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Coprophilous Pyrenomycetes from Japan IV*

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古谷　航平**・宇田川俊一***: 日本産糞生核菌類の研究 IV*

Summary

The present paper, fourth in the series deals with eight additionals: *Arnium irregulare* sp. nov., *A. japonense* sp. nov., *Coniochaeta polysperma* sp. nov., *Delitschia orientalis* sp. nov., *Podosordaria jugoyasan* (Hara) comb. nov., and the other three species as reported for the first time from Japan.

In this fourth paper on Japanese coprophilous Pyrenomycetes are added eight taxa to those previously reported (I–III). Four species are described as new and the other three taxa are newly recorded from Japan. Also, in view of the present concept, we take this opportunity to transfer *Poronia jugoyasan* Hara, a peculiar fungus in Japan, to *Podosordaria*. All materials are deposited in collections in the National Institute of Hygienic Sciences, Tokyo (NHL).

Descriptions

Arnium irregulare Furuya et Udagawa sp. nov. (Fig. 1)

Peritheciis dispersis, fere superficialibus, brunneo-nigris, ovatis vel elongatis-ovatis, 650–900 x 250–420 μm, basi pilosis; pilis brunneis, conglutinatis, usque 70 μm longis et 25 μm diam., ex cellulis brunneis, cylindraceis vel ovatis, interdum irregularibus, 8–15 × 4–9 μm compositis. Collo brevi, conico, valde brunneo-nigro, glabro. Peridio membranaceo, semitranslucido; cellulis externis obtuse angulatis vel aliquantum inflatis, tenuibus, brunneis, 8–20 μm diam. Ascis 4–8-sporis, cylindraceis, 200–380 × 24–28 μm, superne late rotundatis vel aliquantum truncatis, ad apicem cum annulo distincto praeditis, inferne longe stipitatis. Paraphysibus hyalinis, filiformibus vel ventricosis, septatis. Ascosporis oblique uniseriatis, saepe irregulariter dispositis, unicellularibus, primo hyalinis, deinde olivaceo-brunneis vel atrobrunneis, opacis, late ellipsoideis vel ovoideis, vulgo 26–36 × 16–25 μm; appedicibus ad utroque apices dispositis, gelatinosis, flagelli-

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formibus, 20–50×4–6(–7) μm, hyalinis, postremo evanescentibus. Foramine germinali apicali, 1–2 μm diam.

Typo: In fimo capri ex Kagoshima-shi, Kagoshima-pref., Japan, April 15, 1971, NHL 22690, in laboratorio culta.

Perithecia scattered, nearly superficial, brownish black, ovate to elongate-ovate, 650–900×250–420 μm, covered on the exposed part (excepting neck part) with clusters of brownish, agglutinated hairs measuring up to 70 μm long and 25 μm wide; neck short, conical, dark brownish black, glabrous. Cells of the hairs brownish, cylindrical to ovate or irregular-shaped, 8–15×4–9 μm. Peridium membranaceous, semitransparent, consisting of obtusely angular to somewhat swollen, thin-walled, brown cells measuring 8–20 μm in diam. Asci 4–8-spored, cylindrical, 200–380×24–28 μm, broadly rounded to rather truncated above, with small, distinct, ring-like thickening in the apex, tapering below into a slender stipe up to 100–120 μm long. Paraphyses hyaline, filiform or ventricose, septate. Ascospores obliquely uniseriate, often irregularly arranged, one-celled, at first hyaline, then becoming olivaceous brown to dark brown, opaque, broadly ellipsoid

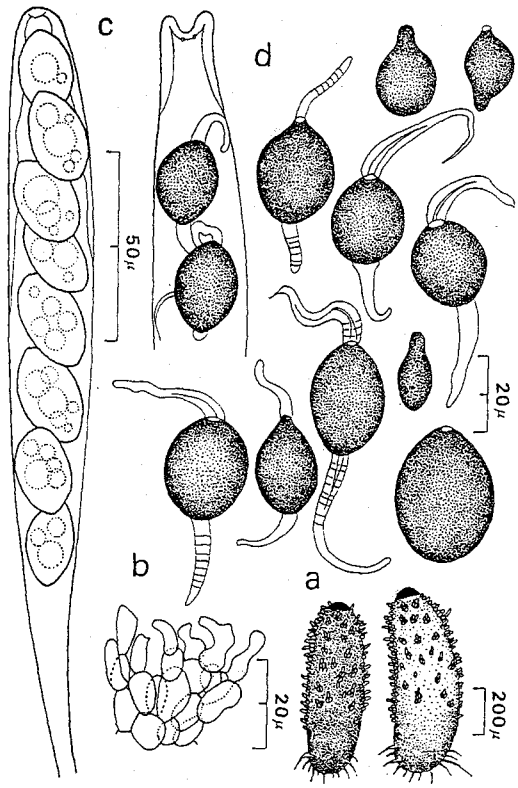


Fig. 1. *Arnium irregulare.*

a. Perithecia. b. Aggultinated hairs. c. Ascus and its apical portion.
d. Various ascospores.

to ovoid, variable in size, usually 26–36 × 16–25 μm, with a gelatinous appendage at each end; gelatinous appendages hyaline, lash-like, terminally attached, 20–50 μm long and 4–6(–7) μm wide at the base, at maturity evanescent; germinal pore apical, 1–2 μm in diam.

Habitat: on goat dung, Kagoshima-shi, Kagoshima-pref., April 15, 1971, NHL 22690.

Notes. Arnium irregulare is a distinctive species unlikely to be confused with any other member of the genus. It may be readily distinguished from *A. triepitheca* (Krug and Cain, 1972) by the irregularity of spore numbers in the ascus and by the nature of the gelatinous appendage of ascospores. There are, in the latter species, two gelatinous appendages at the apical end of the spore.

Arnium japonense Furuya et Udagawa sp. nov. (Fig. 2)

Peritheciis superficialibus, sparsis, pyriformibus, olivaceo-brunneis vel atrobrunneis, 650–1,100 × 300–400 μm, nudis vel parum pilosis; pilis longis, flexuosis, dilute brunneis, septatis, basi 2.5–3.5 μm latis. Collo perithecii conico vel elongato, 200–450 × 160–285 μm, papillis parvis et nigris tecto. Peridio tenui, membranaceo, semitranslucido; cellulis externis parvis, irregularibus, dilute brunneis, 3–8 μm diam. Ascis multisporis (256), clavatis, 270–360 × 80–100 μm, superne late rotundatis, sine apice spectabili, brevi-stipitatis. Paraphysibus vesicularibus, evanescentibus. Ascosporis multiseriatis, primum hyalinis, postremo olivaceo-brunneis vel atrobrunneis, ellipsoideis, e latere visa inequilateralibus, 17.5–24 × 11–14 μm, utrinque cum foraminibus germinalibus rotundis, ab utroque extremis; appendicibus ad utroque apices asymmetrice dispositis, gelatinosis, flagelliformibus, 45–60 × 2–3 μm. Conidiis incognitis. Mycelio brunneo, ramoso, septato, 2–3.5 μm diam., laevi vel minute aspero.

Typo: In fimo leporino ex Ebino-machi, Nishimorokata-gun, Miyazaki-pref., Japan, April 19, 1971, NHL 22687, in laboratorio culta.

Perithecia superficial, scattered, pyriform, olivaceous brown to dark brown, 650–1,100 × 300–400 μm, glabrous or with a few, long, flexuous, pale brown, septate, hyphal-like hairs measuring 2.5–3.5 μm in diam.; neck conical to elongated, 200–450 × 160–285 μm, covered with small black papillae. Peridium thin, membranaceous, semitransparent, consisting of small, irregular-shaped, pale brown cells measuring 3–8 μm in diam. Asci 256-spored, clavate, 270–360 × 80–100 μm, broadly rounded above, without ring-like thickening in the apex, tapering below into a short stipe measuring 50–70 μm long. Paraphyses vesicular, evanescent. Ascospores multiseriate, hyaline at first, becoming olivaceous brown to dark brown, ellipsoid in face view, inequilateral in side view with one side flattened, 17.5–24 × 11–14 μm, with a circular germinal pore near each end of the spore measuring 1–1.5 μm in diam.; gelatinous appendages lash-like, 45–60 × 2–3 μm wide at the base, eccentrically attached at each end, often irregularly broken and fugacious. Conidial structures absent.

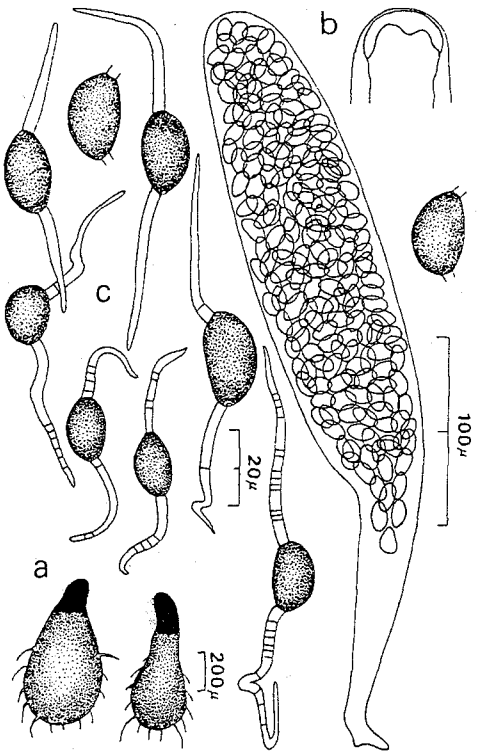


Fig. 2. *Arnium japonense.*
a. Perithecia. b. Ascus and its apical portion. c. Ascospores.

Cultures on oat-meal agar spreading broadly, floccose, consisting of a thin basal felt with surface appearing loose, dark yellowish brown to olive black, perithecia not produced; reverse dark bluish gray. Mycelium brownish, branched, septate, 2–3.5 μm in diam., with walls smooth to minutely roughened.

At 37 C, growth is nil.

Habitat: on hare dung, Ebino-machi, Nishimorokata-gun, Miyazaki-pref., April 19, 1971, NHL 22687 (*Holotype*), and Kirishima-machi, Aira-gun, Kagoshima-pref., April 18, 1971, NHL 22688, and on mouse dung, Togakushi-mura, Kamiminou-gun, Nagano-pref., May 3, 1971, NHL 22689 (=SANK 10273).

Notes. As far as we are aware, there is only one other *Arnium* having 256-spored asci (Lundqvist, 1972; Krug and Cain, 1972). This is *A. absimile* (Cain, 1962; Krug and Cain, 1972), which differs from *A. japonense* in its nature of the perithecial hairs and its ascospores with one germinal pore at the apical end.

Coniochaeta polysperma Furuya et Udagawa sp. nov. (Fig. 3)

Peritheciis atrobrunneis, sparsis, immersis vel partim immersis, pyriformibus, 385–450×225–300 μm, basi glabris; collo fere nigro, conico, 100–145×105–145 μm, piloso.

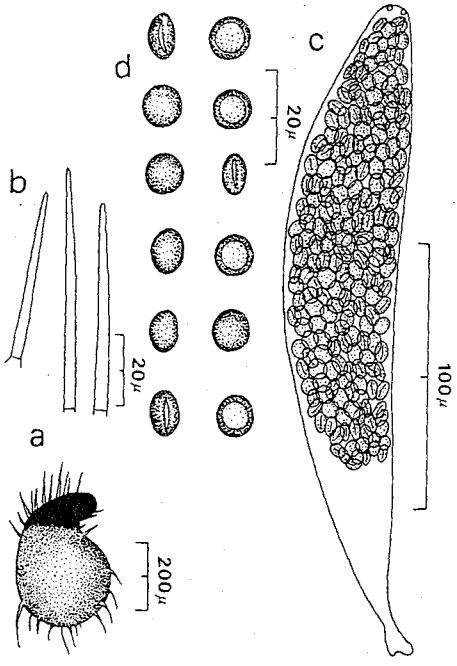


Fig. 3. *Coniochaeta polysperma.*
a. Perithecium. b. Hairs. c. Ascus. d. Ascospores.

Pilis atrobrunneis vel nigris, parce septatis, aculeatis, 30–100 μm longis, basi 4–5 μm crassis. Peridio perithecii tenui, brunneo, semitranslucido, aliquantum coriaceo. Ascis multisporis (512), late cylindraceis vel clavatis, 200–250×50–55 μm, superne late rotundatis, ad apicem cum annulo distincto praeditis, brevi-stipitatis. Paraphysibus abundantibus, fere filiformibus, septatis. Ascosporis discoideis, multiseriatis, globosis vel late ovatis, e latere visa ellipticis, 7–8×6–8×4–4.5 μm, primum hyalinis, postremo dilute olivaceo-brunneis vel atrobrunneis, opacis, strato mucoso hyalino involventibus. Stria germinali laterali.

Typo: In fimo leporino ex Nanmoku-mura, Kanra-gun, Gunma-pref., Japan, June 1, 1971, NHL 2663, in laboratorio culta.

Perithecia dark brown, scattered, immersed to semi-immersed, pyriform, 385–450× 225–300 μm, glabrous except neck region; neck nearly black, conical, 100–145×105–145 μm at the base, covered with dark brown to black, sparingly septate, pointed hairs, 30–100 μm long and 4–5 μm wide at the base. Peridium of perithecium thin, brown, semitransparent, rather coriaceous. Asci 512-spored, broadly cylindrical to clavate, 200–250×50–55 μm, broadly rounded above with a distinct, large, thickened ring in the apex, tapering below into a very short stipe; paraphyses abundant, nearly filiform, septate, mixed with the asci. Ascospores discoid, multiseriate, globose to broadly ovate in face

view and elliptical in side view, 7–8 × 6–8 × 4–4.5 μm, at first hyaline, then becoming light olivaceous brown to dark brown and opaque, surrounded by a gelationus layer; germinal slit lateral, extending almost the full length of the spore.

Cultures on oat-meal agar growing restrictedly, thin, with vegetative mycelium submerged, producing few perithecia and sparse aerial hyphae, gray to light orange; reverse brown to dull orange.

At 37 C, growth is nil.

Habitat: on hare dung, Nanmoku-mura, Kanra-gun, Gunma-pref., June 1, 1971, NHL 2663 (=SANK 10673).

Notes. *Coniochaeta polysperma* is one of multi-spored species of the genus. *C. multispora* (Cain, 1934) can be confused with this species but may be distinguished by its about 1,000-spored asci and smaller ascospores. This species is also morphologically similar to *C. hansenii* with the exception of ascus size and spore number.

Delitschia orientalis Furuya et Udagawa sp. nov. (Fig. 4)

Pseudotheciis sparsis, immersis vel partim immersis, brunneis vel atrobrunneis, pyriformibus, 600–850 × 400–600 μm, fere glabris. Collo nigro, brevi, conico. Peridio tenui, membranaceo vel aliquantum coriaceo, primo semitranslucido, deinde atrobrunneo et opaco; cellulis externis irregulariter angulatis, pachydermaticis. Ascis 8-sporis, cylindraceis, 300–350 × 35–40 μm, superne late rotundatis, brevi-stipitatis. Pseudoparaphysibus numerosis, hyalinis, filiformibus, septatis, 1–2 μm diam. Ascosporis oblique uniseriatis, brunneis vel atrobrunneis, opacis, ellipsoideis, 52–60 × 20–26 μm, utrinque acutatis, oblique uniseptatis, medio profunde constrictis, strato mucoso hyalino involutis; cellula ascosporae ovata, 32–38 × 18–20(–24) μm. Stria germinali longitudinaliter prolata.

Typo: In fimo leporino ex Ikawa, Shizuoka-shi, Shizuoka-pref., Japan, April 29, 1974, NHL 2761, in laboratorio culta.

Pseudothecia scattered, immersed to semi-immersed, brown to dark brown, pyriform, 600–850 × 400–600 μm, nearly glabrous; neck black, short, conical. Pseudothecial peridium thin, membranaceous to rather coriaceous, at first semitransparent, then becoming dark brown and opaque, consisting of irregularly angular, thick-walled cells. Asci 8-spored, cylindrical, 300–350 × 35–40 μm, broadly rounded above, tapering below into a short stipe up to 60 μm long. Pseudoparaphyses numerous, hyaline, filiform, septate, 1–2 μm in diam. Ascospores obliquely uniseriate, brown to dark brown, opaque, ellipsoid, 52–60 × 20–26 μm, acutely rounded at the ends, obliquely uniseptate, very deeply constricted at median septum and separable at maturity; each cell ovate, 32–38 × 18–20 (–24) μm, surrounded by a narrow gelatinous layer; germinal slit longitudinal, extending the full length of cells.

Habitat: on hare dung, Ikawa-tôge, Shizuoka-shi, Shizuoka-pref., Japan, April 29, 1974, NHL 2761 (=SANK 110274).

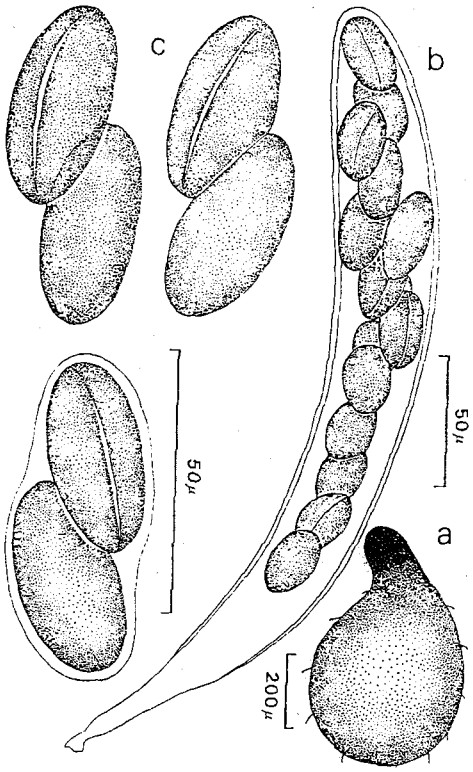


Fig. 4. *Delitschia orientalis.*
a. Pseudothecium. b. Ascus. c. Ascospores.

Notes. Obviously this is very close to *Delitschia nephrospora* (Luck-Allen and Cain, 1975). It sufficiently differs in the much smaller asci and the narrower ascospores.

Podosordaria jugoyasan (Hara) Furuya et Udagawa comb. nov. (Figs. 5, 8–12)
≡*Poronia jugoyasan* Hara, Trans. mycol. Soc. Japan, 2 (4): 16. 1960.

Stromata (on the dung substratum) scattered or loosely clustered, hemispherical to discoid, 1–2.5 mm in diam., stalked, unbranched, with upper surface roughened by the protruding part of perithecia, at first straw-colored, then becoming dark brown to black, containing numerous perithecia (about 10 in the smaller fruit bodies), which are surrounded with dark violet, spore masses after extruding; stalk long, slender, up to 15–20 mm, yellowish brown to dark brown, sinuous, consisting of elongate cells measuring 8–40 μm or more long and 2–7 μm wide; stromatic cells pale yellowish brown, textura intricata-textura epidermoidea, loosely intertwined, 2.5–7 μm wide. Perithecia erumpent, protuberant, subspherical to ovate or oblate, 250–520 × 300–560 μm; neck short, papilliform, with a circular ostiole measuring 25–40 μm in diam. Asci 8-spored, cylindrical, 90–130 × 5.5–6 μm, rounded above, constricted below into a slender stipe up to 40–60 μm

long; apical apparatus relatively indistinct, blue in Melzer's reagent, cylindrical, 2–2.4×2.4–2.8 μm, with about 2–3 rings. Paraphyses numerous, hyaline, filiform, sinuous, 4–5 μm in diam., aseptate or remotely septate, longer than and mixed with the asci. Ascospores obliquely uniseriate, at maturity dark brown, opaque, ellipsoid, 9–11×4–5 μm, inequilateral, with a hyaline gelatinous covering; germinal slit lateral, 5–8 μm long, extending along the flattened side of the spore.

Conidial structures prominent on malt agar. Stromata as described above, but more sinuous. Conidiophores arising from the ectostromatal hyphae on the head or stalk, prostrate or somewhat erect, hyaline to slightly yellowish brown, smooth-walled, septate, often irregularly branched, in age constricted at the septum and easily disarticulated as fragments measuring (4–)12–40×3–4 μm. Conidiogenous cells polyblastic, sympodial. Conidia acropleurogenous, usually solitary, hyaline, powdery and pinkish orange in mass, continuous, subglobose to ovoid, or somewhat pyriform, 2.5–4.5×2–4 μm, smooth-walled, with a flat basal scar.

Colonies on malt agar spreading broadly, floccose, white to pale yellow, consisting of a rather tough basal felt, numerous stromata slowly developing, but the production of ascogenous phase not realizing within 2 or 3 months, soon powdery in appearance due to the abundant formation of conidial heads, later shading pinkish white; reverse uncolored to pale brown.

At 37 C, growth is nil.

Habitat: on hare dung, Satamisaki, Sata-cho, Kimotsuki-gun, Kagoshima-pref., July, 1974, NHL 2732 (=SANK 16574), and on hare dung, Yamanouchi-machi, Shimotakai-gun, Nagano-pref., Sept. 20, 1974, SANK 12175.

Notes. In about 60 years ago, Hara collected in Gifu-prefecture a stromatic coprophilous Ascomycete which was of more than usual interest. Since then the fungus apparently has not been collected and has received scant attention from Japanese mycologists. Later, in 1959, Hara first described it as *Poronia leporina*. In his description of *Poronia leporina*, the fungus produces large, stipitate stromata on hare dung, suggestive of *Poronia leporina* in North America and Europe, but from which it differs in several characteristics as Imazeki implied: e.g. the measurements of the ascospores in the Japanese collection are smaller than those given in the descriptions of *Poronia leporina* by Seaver and Massee (Seaver *et al.*, 1927). In *Poronia leporina* the size of ascospores is (12–)14–19×8–9 μm (Krug and Cain, 1974). The long outgrowths of the stromatic stalk in the collection are also remarkable. Following this criticism, Hara (1960) proposed the fungus as *Poronia jugoyasan* Hara sp. nov. The original description and illustrations by Hara are somewhat brief and the fungus has not yet been cultured nor its conidial development described. From a detailed observation, however, our rediscovered materials could be satisfactorily assigned to this species. Besides some similarities to *Podosordaria leporina* (=*Poronia leporina*), the species is also believed to be more closely

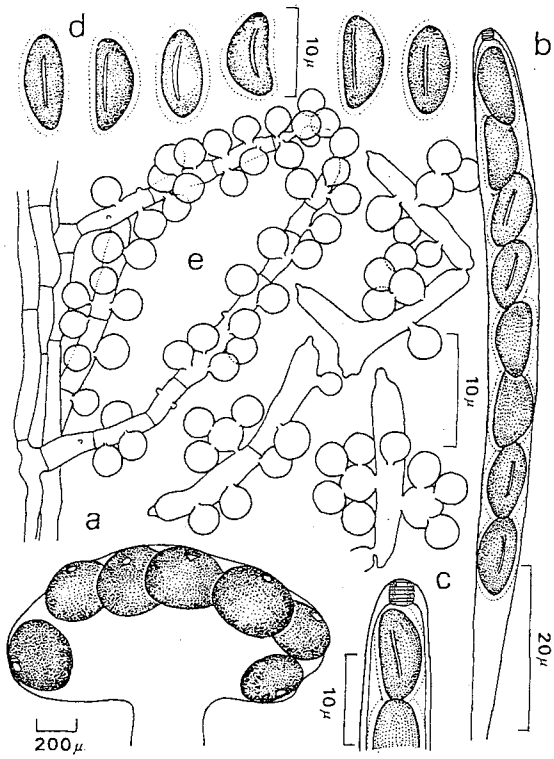


Fig. 5. *Podosordaria jugoyasan.*

a. Top of stroma. b. Ascus. c. Apical portion of the ascus. d. Ascospores. e. Conidial structures.

related to *Podosordaria hircina* than to other members of *Poronia* or *Podosordaria* (Krug and Cain, 1974). It is distinguished from the latter principally in the habits of its growth, and in having narrower asci, and smaller ascospores.

Podosordaria was erected by Ellis and Holway on *P. mexicana,* and was later redescribed by Dennis with a revise of its generic concept. Thus, he transferred three species of *Poronia* (including *P. leporina*) to *Podosordaria*. *Podosordaria* has had a somewhat confused taxonomic history which was reviewed by Krug and Cain (1974), who expanded this genus for those members of the Xylariaceae possessing stalked or sessile stromata that have formed mammillate heads with erumpent ascocarps and covered with an ectostroma. *Poronia* and *Podosordaria* resemble each other closely in morphology, and on the basis of demonstration of ultrastructural similarities between *Podosordaria leporina* and *Poronia oedipus,* Koehn and Cole (1975) recently regarded that there seems little to justify the separation of these two genera. However, most authors still maintained them as distinct and, therefore, we should propose an additional new combination at present, *Podosordaria jugoyasan.*

The living culture NHL 2732 of *Podosordaria jugoyasan* is found for the first time to produce conidial structures. As well as the mode of conidium formation, the morphology of conidia and conidiogenous cells in this species is identical with that described for other members of *Podosordaria* and *Poronia* (Seaver *et al.*, 1927; Jong and Rogers, 1969; Koehn, 1971; Morgan-Jones and Hashmi, 1973; and Stiers *et al.*, 1973), or even that of the other xylariaceous genera (Greenhalgh and Chesters, 1968).

The name, *Poronia jugoyasan* (without Latinized originally), was rather unusually selected from a Japanese fairy tale. *Jugoya* means the fifteenth night of a month of the lunar calendar, that is the full moon night. The word *jugoya* is also used to express the full moon itself and the people call the full moon as *jugoyasan* which means dear full moon. In Japan, there is a legend that a hare dwells in the moon and the people can see the image of the hare making dumplings in the full moon. The present fungus grows on hare dung. It is a natural association in Japanese mind that the hare reminded Dr. K. Hara, the original author of the present fungus, of *jugoyasan,* dear full moon.

Preussia isomera Cain, Can. J. Bot., **39**: 1643. 1961. (Fig. 6)

=*Honoratia pisana* Ciferri, Vegni, et Montem., Atti Ist. bot. Univ. Lab. crittogam. Pavia, ser. 5, **20**: 176. 1962 (after von Arx and Storm, 1967).

Ascocarps (pseudothecia) spherical to somewhat elongated, 150–250 μm in diam., black, shiny, glabrous; peridium thin, membranaceous. Asci 8-spored, broadly clavate to slightly cylindrical, 34–45 × 16–20(–22) μm, short-stipitate, evanescent; pseudoparaphyses filiform. Ascospores transversely 3-septate and deeply constricted, light olivaceous brown to light brown, cylindrical, 28–34 × 4–5 μm; segments very easily separable; cells oval to ellipsoid, (7.5–) 8–9 (–9.5) μm; germinal slit indistinct, longitudinal; gelatinous sheath hyaline.

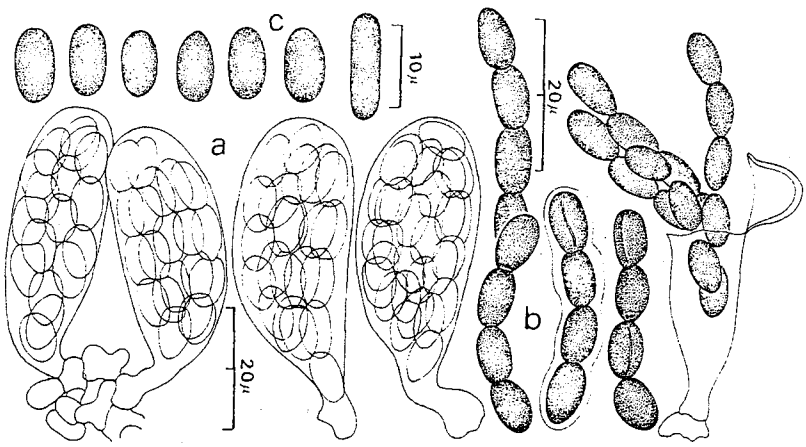


Fig. 6. *Preussia isomera.*

a. Asci and the ascus dehiscence. b. Ascospores. c. Ascospore segments.

Colonies on Weitzman and Silva-Hutner's medium spreading broadly. At 37 C, slow growing.

Habitat: on horse dung, Toimisaki, Kushima-shi, Miyazaki-pref., July 30, 1974, NHL 2743 (=SANK 21875).

Notes. The outstanding and distinctive characteristics of *Preussia isomera* are the small, broadly clavate, short-stipitate asci and, due to the deep constrictions at septa, the very easily separable ascospores. The segments of ascospores are ellipsoid and rather small. The species is regarded as properly assignable in the genus *Preussia* but, in these respects, somewhat transitional in the direction of *Westerdykella*. Typical *P. isomera* has recently been reported from Nepali soil by Minoura *et al.* (in press).

Sporormiella lata (Griffiths) Ahmed et Cain, Can. J. Bot., **50**: 446. 1972. (Fig. 7)
≡*Sporormia lata* Griffiths, Mem. Torrey Bot. Club, **11**: 110. 1901.

Pseudothecia scattered, immersed, dark brown to nearly black, pyriform, 620–

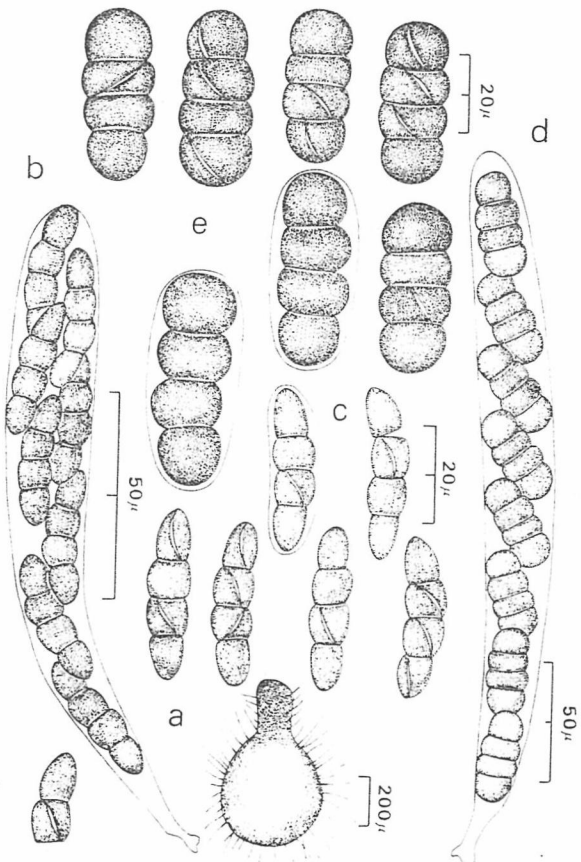
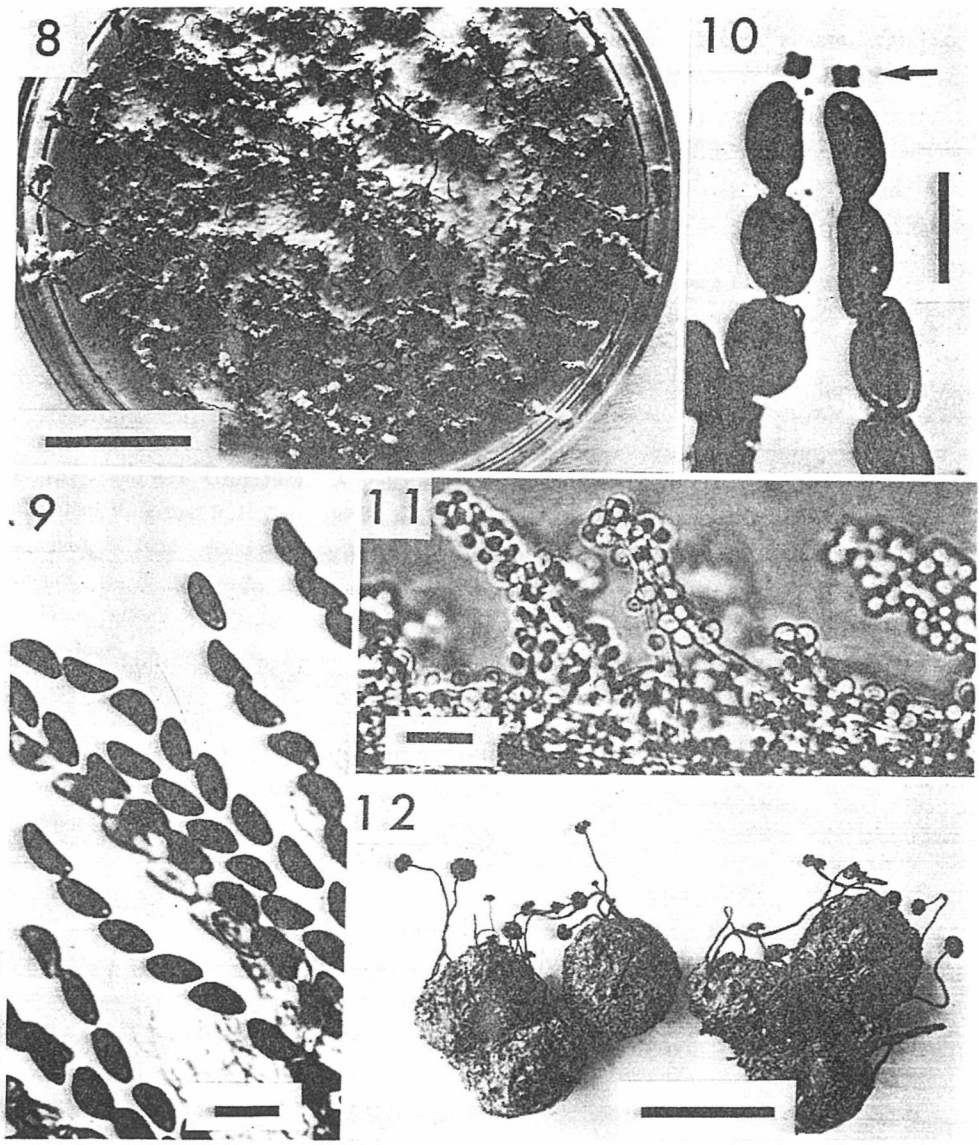


Fig. 7. *Sporormiella pilosella* (a–c) and *S. lata* (d. e).
a. Pseudothecium. b. Ascus. c. Ascospores. d. Ascus. e. Ascospores.



Figs. 8–12. *Podosordaria jugoyasan.*

8. Stromata developed on malt agar culture. 9. Asci and ascospores. 10. Matured asci showing apical rings (arrow) stained with Melzer's reagent. 11. Conidial structures on stroma in culture. 12. Stromata developed on natural substrates. (scales: 8=20 mm; 9=10 μm; 10=10 μm; 11=10 μm; 12=10 mm)

700 × 380–460 μm, glabrous; neck conical, 200–250 μm long, black, glabrous. Peridium membranaceous to rather coriaceous. Asci bitunicate, 8-spored, cylindrical, 280–320 × 28–32 μm, broadly rounded above, tapering below into a short stout stipe measuring about 35 μm long; pseudoparaphyses numerous, hyaline, filiform, septate, branched, 1–1.5 μm in diam. Ascospores obliquely uniseriate, 4-celled, broadly cylindrical, mostly 40–48 × 16–18 μm, broadly rounded at the ends, transversely septate, deeply constricted at the septum, hyaline when young, becoming olivaceous brown to dark brown and opaque at maturity; segments not easily separable; cells about equal in length, broader than long; end cells nearly hemispherical; middle cells oblong to oval; germinal slit diagonal; gelatinous covering hyaline, broad.

Habitat: on hare dung, Itsukaichi-shi, Tokyo, April 16, 1972, NHL 22598.

Notes. *Sporormiella lata* is a very well-marked species. It is readily distinguished from all other members of four-celled spore group of the genus by the large dimensions and uniseriate arrangement of its ascospores.

Sporormiella pilosella (Cain) Ahmed et Cain, Can. J. Bot., **50**: 455. 1972. (Fig. 7)
≡*Sporormia pilosella* Cain, Univ. Toronto Stud., Biol. Ser., **38**: 93. 1934.

Pseudothecia scattered or aggregated in small clusters, immersed at first, later becoming nearly superficial, dark brown to black, pyriform, 650–800 × 400–500 μm, densely covered on the basal part with stout, flexuous, brown, sparingly septate hairs measuring up to 400 μm long and 2.5–3 μm wide near the base; neck black, papilliform to short conical, 160–320 μm long, rather glabrous. Peridium dark brown, fairly thick, coriaceous; inner layer membranaceous. Asci bitunicate, 8-spored, cylindrical-clavate, 140–165 × 16–18 μm, short-stipitate; stipes about 20–40 μm long. Pseudoparaphyses numerous, filiform, septate, 1.5–2.5 μm wide. Ascospores in 2–3 series above, 4-celled, olivaceous brown to dark brown and opaque, fusiform-cylindrical, mostly 32–34 × 8–9 μm, curved, tapering toward the end, transversely septate; constrictions at the septa broad and somewhat shallow, the segments easily separable; terminal cells conical; germinal slit diagonal; gelatinous sheath hyaline, narrow.

Habitat: on hare dung, Furano-shi, Hokkaido-pref., June 6, 1972, NHL 22762.

Notes. On the basis of its morphological characters the present species comes close to *Sporormiella pilosa* but differs from it in the smaller dimensions of asci and ascospores.

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和 文 摘 要

日本産糞生核菌類として次の8種を追加記載した.

Arnium irregulare n. sp. 鹿児島市で採集の山羊糞に発見，子のう中に子のう胞子が4～8個不規則に形成され，発芽孔は胞子先端に1個，また付属物を胞子両端に生ずる．子のう殻は凝集した細胞からなる毛で覆われる．

Arnium japonense n. sp. 宮崎県えびの高原で採集の兎糞その他から発見，256胞子の子のうが形成されて特徴をなす．子のう胞子両端に発芽孔が認められる．

Coniochaeta polysperma n. sp. 群馬県荒船山で採集の兎糞から発見，512胞子の子のうが形成される．

Delitschia orientalis n. sp. 静岡県井川峠で採集した兎糞から発見，大型で中央斜めに隔壁のある子のう胞子を形成．子のうおよび子のう胞子の大きさから容易に同定できる．

Podosordaria jugoyasan (Hara) n. comb. 鹿児島県佐多岬，長野県志賀高原で採集の兎糞にみられ，約60年ぶりの再発見となった．原によりハチスタケとして本会報2巻1号に報告されているが，今回は純粋培養に成功し分生子世代の記載を追加することができた．

以上のほか，*Preussia isomera*, *Sporormiella lata*, *S. pilosella* を本邦未記録種として報告した．

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