

Higher Fungi in the Northern Area of Kyungsangbuk-Do

Duck-Hyun Cho and Ji-Yul Lee*

Department of Sanitary Science, Seowon Health Junior College, Kwangju and
 Department of Food Science, Seoul Woman's College, Seoul, Korea*

慶尙北道 北部 地方의 高等 菌類

趙 德 炫·李 址 烈*

瑞元保健專門大學 衛生學科·서울女子大學 食品科學科*

Abstract: Higher fungi were collected in the northern area of Kyungsangbuk-Do (Mt. Sobaek, Youngju, Andong and Koun Temple) during the period from April, 1974 to October, 1978 and were identified.

The total number of fungi were as follows: two classes, 10 orders, 32 families, 86 genera, and 149 species. These contained higher fungi which were published by Lee and Cho, 1976 (referred below with a special mark). Among them, *Psilocybe merdaria* (Fr.) Ricken, *Laccaria galerinoides* Sing., *Conocybe tenera* var. *subovalis* Kühner and *Helotium sulphurinum* Quél. were new fungi in Korea.

Basidiomycetes 담자균강

Hymenomycetes 균실류

Homobasidiaae 등담자균 아강

Agaricales 주름버섯목

Hygrophoraceae 벚꽃버섯과

Hygrophorus suzukaensis Hongo 주홍벚꽃버섯 (채집주 소백산)

H. pantoleucus Hongo 흰갓벚꽃버섯 (안동)

H. cantharellus f. *sphagnicola* Hongo 물이끼벚꽃버섯 (新稱 안동)

H. niveus (Scope ex Fr.) Karst. 눈빛벚꽃버섯 (新稱 영주)

Pleurotaceae 느타리과

**Panellus stipticus* (Fr.) Karst. 부채버섯 (안동 소백산, 고운사)

**Schizophyllum commune* Fr. 치마버섯 (안동, 영주)

**Pleurotus ostreatus* (Fr.) Quél. 느타리 (안동, 영주)

**P. cornucopiae* (Pers.) Rolland 노랑느타리 (안동)

Panus rudis Fr. 참버섯 (안동)

Lentinus edodes (Berk.) Sing. 표고 (소백산)

Tricholomataceae 송이과

Clitocybe fragrans (Sow ex Fr.) Quél. 흰갓갓 갈대

기 버섯 (영주)

C. geotropa (St. Amans) Quél. 굽다리 갈대기 버섯 (소백산)

**C. odora* (Fr.) Quél. 하늘색 갈대기버섯 (소백산)

Collybia peronata (Fr.) Fr. 가랑잎애기버섯 (영주)

Armillariella tabescens (Fr.) Sing. 뽕나무버섯부처 (안동)

**Flammulina velutipes* (Fr.) Sing. 팽나무버섯 (팽이, 안동, 소백산)

Lyophyllum fallax (Peck) Kühn. & Romagn. 황토색 만가닥버섯 (영주)

L. semitale (Fr.) Kühn. 모래꽃만가닥버섯 (영주)

Marasmius prasiomus (Fr.) Fr. 흰낙엽버섯 (영주)

M. maximus Hongo 큰낙엽버섯 (영주)

M. siccus (Schw.) Fr. 애기낙엽버섯 (영주, 소백산)

**Mycena alcalina* (Fr.) Quél. 약취애주름버섯 (소백산)

M. crocata (Fr.) Quél. 노란애주름버섯 (新稱) (소백산)

M. haematopus (Fr.) Quél. 적갈색애주름버섯 (영주)

**M. osmundicola* Lange 흰애주름버섯 (소백산)

M. roseomarginata Hongo 도토리 애주름버섯 (영주)

Lepista subnuda Hongo 자주방망이버섯아재비(안동, 영주)

Crinipellis stipitaria (Fr.) Pat. 털가죽버섯(영주)

Tricholoma matsutake (S. Ito et Imai) Sing. 송이(영주)

**Tricholomopsis platyphylla* (Fr.) Sing. 넓은솔버섯(소백산)

**T. rutilans* (Fr.) Sing. 솔버섯(안동)

Laccaria laccata (Scop. ex Fr.) Berk. et Br. 졸각버섯(영주)

**L. amethystina* (Fr.) Berk. et Br. 자주졸각버섯(안동, 영주, 소백산)

L. galerinoides Sing. 모자풀졸각버섯(新稱)

Singer, Agaricales, 231, 1975

Pileus 4—8.5cm broad, depressed furrowed, yellowish white at center, light brown at margin, margin becoming dark when old, flesh tough, thin, white. Lamellae 3—9mm wide, crowded, yellowish brown, some margin changed brown. Stipe 6—10cm long, 0.8—1.8 cm thick, bent, dull orange, solid. Spores 4.4—7.4×2.9—4.6 μ m, elliptical, green under microscope, one oil drop enclosed, nonamyloid, echinate on surface.

Hab. clustered on the humus.

Distr. Korea (Youngju) and North America

Amanitaceae 광대버섯과

Amanita verna (Fr.) Vitt. 흰알광대버섯(영주)

A. virgineoides Bas. 흰가시광대버섯(영주)

**A. vaginata* (Fr.) Vitt. 우산버섯(안동)

A. vaginata (Fr.) Vitt. var. *punctata* (Cleland & Cheel) Gilbert 큰우산버섯(안동)

A. vaginata var. *fulva* (Fr.) Gill. 곶동색 우산버섯(안동)

**A. caesarea* (Fr.) Quél. 달걀버섯(안동, 소백산)

A. citrina S.F. Gray 애광대버섯(영주)

**A. muscaria* (Fr.) S.F. Gray 광대버섯(안동)

A. spreata (Peck) Sacc. 턱밭이광대버섯(안동)

**Volvariella bombycina* (Fr.) Sing. 흰비단털버섯(안동)

Agaricaceae 주름버섯과

**Agaricus campestris* Fr. 주름버섯(안동, 영주)

A. arvensis Fr. 흰주름버섯(안동)

A. subrutilescens (Kauffm.) Hotson & Stunz 진갈색주름버섯(안동, 영주, 소백산)

**Lepiota procera* (Fr.) S.F. Gray 갓버섯(안동, 영주)

L. cristata (Bolt. et Fr.) Quél. 갈색고리갓버섯(소백산)

L. pseudogranulosa (Berk. et Br.) Sacc. 흰여우갓버섯아재비(영주)

Coprinaceae 먹물버섯과

Coprinus atramentarius (Fr.) Fr. 두엄먹물버섯(안동)

C. cinereus (Fr.) S.F. Gray 재먹물버섯(소백산)

C. comatus (Fr.) S.F. Gray 먹물버섯(영주)

**C. disseminatus* (Fr.) S.F. Gray 꼬깔먹물버섯(소백산)

**C. micaceus* (Fr.) Fr. 갈색먹물버섯(소백산)

C. friesii Quél. 꼬마먹물버섯(영주)

C. boninensis S. Ito et Imai 벗짚먹물버섯(안동)

C. cortinarius Lange 갈색점박이먹물버섯(영주)

C. patouillardii Quél. 소똥먹물버섯(안동)

C. stercorearius Fr. 흰가루먹물버섯(영주)

**Psathyrella candolleana* (Fr.) A.H. Smith 족제비눈물버섯(영주)

Bolbitiaceae 소똥버섯과

Agrocybe arvalis (Fr.) Sing. 애기벗짚버섯(소백산)

A. pediades (Fr.) Fayod 황토벗짚버섯(영주)

Bolbitius vitellinus (Pers. ex Fr.) Fr. 노란소똥버섯(영주, 안동)

Conocybe lactea (Lange) Metrod 노란종버섯(안동)

C. tenera (Schaeff. ex Fr.) Fayod 장다리종버섯(영주)

C. tenera var. *subovalis* Kühn. 알뜰장다리종버섯(新稱)

Kühner, Gen. Galera, 69, f. 16. 1935.

Agaricus campanulatus Bull. Champ. Fr. pl. 552, f. 1. 1791-Fries, Syst. Myc. 1:295; 1821; Epicr. Myc. 205. 1838.

Agaricus ovalis Fr. Monogr. Hymen. Suec. 1:389, 1857; Hymen. Eur. 268. 1874.

Galerula ovalis Karst. Hattsv. 1:443. 1879.

Galera campanulata Mass. Brit. Fung. Fl. 2:145. 1893; Brit. Fungi, 283. 1911.

Galera tenera sub sp. *ovalis* Konr. & Maubl. Icon. Sel. Fung. 2:pl. 172, F. 1. 1927.

Derminus ovalis P. Henn. in Engler & Prentl, Nat. Pfl.-fam. 1, 1:241. 1900.

Conocybe subovalis Kühn. Kühner & Romagnsi, Fl. Analyt. Champ. Super. 347. 1953.

Pileus 5.2—6cm broad, bell-shaped, tomentose distributed on surface, broken along lamellae, yel-

lilish white, pale yellow or pale yellowish brown. Lamellae 3-4mm wide, yellowish white, to dull orange, crowded, free. Stipe 6.2-8.2cm long, 2-2.5mm thick, white powders scattered on surface, thick and bulbed at base, white, hollow. Spores 11.8-13.2×6.6-8.1 μ m, broad elliptical, dark orange, nonamyloid, wall thick, germ pore present, enclosed. small one or several oil drops. Basidia 22.1-25×10.3-13.2 μ m, flask-shaped.

Hab. Clustered on sandy-soils.

Distr. Korea (Youngju) and Japan.

Strophariaceae 독청버섯과

**Pholiota nameko* (T. Ito) S. Ito et Imai 나도팽나무버섯(맛버섯) (소백산)

**P. squarrosa* (Fr.) Quél. 비늘버섯(안동)

**P. squarrosoides* (Peck.) Sacc. 침비늘버섯(소백산)

P. spumosa (Fr.) Sing. 노란갓비늘버섯(안동)

Kuehneromyces mutabilis (Fr.) Sing. et Sm. 무리우산버섯 (안동)

**Naematoloma fasciculare* (Fr.) Karst. 노란다발(안동)

**N. sublateralium* (Fr.) Karst. 개암버섯(안동)

Psilocybe merdaria (Fr.) Ricken 분색환각버섯(新稱)

Ricken, Blatterp. 251, pl. 66, f. 1, 1915-Kauffman, Agar. Mich. 274. 1918-Singer, Agaricales 506. 1949; Singer, Agaricales, 540, 1975.

Agaricus merdarius Fr. Syst. Myc. 1:291, 1821; Epicr. Myc. 220. 1838; Monogr. Hymen. Succ. 415. 1857; Hymen. Eur. 286. 1874.

Stropharia merdaria Quél. Champ. Jura Vosg. 1:142. 1872.

Fungus merderius O. Kuntze, Rev. Gen. pl.3(2); 480, 1898.

Psalliota merdaria P. Henn. in Engler & Prantl, Nat. pfl-fam. 1, 1:238, 1900.

Stropharia merdara var. *magor* Rea, Brit. Basid. 129. 1922.

Geohila merdaria Kühn. et Romagn, Fl. Analyt. Champ. Super. 336, 1953.

Pileus 1.7-3.7cm broad, convex to plane, glabrous, margin downcurved, viscid when wet, rough, some furrowed at margin, dirt yellowish brown, distinct brown when wet, color various, flesh thin, broken, light brown. Lamellae 4-6mm wide, crowded, darkish brown or grayish red brown, decurrent or

adnate. Stipe 4(8)-6(14)cm long, 2(3)-2.5(4)mm thick, bent, but subcylindrical on straw, scales scattered roughly, dirt whitish yellow, annulus upward, white but upward dark (because spores fallen), some thick and bulbed in land, slender at base, hollow.

Spores 10.3-11.8×5.9-7.4 μ m elliptical, smooth, purple, spore print darkish brown, or dark, double walled, germ pore present, one or two oil drops enclosed. Basidia 23.5-25×8.8-9.1 μ m, fusoid, hyphae from gill trama 97.0-110.3×10.3-13.2 μ m, clamp connection absent.

Hab. Clustered on straw, very long on sandy soils in fall.

Distr. Korea (Youngju), Japan, Europe, North America and Australia.

Cortinariaceae 곤적버섯과

**Inocybe rimosa* (Fr.) Quél. 팍버섯(안동)

I. maculata Boud. 털팍버섯(영주)

Crepidotaceae 귀버섯과

Crepidotus subphaerosporus (Lange) Kühn. et Romagn. 주걱귀버섯(안동)

C. sulphurinus Imaz. et Toki. (노란귀버섯 안동)

Boletaceae 그물버섯과

**Boletus regius* Krombh. 큰그물버섯(안동)

**Boletinus cavipes* (Opat.) Kalchbr 황금그물버섯(안동)

Pulveroboletus retipes (Berk. et Curt) Sing. 밤색갓그물버섯(안동)

Xerocomus subtomentosus (Fr.) Quél. 산그물버섯(영주)

**Suillus grevillei* (Klotzsch) Sing. 큰비단그물버섯(안동, 소백산)

**Tylopilus felleus* (Fr.) Karst. 쓴맛그물버섯(소백산)

Leccinum rugosiceps (Peck) Sing. 붉은갓겉겉이그물버섯(소백산)

L. aurantiacum (Bull.) S.F. Gray 등색겉겉이그물버섯(영주)

Strobilomycetaceae 귀신그물버섯과

Strobilomyces floccopus (Fr.) Karst. 숨귀신그물버섯(소백산)

Russulaceae 무당버섯과

**Russla emetica* (Fr.) S.F. Gray 무당버섯(안동, 영주, 소백산)

R. pseudodelica Lange 흰무당버섯아재비(소백산)

R. densifolia (Secr.) Gill 애기무당버섯(영주)

**R. senecis* Imai 흙무당버섯(안동, 소백산)

R. virescenz (Zanted.) Fr. 기와버섯(영주)

**Lactarius volemus* (Fr.) Fr. 젓버섯(소백산, 안동)

L. subnigricans Hongo 검정젓버섯(新稱, 영주)

L. piperatus (Fr.) S.F. Gray 굴털이(안동, 소백산)

Aphyllphorales 민주름목

Clavariaceae 국수버섯과

Lentaria mucida (Fr.) Corner 끈적뱅어버섯 (안동, 영주)

**Ramaria apiculata*(Fr.) Donk 비늘썩리버섯(소백산, 안동)

**R. subbotrytis* (Cooke) Corner 산호썩리버섯(안동)

Pterula 고사리버섯속(新稱)

Pterula subulata Fr. 큰침고사리버섯(新稱, 안동)

Cantharellaceae 피꼬리버섯과

**Cantharellus cibarius* Fr. 피꼬리버섯(안동)

**C. minor* Peck. 애기피꼬리버섯 (영주, 안동, 소백산)

**Craterellus aureus* Berk. et Curt. 황금뿔나팔버섯(소백산)

Thelephoraceae 굴뚝버섯과

**Boletopsis leucomelas* (Fr.) Fayod 흰굴뚝버섯(소백산)

Calodon zonatus (Fr.) Qué. 고리갈색갈대기버섯(소백산)

**Sarcodon aspratus* (Berk.) S. Ito 향버섯(능이)(소백산)

Polyporaceae 구멍장이버섯과

**Coriolus versicolor* (Fr.) Qué. 구름버섯(안동, 영주, 소백산)

C. consors (Berk.) Imaz. 송곳니 구름버섯(고운사, 소백산)

C. hirsutus (Fr.) Qué. 흰구름버섯(안동, 소백산)

**Elfoingia applanata* (Pers.) Karst. 잔나비결상(안동, 소백산)

**Fomes fomentarius* (Fr.) Kickx 말굽버섯(안동, 소백산)

Ganoderma lucidum (Fr.) Karst. 불노초(안동)

**Gloeophyllum subferygineum* (Berk.) Bond. et Sing. 밤갈색조개버섯(안동, 소백산)

Daedalea dickinsii Berk. 디킨시미로버섯(新稱, 고운사, 소백산)

Hischioaporus abietinus (Fr.) Donk 옷솔버섯 (고운사)

Lenzites betulina Fr. 조개껍질버섯(안동, 소백산)

Trametes gibbosa Fr. 대합송편버섯(고운사, 소백산)

**Tyromyces sambuceus* (Lyod) Imaz. 명아주개떡버섯

(소백산)

Mucronoporaceae 진흙버섯과

Phaeolus schweinitzii (Fr.) 해면버섯(고운사)

Cyclomyces fuscus Kunze 고리버섯(고운사)

**Phellinus gilvus* (Fr.) Pat. 마른진흙버섯(안동)

Corticiaceae 고약버섯과

**Stereum annosum* Berk. et Br. 큰꽃구름버섯(소백산)

S. hiugense Imaz. 털각지꽃구름버섯(고운사)

S. ostrea (Bl. et Ness) Fr. 갈색꽃구름버섯(영주, 소백산)

Gasteromycetes 복균류

Gastromycetales 복균목

Sclerodermatineae 어리알 버섯 아목

Sclerodermataceae 어리알 버섯과

**Pisolithus tinctorius* (Pers.) Coker et Couch 모래밭버섯(영주, 안동, 소백산)

Scleroderma cepa Pers. 양파어리알버섯(영주)

Calostomataceae 연지버섯과

**Astraeus hygrometricus* (Pers.) Morgan 먼지버섯(영주, 안동)

**Calostoma japonica* P. Henn 연지버섯 (소백산)

Nidulariineae 찻잔버섯아목

Nidulariaceae 찻잔버섯과

**Crucibulum vulgare* Tul. 찻잔버섯(소백산, 영주)

Cyathus striatus Fr. 주름찻잔버섯(안동, 소백산)

Lycoperdineae 말뚝버섯아목

Lycoperdaceae 말뚝버섯과

**Lycoperdon perlatum* Pers.(안동, 영주, 소백산)

Clavatia craniformis (Schw.) Fr. 말징버섯(영주, 안동)

Geastraceae 방귀버섯과

Geastrum triplex (Jungh.) Fisch 목도리방귀버섯(안동)

Phallineae 말뚝버섯아목

Phallaceae 말뚝버섯과

**Mutinus caninus* (Pers.) Fr. 뱀버섯(안동, 영주)

M. bambusinus (Zoll.) Fisch. 끝검은뱀버섯(영주)

Heterobasidiaceae 이담자아강

Dacryomycetales 붉은목이목

Dacryomycetaceae 붉은목이과

Guepinia spathularia Fr. 혀버섯(소백산, 안동)

Auriculariales 목이목

Auriculariaceae 목이과

Auricularia auricula-judae(Fr.) Qué. 목이(안동, 영

- A. mesentericha* (Dicks) Pers. 주름목이(안동)
A. polytrica (Mont.) Sacc. 털목이(소백산)
 **Helicobasidium mompa* Tanaka 자주빛날개 무늬병(안동, 영주)
Ascomycetes 자낭균강
Pezizales 주발버섯목
Pezizaceae 주발버섯과
Patella scutellata (St. Amans) Morgn 주홍집시버섯(소백산)
Peziza badia Pers. et Merat 자주주발버섯(소백산)
P. repanda Pers. 주발버섯(소백산)
Sphaeriales 콩버섯목
Xylariaceae 콩꼬투리버섯과
 **Daldinia concentrica* (Bolt.) Ces et De Not 콩버섯(영주, 안동, 소백산)
Xylaria corophophila (Pers.) Fr. 젓가락콩꼬투리버섯(소백산)
X. polymorph (St. Amans) Grev. 콩꼬투리버섯(고운사)
Helotiales 고무버섯목
Geoglossaceae 콩나물 버섯과
Leotia luburica Fr. 콩두건버섯(소백산)
Helotiaceae 고무버섯과
Helotium sulphurinum Quél. 황고무버섯(新稱)(소백산, 영주, 안동)
 Imaz., Hongo and Tubaki, Common Fungi of Japan in Color, pl.12, f.1. 1970.
 Hymenium body 0.5-4mm in diameter, dish-shaped, reddish yellow, upward whitish yellow margin incurved when adult and dry. No stipe at first but short one present when adult, flesh thick, tough. Spores 10.3-13.2×4.4-6.6μm, white, elliptical, enclosed one or two oil drops, nonamyloid, ascus 95.5-112.5×6.8-7.5μm, long bat-shaped, hyphae 1.5-1.8μm wide.
 Hab. Clustered on rot wood from summer to fall.
 Distr. Korea (Mt. Sobaek, Andong, Youngju) and Japan.
Hypocreales 맥각균목
Clavicipitaceae 맥각균과
Cordyceps sobolifera B. et Br. 배미동충하초(소백산)

摘 要

1974年 4월부터 1978年 10월까지 慶尙北道 北部地方

의 小白山, 榮州, 安東 그리고 孤雲寺에서 採集한 高等菌類를 同定한 結果 2綱, 10目 86屬 149種을 確認하였으며 이것은 1976年度에 發表한 것을 포함하였다. 이 중에서 모자꼴줄각버섯 *Laccaria galerinoides* Sing., 알꼴장다리종버섯 *Conocybe tenera* var. *subovalis* Kühner, 분색환각버섯 *Psilocybe merdaria* (Fr.) Ricken, 그리고 황고무버섯 *Helotium sulphurinum* Quél.은 韓國 未記錄種으로 同定 記載하였다.

References

- Hongo, T. (1971): Notulae Mycologicae (10). *Mem. Shiga Univ.*, Vol.21
 Hongo, T. (1974): *Agaricus* from Papua-New Guinea (2), *Tottori Mycol. Inst. (Japan)*, No.11, July, 1974.
 Imazeki, R. and T. Hongo (1957): *Coloured Illustrations of Fungi of Japan*, Hoikusha Publishing Co., Ltd.,
 Imazeki, R. and T. Hongo (1965): *ibid.* vol.11
 Imazeki, R., T. Hongo and Tubaki (1970): *Common Fungi of Japan in Colour*, Hoikusha Publishing Co. Ltd.
 Ito, S. (1955): *Myc. Fl. Japan* 2(4), Yotendo, Tokyo
 Ito, S. (1957): *ibid.* 2(5) *ibid.*
 Kim, Sam-Soon, Ji-Yul Lee and Duck-Hyun Cho(1978) *Notes on Korean Higher Fungi (III)*, The Journal of Seoul Womans College Vol.VII
 Korean Society of Mycology (1978): *Suggestions on "Standard Korean Names of Mushrooms in Korea"* *Kor. J. Mycol.* 6(2):43-55.
 Lee, J.Y. (1957): *The List of the Fungi of Korea*, Seoul High School.
 Lee, J.Y. and D.H. Cho(1975): *Notes on Korean Higher Fungi*, *Kor. J. Mycol.* 3 (2):13-18
 Lee, J.Y. (1977): *ibid* (II), 5(2):17-26
 Lee, J.Y., Byong-Kak Kim and Duck-Hyun Cho (1978): *ibid* (IV), 6(I):43-52
 Lee, J.Y. (1976): *Fungal Flora in Bamboo Forest of Korea (I)*, *Kor. J. Mycol.* 4(I):11-16
 Lee, J.Y. et al. (1959): *Coloured Illustrations of Fungi of Korea*, Baemugak, Seoul
 Lee, E.R. and H.S. Jeong (1972): *Floral studies on Basidiomycetes in Korea*, R-72-82, Ministry of

Science and Technology

<Received 2 March 1979>

Lee, Y.N. and D.H. Cho (1976): Basidiomycetes on Mt. Sobaek and Andong areas with some addition to the Korean Flora, *Kor. J. Microbiol.* 14(2): 57-64

Lim, J.H. and B.K. Kim (1972): Taxonomic Investigations on Korean Higher Fungi(I), *Kor. J. Pharmacogn.* 3(2):11-20

Singer, R.(1975): The Agaricales in Modern Taxonomy(3rd.), 912pp, 84pls.

Vassilieva, L.N. (1973): Die Blatterpilze und Rohrlinge (Agaricales) von Primorsky Region, Akademik Wissenschaften der USSR, Hayka.

The Explanations of Plate

- A. *Laccaria galerinoides* Sing. A-1, carpophores×1
A-2, spores×1,000
- B. *Conocybe tenera* var. *subovalis* Kühn. B-1, carpophores×1/2 B-2, spores×1,000 B-3, basidia×1,000
- C. *Psilocybe merdaria* (Fr.) Ricken C-1, carpophores×1 C-2, spores×1,000 C-3, basidia×1,000
- D. *Helotium sulphurinum* Quéf. D-1, carpophores×1
D-2, spores×1,000

The Plate

