

Contributions to the Japanese Fungous Flora III

Toshio SASAKI

15. *Cytidia salicina* (FR.) BURT, Ann. Mo. Bot. Gard. 11 : 10 (1924). (Pl IV, 1.)

Syn. *Thelephora salicina* Fr., Syst. Myc. 1 : 442 (1821).

Corticium salicinus Fr., Epicr. 558 (1838).

Lematia salicina (Fr.) KARST., Finska Vet.-Soc. Bidrag Natur och Folk 48 : 404 (1889).

Fructification lignicolous, annual, pezizoid when young, becoming expanded and confluent, affixed by the center, the margin free all around and upturned, at first 1 cm in diameter, up to 10 cm long by confluence; subiculum 5–10 mm thick, gelatinous, drying horn-like, rigid; hymenium orange when fresh, blood-red when dry, slightly marked with concentric zones, somewhat wrinkled when dry; hyphae of the subiculum hyaline, 2–3 μ in diameter, very curved, arranged more or less parallel to the substratum near it, ascending irregularly to hymenium, and in hymenium changed to yellowish, very branched; gloeocystidia clavate to strangulated, hyaline, 5–8 \times 20–30 μ large; spores hyaline, smooth, cylindric, curved, 10–13 \times 3–4 μ large.

Habitat: on wood of *Salix* spp., rarely on *Populus* spp., causing a white rot.

Distribution: Europe, North America and new to Japan.

Specimens: Gumma Pref., Tone-gun, Oze, on dead branches of *Salix sachalinensis* (Oct. 1951, T. SASAKI).

The genus *Cytidia* was established by Quélet in 1888 and placed in the family *Thelephoraceae*. About seven species of this genus have been reported in the world. This genus is characterized by its cup-shaped fructification, which is expanded and confluent with age, and by its gelatinous context. Moreover, many species of this genus have gloeocystidia in hymenium.

The genus *Gloeostereum* was established by IMAI (1933)¹⁾ based

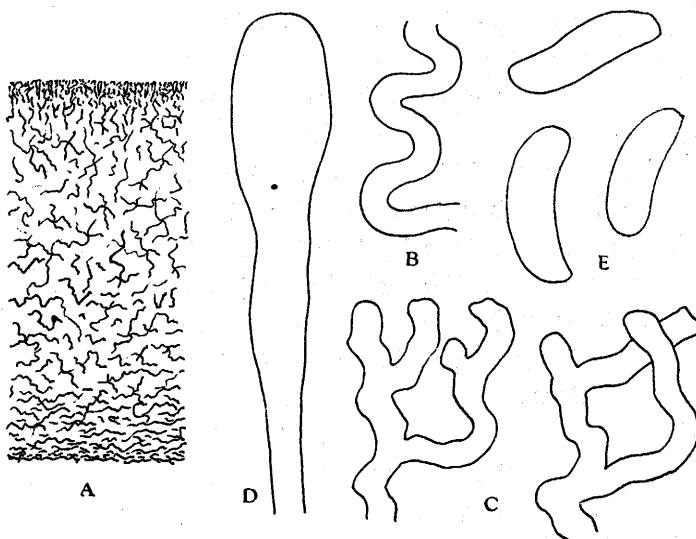


Fig. 1. *Cytidia salicina* (Fr.) BURT

A. vertical section of fructification ($\times 50$) B. hyphae of subiculum C. hyphae of hymenium D. gloeocystidium E. spores ($\times 2000$)

1) IMAI, S., Trans. Sapporo Nat. Hist. Soc. 13 : 9 (1933).

on a single species, *G. ulmi* IMAI. *Gloeostereum* has such a well developed pileus as *Aulicularia Auricula-Judae*, but the other characters of *Gloeostereum* are of the same characters as *Cytidia*. So the genus *Gloeostereum* seems to be more suitable for a synonym of the genus *Cytidia*.

16. *Stereum sanguinolentum* (ALB. et SCHW. ex FR.) SCHW., Naturforsch. Ges. Leipzig Schrift. 1:106 (1822); BURT, Ann. Mo. Bot. Gard. 7:144 (1920); OVERHOLTS, Bull. Torr. Bot. Club 66:535 (1939). (Pl. IV, 5.)

Syn. *Thelephora sanguinolenta* ALB. et SCHW., Consp. Fung. 247 (1805); FRIES, Syst. Myc. 1:440 (1821).

Stereum balsameum PECK, N. Y. State Mus. Rept. 27:99 (1828).

S. balsameum form. *Reflexum* PECK, N. Y. State Mus. Rept. 47:152 (1894).

S. rigens KARST., Finska Vet.-Soc. Bidrag Natur och Folk 37:243 (1882).

Fructification lignicolous, sessile, annual; pileus thin, dimidiate, effused-reflexed, imbricated, 0.5—2.0×0.2—1.0 cm large, margin acute; surface villose, Pinckish Buff to Vinaceous-Buff, marked with Buffy Brown zones, context 0.4—0.7 mm thick, coriaceous, covered with yellowish brown subcutis; hymenium smooth, Pale Pinkish Buff to Avellaneous, bleeding where wounded; subcutis 30—50 μ thick, composed of densely arranged hyphae; hyphae of the context hyaline, radially arranged, 3—5 μ in diameter, without clamp connection; colored conducting organs numerous in context and hymenium, 3—4 μ in diameter; bottle-brush paraphyses present, especially in matured specimens, 2—2.5 μ in diameter; spores hyaline, smooth, cylindric, 5.5—7.0×2.4—2.8 μ large.

Jap. name: Chi-urokotake-modoki.

Habitat: on dead or living conifers, causing a red hart rot.

Distribution: Europe, North America and Japan.

Specimens: Hokkaido, Sorachi-gun, Yamabe, on *Picea jezoensis* (Nov. 1946, K. AOSHIMA), on *Picea jezoensis* (Aug. 1951, T. SASAKI), on *Abies sachalinensis* (Aug. 1951, T. SASAKI); Iwate Pref., Shimohe-gun, Mt. Hayachine, on *Pinus Mayri* (Aug. 1950, T. SASAKI); Chiba Pref., Awa-gun, Kiyosumi, on a dead branch of *Pinus densiflora* (June 1950, T. SASAKI), Kimitsu-gun, Mt. Mitsuishi, on a dead trunk of

Pinus densiflora (June 1950, T. SASAKI), Inba-gun, Shirai-mura, on a fallen branch of *Pinus densiflora* (Sept. 1953, T. SASAKI); Izu Archipelago, Isl. Miyake, on a fallen branch of *Pinus Thunbergii* (Nov. 1951, T. SASAKI); Shizuoka Pref., Haibara-gun, Senzu, on *Tsuga Sieboldii* (Aug. 1949, K. AOSHIMA).

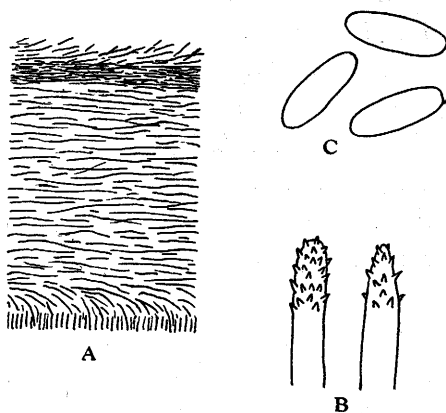


Fig. 2. *Stereum sanguinolentum* (ALB. et SCHW. ex FR.) SCHW.
A. vertical section of pileus (×50)
B. bottle brush paraphyses
C. spores (×2000)

This species is distributed widely in the world, and causes a red heart rot in many species of conifers. Its thin coriaceous pileus and its numerous colored conducting organs in context and hymenium are the conspicuous characters of this species. No one has mentioned its bottle brush paraphyses in Europe and North America. Resulting from the examination of the Japanese specimens, however, the bottle brush paraphyses are present in hymenium, especially in matured specimens.

17. *Stereum vibrans* BERK. et CURT., Jour. Linn. Soc. (Bot.) 10 : 332 (1869); BURT, Ann. Mo. Bot. Gard. 7 : 179 (1920); IMAZEKI, Asahina's Nippon Inkwasyokubutu Dukan 389 (1939). (Pl. IV, 4.)

Syn. *Hymenochaete vibrans* (BERK. et CURT.) YASUDA, Bot. Mag. Tokyo 28 : 521 (1914).

Stereum liratum LLOYD, Myc. Writ. 5, Myc. Note 53 : 764 (1918).

Hymenochaete lirata (LLOYD) T. ITO, Bot. Mag. Tokyo 44 : 154 (1930).

Fructification lignicolous, sessile, perennial; pileus thin, dimidiate, effused-reflexed, imbricated, 3—8×1—5 cm large, margin acute; surface zonate, velvety, fuscous (Cinnamon-Rufous to Sanford's Brown), becoming sulcate and black when old; context 0.5—1 mm thick, fuscous (Cinnamon-Brown), coriaceous, covered with fine blackish subcutis; hymenium one layer, smooth, somewhat pruinose, grayish brown (Vinaceous-Fawn to Avellaneous); subcutis 30 μ thick, composed of very compacted hyphae; hyphae of the context of two types, hyaline one 2.0—3.5 μ in diameter, the other brown 2—5 μ in diameter, radially arranged, slightly interwoven; cystidia more or less thick-walled than the brownish hyphae of the context, 4—5 μ in diameter, with acute or obtuse apex, sometimes incrusted: spores hyaline, smooth, subfusiform, 5.0—7.0×2.0—2.5 μ large.

Jap. name: Sabi-urokotake.

Habitat: on dead or living frondose trees, causing a white pocket rot.

Distribution: North America, China and Japan.

Specimens: Yamagata Pref., Minamiokitama-gun, Sasanoyama, on a stump of a frondose species (Oct. 1950, S. YOKOTA); Ibaragi Pref., Nishiibaragi-gun, Mt. Atago, on a living trunk of *Castanopsis cuspidata* (April 1949, T. SASAKI); Chiba pref., Awa-gun, Kiyosumi, on a stump of a frondose species (Oct. 1950, H. OHASHI); Kumamoto Pref., Hitoyoshi, Kyūsuke-dani, on a stump of a frondose species (Oct. 1953, T. SASAKI).

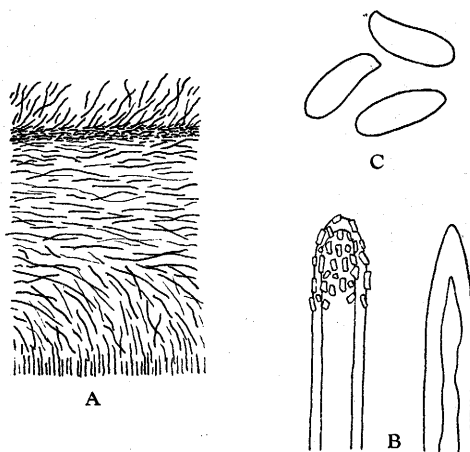


Fig. 3. *Stereum vibrans* BERK. et CURT.
A. vertical section of pileus (×50)
B. cystidia C. spores (×2000)

S. vibrans is perennial, but does not stratify in hymenium as that of *Stereum princeps* does. The second spore formation is performed in hymenium of the pileus which grows afresh under the hymenium of the original pileus. Thus, the normal fructification of this species has closely adhered and imbricated pileus. The brown, thick-walled hyphae of the context are curved into the hymenium, and the apex of them forms the cystidia, which protruded up to 20μ beyond the basidia. These cystidia are distinct from the normal cystidia like that of *Stereum sulcatum*. More or less thickened wall, pale brown color, obtuse apex, and almost uniform diameter with hyphae, these characters seems to indicate a intermediate form between cystidia and setae.

They are found usually on stumps, but sometimes on butts of living frondose species.

18. *Stereum pendulum* SASAKI, sp. nov. (Pl, IV, 2.)

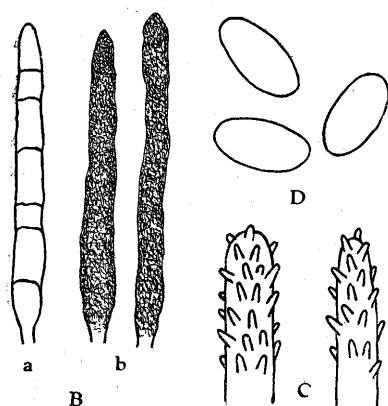


Fig. 4. *Stereum pendulum* SASAKI
A. vertical section of pileus ($\times 20$)
B. cystidia (a. inner layers, b. outer layers) ($\times 500$) C. bottle brush paraphyses D. spores ($\times 2000$)

Fructificatione lignicola, sessili, perenni, sparsa; pileo primo tuberoso, deinde pendulo, 1—3 mm lato, 1—3 mm corasso, duro, margine obtuso; superficie zonata, sulcata, castanea (Chestnut-Brown); contextu summe tenui, badio; hymenophoro multistratoso, laevi, albo; crusta circa 100μ crassa; cystidiis cylindricis, septatis, crustatis in stratibus exterioribus, $70-90 \times 5.0-8.5\mu$; paraphysis numerosis, $2.4-3.7\mu$ crassis, minutissime verrucosis; sporis hyalinis, laevibus, ellipticis, $5.5-7.0 \times 3.0-4.0\mu$.

Jap. name: Hime-kataurokotake (nom. nov.).

Habitat: on stumps of frondose species, causing a white pocket rot.

Distribution: endemic.

Specimens: Tochigi Pref., Nikko, on a stump of a frondose tree (June 1954, T. SASAKI); Tokyo-to, Nishitama-gun, Mitake, on a stump of a frondose tree (Oct. 1949, T. SASAKI); Shizuoka Pref., Kamo-gun, Nakagawa-mura, on a stump of a frondose tree (Feb. 1950, T. SASAKI)Type, in the Institute of Forest Botany, Faculty of Agriculture, University of Tokyo; Shizuoka Pref., Abe-gun, Okôchi-mura, on a stump of a frondose tree (June 1949, R. TSUKIJI).

S. pendulum closely resembles in aspect the young specimen of *S. frustrosum*, and like the matured specimen of the latter, is not crowded as if confluent and then broken up into frustules. This species is noteworthy by its numerous bottle brush paraphyses and cystidia, which are incrustated in outer hymenial layers, but not in inner ones. These cystidia are multicellurate.

S. pendulum causes a white pocket rot in wood of frondose species, like that of *S. frustrosum*.

19. *Fomitopsis sensitiva* (YASUDA ap. LLOYD) SASAKI, comb. nov. (Pl. IV, 3.)

Syn. *Ttarmetes sensitivus* YASUDA ap. LLOYD, Myc. Writ. 5 : 710 (1917); YASUDA, Bot. Mag. Tokyo 32 : 111 (1918).

Fructification lignicolous, perennial, effused-reflexed, 30 cm or more large, 0.5—1.5 cm thick; reflexed portion very narrow; upper surface sulcate, uneven, multizonate, Light Ochraceous-Buff to Zinc Orange; context very thin, white, boadering with yellowish cutis; hymenophore 0.5—1.5 cm thick, multi-layered, obscurely stratified, white, consisted of more or less densely arranged hyphae than that of context; under surface whitish, pores minute; hyphae hyaline, turned to pinkish red by KOH solution, about 2μ in diameter; basidia clavate, $3.5-4.0 \times 10.0\mu$ large, with 4 sterigmata about 4μ long; spores hyaline, smooth, elliptical, $2.0-3.0 \times 3.5-5.0\mu$ large.

Jap. name: Akazome-amitake.

Habitat: on wood of conifers, causing a white pocket rot.

Distribution: endemic.

Specimens: Hokkaido, Sorachi-gun, Yamabe, on a dead trunk of *Picea jezoensis* (Aug. 1951, T. SASAKI), on a dead trunk of *Abies Mayriana* (Aug. 1953, T. SASAKI); Chiba Pref., Mt. Kiyosumi, on a stump of *Abies firma* (March 1944, H. HIRAMA), on a stump of *Abies firma* (July 1946, K. AOSHIMA and T. SASAKI), on a stump of *Abies firma* (June 1950, T. SASAKI), on dead trunk of a conifer (Oct. 1950, H. OHASHI); Shizuoka Pref., Kamo-gun, Kamikawazu-mura, on a stump of a conifer (Feb. 1950, T. SASAKI); Miyazaki Pref., Nishimorogata-gun, Masaki-machi, on a stump of *Cryptomeria japonica* (Oct. 1953, T. SASAKI).

This species was included in the genus *Trametes* by YASUDA, but now the writer puts it in the genus *Fomitopsis* by noting its thin but distinct crust, more or less heterogeneous texture, and perennial hymenophore. *F. sensitiva* is closely related to *F. annosa* and *F. insularis* in that the crust of the pileus, the relation of the hyphae in context of the pileus and trama of hymenophore, and that habitat of these three species are apparently similar.

20. *Bondarzewia montana* (QUÉL.) SING.,(1940); BOND. et SING., Ann. Myc. 39 : 47 (1941); IMAZEKI, Bull. Tokyo Sci. Mus. 6 : 98 (1943).

Syn. *Cerioporus montanus* QUÉL., Assoc. Avanc. 4 (1887).

Polyporus montanus BRES., Hym. Kmet. 10 (1897); IMAZ., Jour. Jap. Bot. 15 : 442 (1939).

Jap. name: Miyama-tonbimai.

Habitat: on wood of conifers, causing a white rot.

Distribution: Europe and Japan.

Specimens: Hokkaido, Sorachi-gun, Yamabe on a dead trunk of *Fraxinus mandshurica* (Aug. 1953, T. ONO); Iwate Pref., Shimohei-gun, Mt. Hayachine, on a living butt of *Tsuga diversifolia* (Aug. 1950, T. SASAKI); Saitama Pref., Chichibu-gun, Otaki-mura, on a stump of a conifer (July 1949, T. SASAKI), on a living butt of *Tsuga diversifolia* (Aug. 1949, T. INOKUMA); Nagano Pref., Kitaazumi-gun, Matsukawa-mura, on a living butt of *Cryptomeria japonica* (Oct. 1950, T. SASAKI).

B. montana grows usually on roots and butts of conifers, and in Japan, as reported by IMAZEKI (1939), is found tolerably in abundance. It causes a serious decay in the heart-wood of roots and butts of living conifers, and the decayed wood shows a white spongy rot. It is an interesting thing that one specimen of it was collected on *Fraxinus mandshurica* by T. ONO at Yamabe in Hokkaido.

B. montana is characterized in having echinulate spores. As reported by the writer in the previous paper¹⁾ concerning the genus *Bondarzewia*, *Grifola* and *Polyporus*, the relations of these genera to the other related genera are the important problems in future.

Explanation of plates

- Plate IV. 1. *Cytidia salicina* (ca. $\times 1/2$).....Two at the right, fresh specimens, two at the left, dried specimens.
 2. *Stereum pendulum* (ca. $\times 1/2$).
 3. *Fomitopsis sensitiva* (ca. $\times 1/2$).
 4. *Stereum vibrans* (ca. $\times 1/2$).
 5. *Stereum sanguinolentum* (ca. $\times 1/2$).

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1) T. TERAMOTO, Bull. Tokyo Univ. Forests 39 : 210 (1951).

日本産菌類の研究 III (摘要)

文部教官 佐々木 敏雄

15. *Cytidia salicina* (Fr.) BURT

生時寒天質を呈するため所属を誤られやすいが、コウヤクタケ科 (Corticiaceae) に属する菌で、本邦に於ては本属の菌は未だ報告されたものがない。本菌は欧・北米に広く分布しており、主としてヤナギ類の枯枝に生じて材の白腐れを起因する。

16. *Stereum sanguinolentum* (Alb. et Schw. ex Fr.) Schw. チウロコタケモドキ

安田、今関・青島等によつて本邦に産することが、報ぜられているが記載がないので記載を行った。欧・北米に分布して針葉樹の生立木を侵す重要な木材腐朽菌である。

17. *Stereum vibrans* Berk. et Curt. サビウロコタケ

広葉樹材の白斑朽を起因する菌で、時に生立木の根株部を侵す重要な木材腐朽菌である。

18. *Stereum pendulum* Sasaki, sp. nov. ヒメカタウロコタケ (新称)

外觀はカタウロコタケ (*Stereum frustrosum*) の幼時に似ており、生態も同じであるが、顕微鏡的に囊状体を有することにより区別出来る。類似菌がないので新種として発表した。

19. *Fomitopsis sensitiva* (Yasuda ap. Lloyd) Sasaki, comb. nov. アカゾメアミタケ

安田によつて本邦から報告された菌で、従来ホウロクタケ属 (*Trametes*) に入れられていたが、子実体が多年生なこと、表面に殻皮が存在すること、傘肉と実質との関係等からしてツガサルノコシカケ属 (*Fomitopsis*) に移した。マツノネクチタケ (*F. annosa*)、レンガタケ (*F. insularis*) と共に属中の一グループをなすものである。

20. *Bondarzewia montana* (Quél.) Sing. ミヤマトンビマイ

一般に針葉樹の根株部を侵す重要な木材腐朽菌であるが、昨年夏東京大学農学部附属北海道演習林の小野多吉氏がヤチダモの倒木上で採集したのは興味あることである。

Plate IV.

