

Fungal Flora of Ullung Island (IV) — on some agaric fungi —

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울릉도의 균류상 (IV) — 수종 주름버섯류에 대하여 —

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ABSTRACT: Fresh fungi were collected during five field trips to Ullung Island from October of 1989 to September of 1991. Through the observation of some agaric fungi, thirty mushrooms were identified to the species and are listed as below. Among them, three species, *Crepidotus geophilus*, *Mycena elegans*, and *Mycena carolinensis* were confirmed new to Korea and are registered here with descriptions.

KEYWORDS: Ullung Island, agaric fungi

Following the three reports (Jung, 1991a, 1991b, 1992) of "Fungal Flora of Ullung Island" series, some additional agaric fungi, which were collected through five field trips to Ullung Island of Gyung-sangbuk-do from 1989 to 1991, were observed and identified consequently. Each trip was previously made for 6 days in October of 1989, 5 days in August of 1990, 4 days in October of 1990, 5 days in July of 1991, and again 4 days in September of 1991 along the Do-dong to Seonginbong course of Ullung-eup, the Cheunbu to Seonginbong course of Buk-myeon, and the Tonggumi area and the Taehwa area of Seo-myeon.

A total of 98 samples of agaric fungi were examined, and about four fifths which counted 30 mushrooms were identified to the species. The rest of them were reserved for later work because most of them were too young or abnormal for identification. For the observation of specimens, laboratory techniques of Largent *et al.* (1977) and

microscopic methods of Jung (1987) were applied. Total identified fungi amounted to 10 families, 22 genera, and 30 species. Among them, three species, *Crepidotus geophilus*, *Mycena elegans*, and *Mycena carolinensis*, were confirmed new to Korea and are presented here with Korean names and English descriptions.

Taxonomy

The agaric fungi treated here belong to 22 genera in 10 families of the order Agaricales, and those studied genera were *Pleurotus* and *Panus* in the Pleurotaceae, *Crepidotus* in the Crepidotaceae, *Panellus*, *Laccaria*, *Lepista*, *Armillariella*, *Oudemansiella*, *Strobilurus*, *Marasmius*, *Mycena*, and *Xeromphalina* in the Tricholomataceae, *Hygrocybe* in the Hygrophoraceae, *Amanita* in the Amanitaceae, *Coprinus* in the Coprinaceae, *Naematoloma* and *Kuehneromyces* in the Strophariaceae, *Inocybe*, *Cortinarius*, and *Dermocybe* in the Cortinariaceae, *Russula* in the Russulaceae, and *Suillus* in the

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Boletaceae.

The genus *Schizophyllum* which used to be treated in the Agaricales was once listed under the Schizophyllaceae of the Aphylophorales in the third report (Jung, 1992). For the taxonomy and descriptions of identified taxa, the system of Singer (1986) was followed and the classification of Moser (1978) was usually applied. The floral studies of Smith (1947), Ito (1959), and Watling and Gregory (1989) were very useful for the detailed identification of specimens. And the colored illustrations of Breitenbach and Kränzlin (1991) and Imazeki *et al.* (1988) were frequently consulted for references.

Pleurotaceae 느타리과

1. *Pleurotus ostreatus* (Jacq.: Fr.) Kummer 느타리

Habitat: caespitose on stumps or trunks of dead *Fagus* and *Prunus*.

Remarks: This edible mushroom is rather common in Ullung Island especially on dead *Fagus* and can be easily identified by its white gills, tender flesh, smooth cap, and shelf-like growth on wood.

Specimens: Virgin forest of Seonginbong, Buk-myeon, SNU 900807-20; Wildlife Reservation of Nari Basin, Buk-myeon, SNU 901003-20, 910924-75; between the 2nd rest place and the mountain ridge to Seonginbong, Ullung-eup, SNU 910923-29.

2. *Panus tigrinus* (Bull.: Fr.) Sing. 털참버섯

Habitat: solitary through the wood crack of a hardwood tree trunk.

Remarks: This species used to be called *Lentinus tigrinus* and has white to cream-colored hairy turfs or fibrillose small scales on the pileal surface and dense decurrent gills.

Specimens: along the mountain ridge to Seonginbong, Buk-myeon, SNU 910923-58.

Crepidotaceae 귀버섯과

3. *Crepidotus badiofloccosus* Imai 노랑털귀버섯

Habitat: solitary on the rotten branch of a fallen *Fagus*.

Remarks: This species is characterized by its flocculent brown hairs above and dense pinkish gills below of a rather small pileus.

Specimens: Wildlife Reservation of Nari Basin, Buk-myeon, SNU 901002-25.

4. *Crepidotus geophilus* (Murr.) Redhead, *Sydwia* 37: 255, 1986. 땅귀버섯 (新稱)

Pileus 0.5–1.5 cm across, orbicular, then reniform, thin, undulate, whitish, finely felty and often depressed around base, incurved; gills rather crowded, narrow, white, becoming pinkish buff to cinnamon buff, radiating from a basal pad; stipe absent or reduced to a tomentose hump; flesh thin, soft, white.

Basidiospores 7.5–9×4.5–5 μm, ellipsoid, smooth, non-amyloid; basidia 17–20 (–25)×6–8 μm, 4-spored, clavate; cheilocystidia 30–45×5–10 μm, cylindrical, often swollen at the lower half and narrowed at the upper half, or somewhat flexuous, uncommon to common; hyphae 2–4 μm, interwoven, somewhat gelatinized, septate, with clamps.

Habitat: gregarious on the base of dead *Sorbus*.

Remarks: This species was collected on the bark of a buried base of the tree and must be a rare fungus. The size of cystidia is slightly smaller than that of the description (Watling and Gregory, 1989) but other characters agree very well in every respect.

Specimens: between the 2nd rest place and the mountain ridge to Seonginbong, Ullung-eup, SNU 910717-17.

Tricholomataceae 송이과

5. *Panellus stipticus* (Bull.: Fr.) Karst. 부채버섯

Habitat: gregarious on the trunk of dead *Sorbus*.

Remarks: This small fungus can be found year-round throughout the mainland but seems to be an uncommon one in the island. It can be easily recognized due to its growing habit in overlapping tiers on dead hardwood trees.

Specimens: Virgin forest of Seonginbong, Buk-myeon, SNU 901003-49.

6. *Laccaria laccata* (Scop.: Fr.) Berk. et Br. 줄각버섯

Habitat: scattered or gregarious on poor or sandy soil.

Remarks: This is a cosmopolitan species and also occurs rather frequently in the island. This mushroom is really variable in shape and color but always has thick well-spaced gills and a tough fibrous stipe.

Specimens: along the mountain ridge to Seonginbong, Buk-myeon, SNU 900807-50; between the 1st and 2nd rest places, Ullung-eup, SNU 910717-5, 910717-7; between the 2nd rest place and the mountain ridge to Seonginbong, Ullung-eup, SNU 910717-18; between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 910719-58, 910924-97; Virgin forest of Seonginbong, Buk-myeon, SNU 910924-116.

7. *Laccaria vinaceoavellanea* Hongo 색시줄각버섯

Habitat: scattered on poor soil at edges of trails.

Remarks: This mushroom is rather similar to *Laccaria laccata* in appearance but its color fades on drying and has radial grooves on the surface of the pileus.

Specimens: Virgin forest of Seonginbong, Buk-myeon, SNU 900807-41.

8. *Lepista nuda* (Bull.: Fr.) Cooke 민자주방망이버섯

Habitat: scattered to gregarious in rings on humus of fallen leaves.

Remarks: This edible mushroom has a typical purple color which fades on aging and is made of stout texture with a pleasant smell. The pileus is always inrolled at the margin when young and its spore deposit is pinkish.

Specimens: between the 1st and 2nd rest places, Ullung-eup, SNU 891015-35.

9. *Armillariella mellea* (Vahl.: Fr.) Karst. 뽕나무버섯

Habitat: scattered to gregarious on humus or in massive clusters on stumps, logs, exposed roots, and living hardwood trunks.

Remarks: This mushroom is a famous parasite as well as saprophyte on dead or living trees and is worldwide in distribution. It is also most com-

mon in the island and its fruitbodies are quite variable in color, shape, and growth habit but are distinguished by the presence of a ring, the tough fibrous stipe, small dark hairs on the pileus and the bitter taste when tried.

Specimens: between Cheonyeon Air-con and Bongrae Pokpo, Ullung-eup, SNU 891016-61, 891016-62; Virgin forest of Seonginbong, Buk-myeon, SNU 900807-44; Communal habitat of *Tsuga sieboldii*, *Pinus parviflora*, and *Fagus crenata* var. *multi-nervis*, Taehwa, Seo-myeon, SNU 901002-6; between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 901003-31; Virgin forest of Seonginbong, Buk-myeon, SNU 901003-56, 910924-106.

10. *Oudemansiella radicata* (Relhan: Fr.) Sing. 민긴뿌리버섯

Habitat: solitary on the ground of trail edges.

Remarks: This species doesn't seem uncommon in the island and can be easily recognized due to its broad well-spaced gills and long rooted stipe below the ground.

Specimens: between the 2nd rest place and the mountain ridge to Seonginbong, Ullung-eup, SNU 910717-16; around the log house of Nari Basin, Buk-myeon, SNU 910719-30; between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 910719-41.

11. *Strobilurus stephanocystis* (Hora) Sing. 맛솔방울버섯

Habitat: solitary on a buried pine cone.

Remarks: This little mushroom is readily distinguished from other morphologically similar species due to its unique habitat.

Specimens: between Daewonsa Temple and the 1st rest place, SNU 891015-10; along the mountain ridge to Seonginbong, Buk-myeon, SNU 910924-109.

12. *Marasmius maximus* Hongo 큰낙엽버섯

Habitat: solitary to gregarious on humus of fallen leaves.

Remarks: This is the biggest one among *Marasmius* species and can be easily recognized by the wide well-spaced gills, radially furrowed pileus, and tough tall stipe. It seems to be rather uncommon in the island.

Specimens: around the log house of Nari Basin, Buk-myeon, SNU 910923-65; between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 910923-96, 910924-91.

13. *Mycena elegans* (Fr.) Quel., Champ. Jura et Vosges, 241, 1872. 긴대애주름버섯 (新稱)

Pileus 0.5–1.5 cm across, convex to conic, becoming broadly campanulate with an obtuse umbo, smooth, white-pruinose at first, subhygrophanous, pale gray, greenish gray, or olive gray, translucent-striate toward the center, entire; gills subdistant, narrow, grayish to olive grayish, uncinat; stipe 4–8 cm long, 1–1.5 mm thick, cylindric, elastic but fragile, smooth, finely pruinose to satiny, pale olive gray with a yellow tint; flesh watery gray, thin.

Basidiospores $6.5-8 \times 4.5-5 \mu\text{m}$, ellipsoid, smooth, weakly amyloid; basidia $22-25 \times 5.5-6 \mu\text{m}$, 4-spored, subclavate to clavate; cheilocystidia and pleurocystidia $25-35 \times 10-14 \mu\text{m}$, scattered to abundant, clavate to subcapitate, covered with protuberances at the upper half; pileopellis of rough and verrucose hyphae; tramal hyphae $2-5 \mu\text{m}$ wide, slightly gelatinized, septate, with clamps, very broad in deeper hyphae.

Habitat: scattered on humus under conifer or hardwood trees.

Remarks: This mushroom was one of the most common species in the island and was frequently found along trails throughout the island. According to the literature (Breitenbach and Kränzlin, 1991), this species is cited as a synonym of *Mycena aurantiomarginata* but the collection from the island didn't show any orange or brown tints at all but closely fits the description of *M. elegans* (Smith, 1947). This species is known to occur in coniferous forests but was found under either conifer or hardwood trees in the island.

Specimens: beyond the 1st rest place, Ullung-eup, SNU 891015-16, 891015-29; between the 1st and 2nd rest places, Ullung-eup, SNU 891015-45; before the 2nd rest place, Ullung-eup, SNU 891015-55; *Cryptomeria* forest before Bongrae Pokpo, Ullung-eup, SNU 891016-67; forest by the brook across Cheonyeon Air-con, Ullung-eup, SNU 891017-77; between the 1st and 2nd rest places,

Ullung-eup, SNU 891017-103; Wildlife Reservation of Nari Basin, Buk-myeon, SNU 901003-23; Virgin forest of Seonginbong, Buk-myeon, SNU 901003-57; between Daewonsa Temple and the 1st rest place, SNU 910717-3; between the 1st and 2nd rest places, Ullung-eup, SNU 910717-5, 910923-9.

14. *Mycena carolinensis* Smith and Hesler, Journ. Elisha Mitchell Sci. Soc., 56: 319, 1940. 큰애주름버섯 (新稱)

Pileus 1.5 cm across, convex, smooth, glabrous, somewhat glistening when moist, cream- to ivory-colored, tinged with brown in age, sulcate toward the center, entire; gills subdistant, up to 2 mm broad, yellowish white, appearing pruinose; stipe 4 cm long, 1.5 mm thick, cylindric, elastic, smooth, yellowish; flesh whitish, thin.

Basidiospores $7-8.5 \times 4.5-5 \mu\text{m}$, ellipsoid, smooth, amyloid; basidia $25-30 \times 7-9 \mu\text{m}$, 4-spored, clavate, with a basal clamp; cheilocystidia $25-40 \times 10-12 \mu\text{m}$, abundant, clavate to rather contorted, covered with long or branched protuberances at the upper half, embedded or slightly projecting; pleurocystidia $50-85 \times 10-16(-18) \mu\text{m}$, abundant, somewhat ventricose with a long neck or sometimes elongate-fusiform, smooth, projecting up to $50 \mu\text{m}$; tramal hyphae very broad, $15-25 \mu\text{m}$ wide, septate, without clamps.

Habitat: solitary at the base of dead *Sorbus*.

Remarks: Morphologically, the SNU specimen is a little larger than the one in the description (Smith, 1947) but microscopically, it agrees very well with the literature each other except its size of cystidia which is somewhat longer and wider. Otherwise, it can be a species of its own, but for a final determination, more collections need to be made and also authentic specimens are supposed to be examined for comparison.

Specimens: between the 2nd rest place and the mountain ridge to Seonginbong, Ullung-eup, SNU 910923-35.

15. *Mycena haematopoda* (Pers.: Fr.) Kummer 적갈색애주름버섯

Habitat: caespitose on decaying hardwood logs and stumps.

Remarks: This is one of common *Mycenas* which is called a bleeding *Mycena* because blood-

like orange juice oozes out when the fruitbody is scratched or squeezed, which is a unique feature of this species.

Specimens: forest by the brook across Cheonyeon Air-con, Ullung-eup, SNU 891017-88; Wildlife Reservation of Nari Basin, Buk-myeon, SNU 901003-24.

16. *Xeromphalina campanella* (Batsch: Fr.) Maire 이끼살이버섯

Habitat: gregarious on dead stumps.

Remarks: The orange decurrent gills, polished stipe, and the frequent occurrence on moss characterize this small mushroom even though it can be easily mistaken for a *Mycena*.

Specimens: between Cheonyeon Air-con and Bongrae Pokpo, Ullung-eup, SNU 891017-69; between the communal habitat of *Tsuga sieboldii*, *Pinus parviflora*, and *Fagus crenata* var. *multinervis* and Taehwa-ri, Taehwa, Seo-myeon, SNU 901002-15.

Hygrophoraceae 벗꽃버섯과

17. *Hygrocybe cantharellus* (Schw.) Murrill 화병꽃버섯

Habitat: solitary on humus.

Remarks: This small mushroom is differentiated by its red orange pileus, distinctly decurrent gills, and a quite long stipe from other similar species.

Specimens: along the mountain ridge to Seonginbong, Ullung-eup, SNU 910923-55.

Amanitaceae 광대버섯과

18. *Amanita pantherina* (DC.: Fr.) Krombh. 마귀광대버섯

Habitat: solitary on ground.

Remarks: This species is one of the most poisonous mushrooms but the dark brown or tan pileus with whitish scales and the rim or collar at the top of the basal bulb are its hallmarks in the field.

Specimens: around the log house of Nari Basin, Buk-myeon, SNU 910719-29; between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 910719-33.

Coprinaceae 먹물버섯과

19. *Coprinus comatus* (Müller: Fr.) Pers. 먹물버섯

Habitat: scattered to gregarious on soil.

Remarks: This is the largest mushroom among Coprini and is characterized by its shaggy cylindrical pileus which curls up at the margin and deliquesces from the bottom on maturing.

Specimens: along the mountain ridge to Seonginbong, Buk-myeon, SNU 910923-59.

20. *Coprinus disseminatus* (Pers.: Fr.) S. F. Gray 꼬갈먹물버섯

Habitat: densely gregarious between decayed roots of *Acer* or on mossy humus.

Remarks: This little mushroom always grows in troops and has translucent pleated pileus whose gills never deliquesce, which separates it from other Coprini.

Specimens: Virgin forest of Seonginbong, Buk-myeon, SNU 901003-55; between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 910924-99.

21. *Coprinus micaceus* (Bull.: Fr.) Fr. 갈색먹물버섯

Habitat: gregarious to caespitose on buried wood under *Fagus* or *Sorbus*, on a decayed root of *Sorbus*, or around an *Acer* stump.

Remarks: This *Coprinus* is one of the most common mushrooms in the island. Its pileus varies in color but usually is in the range of tan to rusty yellow and has mica-like glistening particles on it which may wear away soon.

Specimens: 1st rest place, Ullung-eup, SNU 891015-13; beyond the 2nd rest place, Ullung-eup, SNU 910717-10; between the 2nd rest place and the mountain ridge to Seonginbong, Ullung-eup, SNU 910717-13, 910717-20; between the 1st and 2nd rest places, Ullung-eup, SNU 910923-5.

Strophariaceae 독청버섯과

22. *Naematoloma fasciculare* (Hudson: Fr.) Karst. 노란다발

Habitat: gregarious to caespitose on a decayed stump of *Fagus*.

Remarks: This is one of common poisonous mushrooms but is rare in the island and has bright sulphur yellow to orange yellow pilei in clusters with greenish yellow gills and dark spores.

Specimens: Wildlife Reservation of Nari Basin, Buk-myeon, SNU 901003-19.

23. *Kuehneromyces mutabilis* (Schaeff.: Fr.) Sing. et A. H. Smith 무리우산버섯

Habitat: caespitose on decayed wood.

Remarks: This little brown mushroom used to be called *Pholiota mutabilis*. It always grows in dense clusters and is best recognized by its smooth hygrophanous pileus and scaly stipe with a ring and must be a rare one in the island.

Specimens: beyond the 2nd rest place, Ullung-eup, SNU 891017-104; beyond the 2nd rest place, Ullung-eup, SNU 910923-25.

Cortinariaceae 끈적버섯과

24. *Inocybe lacera* (Fr.: Fr.) Kummer 비듬땀버섯

Habitat: solitary on hardwood forest humus.

Remarks: This little *Inocybe* is known to occur usually in coniferous forests and has dense brown scales on the surface of the pileus with a ragged margin.

Specimens: along the mountain ridge to Seong-inbong, Buk-myeon, SNU 900807-52.

25. *Cortinarius pseudopurpurascens* Hongo 자주색끈적버섯아재비

Habitat: solitary on hardwood forest humus.

Remarks: This mushroom usually has a pileus with clay brown color rather than purple stain on the surface. But the gills turns purple when bruised and the stipe has a swollen base with an abrupt bulb.

Specimens: Virgin forest of Seonginbong, Buk-myeon, SNU 900807-39.

26. *Dermocybe cinnomea* (L.: Fr.) Wünsche 황갈색전나무끈적버섯

Habitat: scattered on humus under *Acer* or *Pinus*.

Remarks: This mushroom has a dry pileus of buff to cinnamon color, slender stipe, and evanescent fibrillose cortina. There are many look-alikes

with the present species but their dominant colors are olivaceous to ochraceous with a yellow tint.

Specimens: between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 901003-34.

Russulaceae 무당버섯과

27. *Russula emetica* (Schaeff.: Fr.) S. F. Gray 뱀새무당버섯

Habitat: solitary on humus under *Acer* or *Pinus*.

Remarks: This is a very common *Russula* in the mainland and also is not so uncommon in the island. This red mushroom is easily recognized by its color, white gills and stipe, and acrid taste.

Specimens: between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 901003-35; between Daewonsa Temple and the 1st rest place, SNU 910717-2; between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 910719-61.

Boletaceae 그물버섯과

28. *Suillus bovinus* (L.: Fr.) O. Kuntze 황소비단그물버섯

Habitat: scattered on the ground under *Pinus*.

Remarks: This is one of three *Suilli* collected along the road to the log-mud house of Nari Basin of the island and is characterized by its sticky pileus, somewhat decurrent tubes, and angular pores of irregular size in radial arrangement.

Specimens: between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 910924-102.

29. *Suillus granulatus* (L.: Fr.) O. Kuntze 젖비단그물버섯

Habitat: scattered on the ground under *Pinus*.

Remarks: This is a common *Suillus* in pine forests of the mainland but seems to be uncommon in the island and is distinguished by its slimy or shiny pileus and granular dots on the stipe without a veil.

Specimens: between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon,

SNU 910719-32.

30. *Suillus grevillei* (Klotz.) Sing. 큰비단그물버섯

Habitat: scattered on the ground under *Pinus*.

Remarks: This mushroom seems to be a common *Suillus* in the island and has a slimy or shiny pileus of golden yellow to orange brown color, pores staining reddish, and a veil on the stipe.

Specimens: between Wildlife Reservation and the log-mud house of Nari Basin, Buk-myeon, SNU 901003-36, 901003-40, 910719-54.

Conclusion

Some agaric fungi were collected from Ullung Island from October of 1989 to September of 1991 and were detected to the species according to the recent classification systems. They represented 30 species of 22 genera in 10 families of the Agaricales and, among them, three species were confirmed as unrecorded taxa to Korea, which were *Crepidotus geophilus*, *Mycena elegans*, and *Mycena carolinensis*. There were five common to frequent agarics, *Pleurotus ostreatus*, *Laccaria laccata*, *Armillariella mellea*, *Mycena elegans*, and *Coprinus micaceus*, which must be dominant species in Ullung Island.

Many agaric fungi occurred on humus, soil, or ground, and some others on decayed wood of trunks, stumps, bases, roots, logs, or branches of hardwood trees. *Fagus crenata* var. *multinervis* and *Sorbus commixta* were best host trees for wood-inhabiting agarics like *Pleurotus*, *Crepidotus*, *Panellus*, *Coprinus*, *Naematoloma*, or possibly *Armillariella*, and *Acer okamotoanum* and *Pinus densiflora* were also providing good environments for soil-inhabiting agarics like *Coprinus*, *Russula*, or *Suillus*. Compared with the agaric flora of the mainland, the fungal diversity of the island was very low and had a tendency that several dominant species developed a broad distribution in the island and, on the other hand, some uncommon agarics including unrecorded species showed a unique flora of the island.

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摘要

1989년 10월부터 1991년 9월까지 도합 5차례에 걸쳐 채집한 98점의 주름버섯류 표본을 최근의 분류체계에 따라 정리한 결과 이들 표본의 약 4/5가 최종적으로 동정되어 주름버섯목의 10과, 22속, 30종으로 확인되었다. 그중 3종은 국내 미기록종으로 판명되어 우리나라의 균류목록에 새로이 추가되었으며 이들 미기록종 균류는 귀버섯과의 땅귀버섯(新稱, *Crepidotus geophilus*)과 송이과의 긴대애주름버섯(新稱, *Mycena elegans*) 및 큰애주름버섯(新稱, *Mycena carolinensis*)이었다. 동정된 균류중 가장 흔한 종류는 느타리(*Pleurotus ostreatus*), 줄각버섯(*Laccaria laccata*), 뿔나무버섯(*Armillariella mellea*), 긴대애주름버섯(新稱, *Mycena elegans*), 그리고 갈색먹물버섯(*Coprinus micaceus*) 등 5종이었으며 이들이 울릉도 주름버섯류의 우점종을 이루고 있었다.

많은 종류의 주름버섯류들이 부식토, 토양, 또는 지면에서 자라고 있었으며 일부는 활엽수의 등치, 밀동, 기부, 뿌리, 통나무, 또는 가지의 죽은 목재에 서식하고 있었다. 너도밤나무(*Fagus crenata* var. *multinervis*)와 마가목(*Sorbus commixta*)은 느타리속(*Pleurotus*), 귀버섯속(*Crepidotus*), 부채버섯속(*Panellus*), 먹물버섯속(*Coprinus*), 및 개암버섯속(*Naematoloma*), 혹은 뿔나무버섯속(*Armillariella*)과 같은 목재서식 주름버섯류의 가장 좋은 숙주였으며, 우산고로쇠(*Acer okamotoanum*)와 소나무(*Pinus densiflora*)도 먹물버섯속(*Coprinus*), 무당버섯속(*Russula*), 및 비단그물버섯속(*Suillus*)과 같은 토양서식 주름버섯류의 생장에 좋은 환경을 제공하고 있었다. 육지의 주름버섯류 균류상에 비하여 울릉도의 균류 다양성은 매우 적었으며 일부 우점종들이 섬전역을 통하여 광범위하게 분포하는 반면에 미기록종을 포함한 일부 고유종들이 울릉도 균류상의 특징을 규정짓고 있었다.

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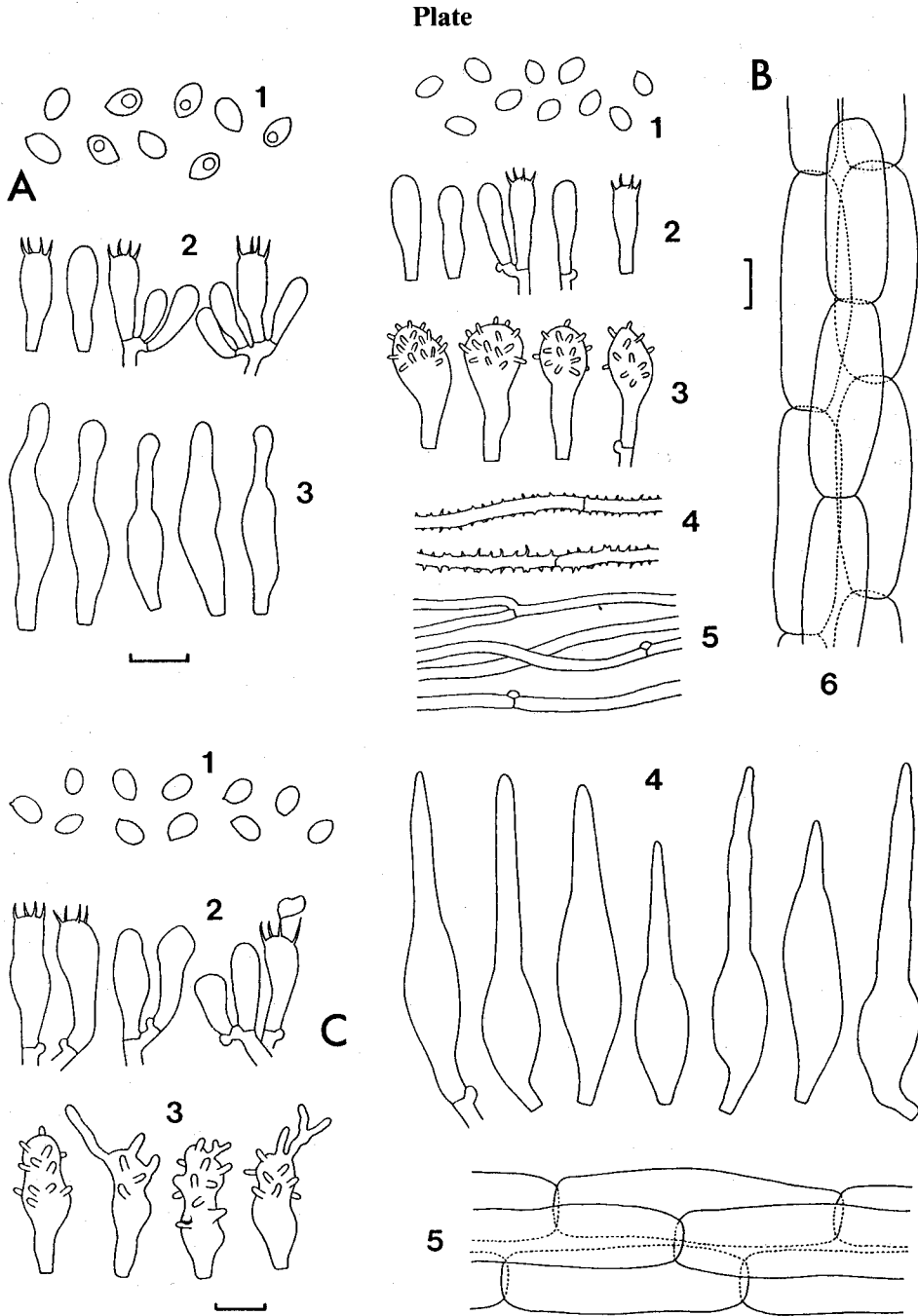


Plate. Microscopic structures (bars=10 μ m)

A. *Crepidotus geophilus*: 1) basidiospores, 2) basidia, 3) cheilocystidia

B. *Mycena elegans*: 1) basidiospores, 2) basidia, 3) cheilocystidia and pleurocystidia, 4) pileopellis, 5) tramal hyphae, 6) deeper tramal hyphae

C. *Mycena carolinensis*: 1) basidiospores, 2) basidia, 3) cheilocystidia, 4) pleurocystidia, 5) tramal hyphae