathric subcapitulum bearing 3 pairs of setae; a thick, ciliate; h and m thin, smooth. Relative lengths of some of the ventral setae: lb ≥ h > ad3 ≥ a ≥ ad2 > m ≥ ad1 > an ≥ g2 ≥ la ≥ g4.
Legs: All tarsi monodactyle; claws smooth. Setal formula of legs including famulus but excluding solenidia: I (1-4-2-3-12), II (1-5-2-3-10), III (2-2-0-2-10), IV (1-2-1-2-8). Solenidiotaxy; I (1-2-2), II (1-1-2), III (1-1-0), IV (0-1-0). Tarsus I truncate anteriorly. Famulus on tarsus I spiniform, situated postero-laterally and separated from $\omega_1$ I and $\omega_2$ I (Fig. 2). Solenidia $\omega_1$ I and $\omega_2$ I swollen at the tips, almost equal in length, contiguous to each other. Solenidia $\phi_1$I swollen at tip, $\phi_2$I sharply pointed at tip; $\phi_2$I conspicuously longer than $\phi_1$I; each of them arising from small apophysis; $\phi_2$I inserted antero-laterally and contiguous to $\phi_1$I.

Remarks: The new present species is different from Symbioribates papuensis AOKI, 1966, Symbioribates aokii Karasawa & Behan-Pelletier, 2007 and Piffliella eduardi Hammer, 1979 in form and length of notogastral setae. Moreover, it differs from S. papuensis in circular areae porosae, from S. papuensis and S. aokii in presence of the circumpedal ridge and swollen tips of solenidia $\omega_1$I and $\omega_2$I, and from P. eduardi in absence of immovable pteromorphae.

Key to Four species belonging to three genera of Symbiobatidae

1 (6). Dorsosejugal suture absent .......................... 6
2 (3). Immovable pteromorphae present ..................

Piffliella eduardi Hammer, 1979 (Java)

3 (2). Immovable pteromorphae absent ................. 4
4 (5). Notogastrer not expand anterolaterally; femur III with 3 setae; coxisternal setation of (2-2-1-1) ............ Symbioribates papuensis AOKI, 1966 (New Guinea)
5 (4). Notogastrer expand anterolaterally; femur III with 2 setae; coxisternal setation of (3-1-2-2) ............. Symbioribates aokii Karasawa & Behan-Pelletier, 2007 (Okinawa, Japan)

6 (1). Dorsosejugal suture present....................... Separatoribates kjujiensis gen. nov., sp. nov. (Oita, Japan)

Acknowledgements

The authors wish to express our sincere thanks to Emeritus Prof. Dr. J. Aoki of Yokohama National University for his encouragement and comments on the manuscript, to Mas. K. Nakamura of Kyushu University for his helpful kindness to our studies. They also thank Dr. T. Fujikawa of Asagiri-cho in Kumamoto Prefecture for lending them her literatures.

References


