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ヒメミミズ科の1999年以降の種の追録

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Mana NOZAKI* and Yoshio NAKAMURA* : Additional list of Enchytraeidae species (Annelida : Oligochaeta) since 1999

Abstract

Enchytraeid worms (microdrilids) are designated as potworms which belong to the group of the soil pedosphere together with earthworms (megadrilids). Recently, their contribution to three functions (decomposition, production and self-purification) of the soil pedosphere is clarified. Since the checklist of Enchytraeidae of the world was published in 2000, many species were described throughout the world. We listed them in this report.

キーワード：ヒメミミズ科，種，記載

1　はじめに

ヒメミミズ科は環形動物門貧毛類に属し，“エンキ”と称される．貧毛類（ミミズ類）はこのヒメミミズ科などの小型ミミズ群と，ツリミミズ科やフトミミズ科などの大型ミミズ群に分けられる．

Darwin（1904）がミミズに関する書籍を刊行以来，大型ミミズ群に関する情報が多く出され，土壌圏の有する３機能（分解，調整，生産）における重要な役割が指摘されている（Edwards and Lofty, 1972；中村, 1998）．それに比べてヒメミミズ科に関する情報（分類・生態とも）は少なく，とくに日本の情報は少ない．

ヒメミミズ科の生息場は氷河・タイガから熱帯雨林，湿地・海浜・海中（海綿寄生）と多岐にわたり（Nielsen and Christensen, 1959 ; O’Connor, 1967），陸生種と水（淡水・海水）生種がある．このうち陸生種は体長１－20ミリほどで細長く，乳白から淡黄色である．センチュウと混同されたり，腐敗した作物や樹木の根から見つかることから農業上害動物とされる（Kurir, 1964 ; Hewit, 1908）．しかし，ヒメミミズ科に関する情報がしだいに集積するとともに，土壌圏の機能への寄与が明らかにされ，その内容は大型ミミズ群と同じあるいは固有のことがらもある（Dash, 1983 ; 中村, 1993a）．モダー腐植の生成には欠かせない生物で（中村，1980 ; Toutain，1987 ; Yli-Olli and Huhta, 2000），極地（Swift　*et al*., 1998），凍土や標高3000m以上（Block and Christensen, 1985）の土壌生成にも重要な役割を果たす．環境指標生物，とくに重金属や薬剤の急性・慢性判定生物（Didden and Römbke, 2001）として，さらに砕片分離種（例：*Enchytraeus japonensis* NAKAMURA, 1990）は再生（茗原, 1999），発光種（例：*Fridericia heliota* ZALESSKAJA, 1990）は系統発生（Rota *et al*., 2003）の実験動物に供される．

畑地生態系では土壌構造の形成や物質循環に寄与する（Kasprzack, 1982）．今後の大きな課題は，土壌動物とともに土壌圏のエダホン（Edaphon : Francé, 1920 ; 土壌生物）を構成する土壌微生物，とくに作物病原性微生物との関連を明らかにすることにある（中村, 1993a ; Nakamura, 2000）．大型ミミズ群が生息・活動し難い農法においては，大型ミミズ群に替わる土壌環境形成動物（Lavelle *et al*., 1998）としての可能性は高い（中村, 1991 ; Topoliantz *et al*., 2000）．例えば大型ミミズ群に致命的打撃を与える耕起が不可欠な農法，あるいは大型ミミズ群を捕食するモグラの根食害や土壌攪乱などの被害を避けるために，大型ミミズ群を増殖させない農法においてとくに有効と想定される（Nakamura *et al*., 2003）．水田生態系にも水生類とともに多数生息し（中村, 1993b；横田, 2002），とくに水生類が生息・活動し難い落水から次の植え付け期間では，水生類に替わる土壌環境形成動物としての可能性は高い（中村, 1988）．

生ゴミなどの有機物の堆肥化においても，大型ミミズ群の堆肥ミミズ（シマミミズ：*Eisenia fetida*）とともに重要な役割を果たし（中村, 1998），また小魚（ト

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ゲウオ，ヒメハヤ）の生き餌とされる（Wu *et al*., 2003）.

わが国におけるヒメミミズ科の分類の情報は少なく，著者らの知る限りでは，記録は15種にすぎない（中村, 2000）．2000年にそれまでヒメミミズ科として世界から記載された32属594種が収録された（中村, 2000）.本報告ではその後に記載された種を収録した.

2　目録（1999年以降に種として記載された；なお一部に前報収録後の同〈1998〉年に記載された種を含む）

前報（中村, 2000）に準じて次の順序で記載した：
○属名，命名者，記載年　　属和名（命名者，記載年）
〈属内の群分けのための基準〉
種名，命名者，記載年
　種名，命名者，記載年，誌名，巻，頁，図番号
なお和名は日本産に与えられている.

○***Achaeta* Vejdovsky, 1877**
ケナシヒメミミズ属（中村, 1999）
〈付属小球（follicle）無し〉

***Achaeta gigantea* Dózsa-farkas, 2000**
Achaeta gigantea Dózsa-farkas, 2000, Opusc. Zool. Budapest, 32, p. 82, figs. 1-2.

***Achaeta macrocyta* Christensen et Dózsa-farkas, 1999**
Achaeta macrocyta Christensen et Dózsa-farkas, 1999, Biol. Skrift., 52, p. 28, fig. 20.

○***Bryodrilus* Ude, 1892**
タケヒメミミズ属（中村, 1999）

***Bryodrilus longifistulatus* Xie, Liang et Wang, 2000**
Bryodrilus longifistulatus Xie, Liang et Wang, 2000c, Species Diversity, 5, p. 96, fig. 2.

***Bryodrilus macrotheca* Xie, Liang et Wang, 2000**
Bryodrilus macrotheca Xie, Liang et Wang, 2000c, Species Diversity, 5, p. 98, fig. 3.

***Bryodrilus tunicatus* Dózsa-farkas et Christensen, 2002**
Bryodrilus tunicatus Dózsa-farkas et Christensen, 2002, Natura Jutlandica (Occasional papers), 2, p.69, fig. 1.

○***Cognettia* Nielsen et Christensen, 1959**
アミメヒメミミズ属（中村, 1999）

***Cognettia bisetosa* Christensen et Dózsa-farkas, 1999**
Cognettia bisetosa Christensen et Dózsa-farkas, 1999, Biol. Skrift., 52, p. 14, fig. 8, table Ⅱ.

***Cognettia hayachinensis* Nakamura, 2001**
Cognettia hayachinensis Nakamura, 2001, Edaphologia, 68, p. 15, fig. 1a-d.

***Cognettia piperi* Christensen et Dózsa-farkas, 1999**
Cognettia piperi Christensen et Dózsa-farkas, 1999, Biol. Skrift., 52, p. 16, fig. 10, table Ⅱ.

***Cognettia quadrosetosa* Christensen et Dózsa-farkas, 1999**
Cognettia quadrosetosa Christensen et Dózsa-farkas, 1999, Biol. Skrift., 52, p. 15, fig. 9, table Ⅱ.

○***Enchytraeus* Henle, 1837**
ヒメミミズ属（中村, 1987）
〈貯精嚢（spermathecae）無し〉

***Enchytraeus athecathus* Wang, Xie et Liang, 1999**
Enchytraeus athecathus Wang, Xie et Liang, 1999, Hydrobiologia, 406, p. 62, fig. 5B-D, table 2.

〈貯精嚢（spermathecae）有り〉

***Enchytraeus chaoyangensis* Xie, Liang et Wang, 2000**
Enchytraeus chaoyangensis Xie, Liang et Wang, 2000d, Acta Hydrobiol., 42, p. 69, fig. 1.

***Enchytraeus luxuriosus* Schmelz et Collado, 1999**
Enchytraeus luxuriosus Schmelz et Collado, 1999, Carolinea, 57, p. 93, figs. 1-2.

***Enchytraeus syracussus* (Dash et Mitchell, 1981)**
所属変更
Fridericia syracussa Dash et Mitchell, 1981, Rev. Ecol. Sol., 18, p. 259, figs. 1-4.
Enchytraeus syracussus: Schmelz, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 394, fig. 73S, T.

○***Fridericia* Michaelsen, 1889**
ハタケヒメミミズ属（中村, 1987）
〈貯精嚢（spermatheca）膨大部（ampula）無し〉

***Fridericia armenica*: Schmelz, 2003**
Fridericia armenica Schmelz, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 104, figs. 13E-H, 14A-E.

Fridericia benti Schmelz, 2002
Fridericia benti Schmelz, 2002, Natura Jutlandica (Occasional papers), 2, p. 78, fig. 2a.

***Fridericia composti* Schmelz, 2003**
Fridericia composti Schmelz, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 158, fig. 21B-D.

***Fridericia cusanica* Schmelz, 2003**
Fridericia cusanica Schmelz, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 170, figs. 2A, 28J-M.

***Fridericia loretensis* SCHMELZ, 2003**

Fridericia loretensis SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 225, fig. 43A-C.

***Fridericia parathalassia* SCHMELZ, 2002**

Fridericia parathalassia SCHMELZ, 2002, Natura Jutlandica (Occasional papers), 2, p. 79, fig. 2g-i.

***Fridericia parauniseta* XIE, LIANG et WANG, 2000**

Fridericia parauniseta XIE, LIANG et WANG, 2000b, Species Diversity, 5, p. 55, fig. 2.

***Fridericia unisetosa* XIE, LIANG et WANG, 2000**

Fridericia unisetosa XIE, LIANG et WANG, 2000b, Species Diversity, 5, p. 54, fig. 1.

〈貯精嚢（spermatheca）膨大部（ampula）２個有り〉

***Fridericia argillae* SCHMELZ, 2003**

Fridericia argillae SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 102, figs. 12A-D, 13A-D.

***Fridericia auritoides* SCHMELZ, 2003**

Fridericia auritoides SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 109, figs. 1A, 16A-G.

***Fridericia chongqingensis* XIE, LIANG et WANG, 1999**

Fridericia chongqingensis XIE, LIANG et WANG, 1999, Acta Hydrobiol. Sinica, 23 (suppl.), p.158, fig. 1A-E, table 1.

***Fridericia christiani* BAUER, 1998**

Fridericia christiani BAUER, 1998, Linzer Biol. Beitr., 30, p. 5, figs. 1-2.

Fridericia christiani：中村, 2000, 東北農試研究資料, 24, p. 52.〈未検討種 not seen〉

***Fridericia dozsae* SCHMELZ, 2003**

Fridericia dozsae SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 183, figs. 6B, 32J-M.

***Fridericia granosa* SCHMELZ, 2003**

Fridericia granosa SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 202, fig. 37A-F.

***Fridericia healyae* SCHMELZ, 2003**

Fridericia healyae SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 205, figs. 38A-G.

***Fridericia heliota* ZALESSKAJA, 1990**

Fridericia heliota ZALESSKAJA, 1990, in Zalesskaja, Petushkov & Rodionova, 1990, Dokl. Akad. Nauk SSSR (Biol.), 310, p. 496, fig. 1.

Fridericia heliota： ROTA, ZALESSKAJA, RODIONOVA & PETUSHKOV, 2003, J. Zool. Lond., 260, p. 292, figs. 1-3.

***Fridericia humicola* BRETCHER, 1900**

Fridericia humicola BRETCHER, 1900, Rev. Suisse Zool., 8, p. 30.

Fridericia humicola：中村, 2000, 東北農試研究資料, 24, p. 52.〈未確定種 species dubiae〉

Fridericia humicola： SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 214, figs. 1A, 39A-C.

***Fridericia lenta* SCHMELZ, 2003**

Fridericia lenta SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 221, figs. 1B, 41A-J, 42A-H.

***Fridericia multisegmentata* WANG, XIE et LIANG, 1999**

Fridericia multisegmentata WANG, XIE et LIANG, 1999, Hydrobiologia, 406, p. 62, fig. 4B-D, table 1.

***Fridericia nanningensis* XIE, LIANG et WANG, 2001**

Fridericia nanningensis XIE, LIANG et WANG, 2001, Proceedings Biol. Soc. Washington, 114, p. 276, fig. 4 A-E, table 1.

***Fridericia sardorum* COGNETTI, 1901**

Fridericia sardorum COGNETTI, 1901, Boll. Mus. Zool. Anat. Torino, 16 (404), p. 7, figs. 5-6.

Fridericia sardorum：中村, 2000, 東北農試研究資料, 24, p. 52.〈未確定種 species dubiae〉

Fridericia sardorum： SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 313, fig. 60I-L.

***Fridericia sohlenii* ROTA, HEALY et ERSÉUS, 1998**

Fridericia sohlenii ROTA, HEALY et ERSÉUS, 1998, Zool. Anz., 237, p. 161, fig. 2A-D.

***Fridericia viridula* ISSEL, 1905**

Fridericia viridula ISSEL, 1905, Ann. Mus. Stor. Nat. Genova, (3), 2, p. 34, figs. 9-11.

Fridericia viridula：中村, 2000, 東北農試研究資料, 24, p. 52.〈未確定種 species dubiae〉

Fridericia viridula： SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 344, fig. 67A-I.

〈貯精嚢（spermatheca）膨大部（ampula）３個あるいはそれ以上有り〉

***Fridericia glandifera* FRIEND, 1911**

Fridericia glandifera FRIEND, 1911, Nott. Trans. Nat. Soc., 59, p. 40.

Fridericia glandifera：中村, 2000, 東北農試研究資料, 24, p. 52.〈未確定種 species dubiae〉

Fridericia glandifera： SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 196, figs. 34F-K, 35A-E.

〈貯精嚢（spermatheca）膨大部（ampula）片側膨らみ〉

***Fridericia dissimilis* DUMNICKA, 1998**

Fridericia dissimilis DUMNICKA, 1998, Annls Limnol., 34. p. 155, figs. 1-2, table 1.

Fridericia dissimilis：中村, 2000, 東北農試研究資料,

24, p. 52.〈未検討種 not seen〉

***Fridericia monopera* COGNETTI, 1903**

Fridericia monopera COGNETTI, 1903, Boll. Mus. Zool. Anat. Torino, 18 (454), p. 2.

Fridericia monopera : 中村, 2000, 東北農試研究資料, 24, p. 52.〈未確定種 species dubiae〉

Fridericia monopera : SCHMELZ, 2003, Abh. Naturw. Ver. Hamburg, 38, p. 248, table 4.

○***Grania* SOUTHERN, 1913**

***Grania aquitana* ROTA et ERSÉUS, 2003**

Grania aquitana ROTA et ERSÉUS, 2003, Sarsia, 88, p. 226, fig. 7, table 1.

***Grania canaria* ROTA et ERSÉUS, 2003**

Grania canaria ROTA et ERSÉUS, 2003, Sarsia, 88, p. 213, fig.1, table 1.

***Grania dolichura* ROTA et ERSÉUS, 2000**

Grania dolichura ROTA et ERSÉUS, 2000, N. Z. J. Zool., 27, p. 249, fig. 3.

***Grania fortunata* ROTA et ERSÉUS, 2003**

Grania fortunata ROTA et ERSÉUS, 2003, Sarsia, 88, p. 215, fig. 2, table 1.

***Grania mauretanica* ROTA et ERSÉUS, 2003**

Grania mauretanica ROTA et ERSÉUS, 2003, Sarsia, 88, p. 224, fig. 6, table 1.

***Grania papillinasus* ROTA et ERSÉUS, 2003**

Grania papillinasus ROTA et ERSÉUS, 2003, Sarsia, 88, p. 239, fig. 13.

***Grania tasmaniae* ROTA et ERSÉUS, 2000**

Grania tasmaniae ROTA et ERSÉUS, 2000, N. Z. J. Zool., 27, p. 247, fig. 2.

***Grania torosa* ROTA et ERSÉUS, 2003**

Grania torosa ROTA et ERSÉUS, 2003, Sarsia, 88, p. 237, fig. 12.

***Grania vikinga* ROTA et ERSÉUS, 2003**

Grania vikinga ROTA et ERSÉUS, 2003, Sarsia, 88, p. 222, fig. 5.

○***Hemienchytraeus* CERNOSVITOV, 1934**

ハンヒメミミズ属（中村, 1999）

***Hemienchytraeus brachythecus* XIE, WANG et LIANG, 1999.**

Hemienchytraeus brachythecus XIE, WANG et LIANG, 1999. Acta Hydrobiol. Sinica, 23, p. 355, fig. 2A-J, table 2.

***Hemienchytraeus planisetosus* XIE, WANG et LIANG, 1999.**

Hemienchytraeus planisetosus XIE, WANG et LIANG, 1999. Acta Hydrobiol. Sinica, 23, p. 353, fig. 1A-I, table 1.

○***Henlea* MICHAELSEN, 1889b**

コブヒメミミズ属（新川, 1987）

〈腸付属物（intestinal diverticula）無し〉

***Henlea adiverticulata* CHRISTENSEN et DÓZSA-FARKAS, 1999**

Henlea adiverticulata CHRISTENSEN et DÓZSA-FARKAS, 1999, Biol. Skrift., 52, p. 18, fig. 11, table Ⅲ.

〈腸付属物（intestinal diverticula）は大きくかたまり状〉

***Henlea conchifera* CHRISTENSEN et DÓZSA-FARKAS, 1999**

Henlea conchifera CHRISTENSEN et DÓZSA-FARKAS, 1999, Biol. Skrift., 52, p. 19, fig. 12, table Ⅲ.

○***Marionina* MICHAELSEN, 1889b**

ミズヒメミミズ属（中村, 1999）

〈剛毛（setae）は直線状（straight）で，貯精嚢（spermathecae）は腸（intestine）と連結しない（free）〉

***Marionina righiana* XIE et ROTA, 2001**

Marionina righiana XIE et ROTA, 2001, J. Natural Hist., 35, p. 1425, fig. 4A-D.

〈剛毛（setae）は直線状（straight）で，貯精嚢（spermathecae）は腸（intestine）と連結（connect）〉

***Marionina nordica* CHRISTENSEN et DÓZSA-FARKAS, 1999**

Marionina nordica CHRISTENSEN et DÓZSA-FARKAS, 1999, Biol. Skrift., 52, p. 29, fig. 21A-F, table Ⅵ.

***Marionina sacculata* XIE et ROTA, 2001**

Marionina sacculata XIE et ROTA, 2001, J. Natural Hist., 35, p. 1421, fig. 2A-E.

***Marionina seminuda* XIE et ROTA, 2001**

Marionina seminuda XIE et ROTA, 2001, J. Natural Hist., 35, p. 1423, fig. 3A-F.

***Marionina sexdiverticulata* DÓZSA-FARKAS, 2002**

Marionina sexdiverticulata DÓZSA-FARKAS, 2002a, The fauna of the Fertő-Hanság National Park., Hungarian Natural History Museum, Budapest, p. 159, figs. 2-4.

***Marionina sinica* XIE et ROTA, 2001**

Marionina sinica XIE et ROTA, 2001, J. Natural Hist., 35, p. 1419, fig. 1A-C.

***Marionina spongicola* ROTA et MANCONI, 2004**

Marionina spongicola ROTA et MANCONI, 2004, Internat. Rev. Hydrobiol., 89, p. 59, fig. 1.

○***Mesenchytraeus* EISEN, 1877 (1979)**

ナカヒメミミズ属（中村, 1999）

〈貯精嚢（spermathecae）の付属腺（diverticula）が無く，腸（intestine）と連結しない（free）〉

***Mesenchytraeus rhithralis* HEALY et FEND, 2002**

Mesenchytraeus rhithralis HEALY et FEND, 2002, J. Natural Hist., 36, p. 17, fig. 1.

***Mesenchytraeus sveni* CHRISTENSEN et DÓZSA-FARKAS, 1999**

Mesenchytraeus sveni CHRISTENSEN et DÓZSA-FARKAS, 1999, Biol. Skrift., 52, p. 8, fig. 4, table Ⅰ.

〈貯精嚢（spermathecae）の付属腺（diverticula）が1個有り，腸（intestine）と連結（connect）〉

***Mesenchytraeus kuril* HEALY et TIMM, 2000**

Mesenchytraeus kuril HEALY et TIMM, 2000, Species Diversity, 5, p. 178, fig. 1.

***Mesenchytraeus torbeni* CHRISTENSEN et DÓZSA-FARKAS, 1999**

Mesenchytraeus torbeni CHRISTENSEN et DÓZSA-FARKAS, 1999, Biol. Skrift., 52, p. 7, fig. 3, table Ⅰ.

〈貯精嚢（spermathecae）の付属腺（diverticula）が2個有り，腸（intestine）と連結しない（free）〉

***Mesenchytraeus antaeus* ROTA et BRINKHURST, 2000**

Mesenchytraeus antaeus ROTA et BRINKHURST, 2000, J. Zool. Lond., 252, p. 29, figs. 1-9.

***Mesenchytraeus melanocephalus* CHRISTENSEN et DÓZSA-FARKAS, 1999**

Mesenchytraeus melanocephalus CHRISTENSEN et DÓZSA-FARKAS, 1999, Biol. Skrift., 52, p. 6, fig. 2, table Ⅰ.

○***Oconnorella* ROTA, 2000**

***Oconnorella changbaishanensis* (XIE, LIANG et WANG, 2000)**

Marionina changbaishanensis XIE, LIANG et WANG, 2000a, Acta Zootaxonomica Sinica, 25, p. 143, figs. 1-7.

Oconnorella changbaishanensis: DÓZSA-FARKAS, 2002b, Natura Jutlandica (Occasional papers), 2, p 88, table 1.

***Oconnorella macrobulbi* (CHRISTENSEN et DÓZSA-FARKAS, 1999)**

Marioniona macrobulbi CHRISTENSEN et DÓZSA-FARKAS, 1999, Biol. Skrift., 52, p. 30, fig. 22, table Ⅵ.

Oconnorella macrobulbi: DÓZSA-FARKAS, 2002b, Natura Jutlandica (Occasional papers), 2, p. 88, table 1.

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