

Notes on Korean Agaricales (II)

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韓國產 주름버섯 목에 대한 報告

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Abstract

Seven species of higher fungi which were collected at Kwangneung, Mt. Hanla, Mt. Chiri, Taeqwanryung, and Yeongdong district, and preserved in the institute from 1975 to 1977, were classified into new Korean species. Also, two species of fungi were collected from April to October 1978 and identified at Suweon, Kwangneung, and Mt. Chiri.

They were as follows: *Hygrophorus pratensis*, *H. flavescens*, *H. puniceus*, *Rhodophyllus rhodopoliosus*, *Lepiota atosquamulosa*, *Leucocoprinus fragilissima*, *Lyophyllum semitale*, *Russula delica* and *Xerocomus badius*.

Introduction

Taxonomic study on Agaricales have been carried out by Japanese taxonomists since 1930 in Korea.

Okada(1932), Kaburagi(1940) and Takagi(1943~1945) et al reported notes on the classification of the higher fungi in Korea.

Lee and Lee(1957) recorded 111 species, including 71 species of Agaricales in their lists. Lee, J. Y. (1957) also recorded 274 species of Korea fungi. And 49 species of fungi were reported by Lee and Lee, and Lee, Y.W. in 1958. The following year, "Coloured Illustrations of Fungi of Korean" was published by Lee et al, in which 228 species including 129 species of Agaricales were described. In 1968, Lim, J.H. compiled 397 species including 173 species

of Agaricales distributed in Korea in his "Total List of Korean Fungi".

Lee and Jeong(1972) put the Korean Basidiomycetes, recorded up to that time into 2 subclasses, 10 orders, 37 families, 149 genera, 368 species and added 13 unknown species in their "Floral studies on the Basidiomycetes in Korea". It also contained 182 species of Agaricales.

In 1975, Lee & Cho reported 9 unrecorded species in their first paper, "Notes on Korean Higher Fungi". They also published "Note on Korean Higher Fungi (II)"(1977) and "Notes on Korean Higher Fungi (III)" (1978). In "Notes on Korean Higher Fungi (IV)", 9 new species were reported in Korea by Lee, Kim, and Cho in 1978. Lim&Kim (1972) listed 384 species of higher fungi and added 5 unknown species of higher fungi in their "Taxonomic Investigations on Korea Higher Fungi

"Taxonomic Investigations on Korean Higher Fungi II, III, and IV" series followed. Kim, et al(1975) at first reported 37 unknown species of Basidiomycetes and consequently in 1976, Kim proposed to group 25 Korean species of *Amanita*, including 3 new species in Korea, into 3 subgenera in his "The Taxonomic study on the Genus *Amanita* in Korea". The next year, Kim et al rearranged 32 species of *Russula*, including 3 unrecorded species, into 4 subgenera in their "Revision of the Genus *Russula* collected in Korea".

As a result, it has been recounted that about 400 species of Agaricales have been reported in Korea up to now.

The authors have collected wild mushrooms near Suweon, Kwangneung, Taegwanryung, Yeong Dong District, Mt. Chiri, Mt. Sokri, Mt. Hanla, etc. and preserved the specimens in our department from 1974 to now. We classified them according to the taxonomic system of Imazeki and Hongo which was based on Singer's "The Modern Taxonomy of Agaricales".

Xerocomus badius (Fr.) Kühner 갈색산 그물버섯 (신칭)

Imazeki R and T. Hongo, Coll. Illus. Fungi. Jap. 84. Pl. 37, fig.218, 1957.—Ito, S. Myc. F. Jap. 2. 25. 27, fig. 9, 1959.—Singer, R. Agari. moder. Tax. 729, 1962.—Mcilvaine C. and R.K. Macadam, One Thousand Amer. Fungi, 418, 1973.

Boletus badius Fr. Cooke, M.C. Handb. Brit Fungi, 1 : 252, 1871.

Pileus 8~12cm. Broad, even, soft, viscose or glutinous, when moist, shining when dry, tawny-chestnut. Flesh whitish or pale yellow, becoming bluish when bruised taste mild, inodorous. Tubes large, angular, long, adnate or sinuate-depressed, whitish-yellow, becoming tinged with green. Stem 4~17cm long, 0.5~1.5cm thick, subequal, even, solid, brown-pruinete. Spores fusoid-oblong, 13~15×4.5~6 μ , deposit yellowish brown alive.

This mushroom was found on the ground in woods July to October at Mt. Sokri and Mt. Chiri. Hongo T. (1957) reported that its edibility is uncertain, but Ito S.(1959) and Macadam(1973) classified it

the edible species. In Korea no one eats them. Authors think that is why people don't know that this mushroom is edible.

Distribution : Korea, Japan, North America and Europe.

Hygrophorus puniceus (Fr.) Fr. 팔배 빛꽃버섯 (신칭)

Cooke, M.C. Handb. Brit. Fungi, 1:202. 1871:Illus. Brit. Fungi, 6 : pl. 922, (no, 912). 1888.—Christensen, C.M. Fungi, 50, 1955.—R. Imazeki, T. Hongo and K. Tubaki, Comm. Fung. Jap. Color, 60. pl. 30, 1970. *Hygrocybe punicea*(Fr.) Karst.—R. Imaz. and T. Hongo, col. Illus. col. Illus. Fung. Jap. 15, pl. 3, 1957.—Ito, S. Myc. F. Jap. 2 82, 1959.—Singer, R. Agari. Moder. Tax. 197, 196. *Hygrocybe puniceus* Fr. Mcilvaine C. and R.K. Macadam, One Thousand Amer. Fungi, 159, 1973.

Pileus 4~7cm. broad, campanulate to convex when young, flat to depressed in the center when old, sticky when moist, glittering blood-scarlet in dry weather and when old becoming pale red or orange especially at the disc, the margin lobed or wavy, very irregular, even. Flesh of the same color, fragile. Gills 10~12cm at the margin, 5~12mm wide, distant, and often reddish at the base. Prominent veins between the gills where they are attached to the cap. Stem 6~12cm long, solid when young, hollow at length, very stout(not compressed), fibrous striate, and for the most part squamulose at the apex, reddish yellow toward the top, the base white. Spores 8.5~10×4.6 μ .

Solitary or scattered on the ground in the woods or open places. They were found at Kwangneung and Mt. Chiri. from July 1978 to October, 1978.

Edibility: edible.

Distribution: Worldly.

Hygrophorus pratensis Fr. 무리 빛꽃버섯(신칭)

Cooke. M.C. Handb. Brit. Fungi. 1:199, 1871:Illus. Brit. Fungi, 6 : pl. 917, (no. 892) 1888.—Christensen, C.M. Fungi, 49, 1955.—Singer, R. Agari. Morder. Tax. 193, 196.—Mcilvaine C. and R.K. Macadam, One Thous. Amer. Fungi, 152, 1973.—Gilliam, M.S. Mushr. Edible and Otherwise, 206, 1976.

Camarophyllum pratensis(Fr.) Karst, Imazeki R.

and T. Hongo, Col. Illus. Fung. Jap. 13, f. 6; pl. 2. f. 6. 1957.—S. Ito, Myc. F. Jap. 270, f. 27, 1959.

Pileus 3~8cm wide, convex to flat, sometimes showed high umbo, thin toward the margin, even, smooth when moist, often rimosely viscid when dry, split irregularly round, pale yellowish, fading to pale tan. Flesh firm, almost white to pale yellowish. Gills of the same color as the pileus, remarkably decurrent, at first arcuate, then extended in the form of an inverted cone, almost distant, thick, firm brittle, connected by veins at the base. Stem 3~7cm long, 0.6~1.2cm thick, stuffed internally spongy, externally polished-evened, attenuated downward, even. Spores 6.5~9×4~5 μ , white, broadly elliptical, even, smooth.

It grows from July to September on the ground in pastures, in places where horse manure and straw are stored, and in thin mixed woods while the authors found three specimens at Kwangneung in 1977.

Edibility: edible.

Distribution: Korea, Japan, Europe and America.

Hygrophorus flavescens(Kauffm.) Sing. 노란대뿔꽃버섯(신칭)

Imazeki R. and T. Hongo, Col. Illus. Fung. Jap. 14, pl. 2, fi. 12, 1957.—Ito. S. Myc. F. Jap. 2. 82, 1959.—Singer, R. Agari. Moder. Tax. 197, 1962.

Plant yellow, Cap 2~4cm wide, convex at young and then plate, viscid when moist, the margin of the cap striate. Gills adnext, distant, Stem hollow, often eccentric, not viscid. Spores 7~9×4~5 μ .

This species was found very often on the ground in mixed woods or pasture and along the road side from late Summer to Autumn.

Edibility: uncertain

Distribution: Korea. Japan. Europe and North America.

Lyophyllum semitale(Fr.) Kühner 잎만가닥버섯(신칭)

Konrad & Maublanc, Agaricales, 1: 367. 1948
Ito, S. Myc. F. Jap. 2, 94, 1959.—Imazeki. R. and T. Hongo, Col. Illus. Fung. Jap. 2, 17, pl. 4. f.

24, 1965.—Singer, R. Agari. moder. Tax. 213, 1962
Agaricus semitale Fr. Cooke, Handb. Brit. Fungi, ed. 2. 63. 1883; Illus. Brit. Fungi, 2: 292 (no. 184). 1888.

Pileus 3.4~4cm wide, bell-shaped to convex with the margin then umbonate or slightly depressed in the center, at first bright brownish gray, then pale
Flesh thick, leathery, whitish to pale gray, tinged with black when bruised. Gills sinuate or adnext, somewhat distant, pale gray. Stem 4~5cm long, 0.5~1cm thick, equal or slightly thick downward bright whitish gray, fibrous, torn into scales on the surface at the top, covered with coarse woolly hairs at the base, slightly stuffed then hollow. Spores 6.5~9×4.5~5 μ . Scattered or in dense clumps on the ground in coniferous woods. They were found at Kwangneung and Mt. Chiri on Oct. 7, 1976.

Edibility: edible

Distribution: Korea, Japan, North America and Europe.

Russula delica Fr. 푸른 주름무당버섯(신칭)

Fries, Epicr. Myc. 350. 1838; Hymen. Eur. 440—Cooke, Handb. Brit. Fungi, 1: 218. 1871; Illus. Brit. Fungi, 7: 91. 1068(no. 975). 1890—S. Ito. Myc. F. Jap. 2. 452, 1959. Imazeki R. and T. Hongo, Col. Illus. Fung. Jap. 92, pl. 41, fi. 232, 1965.

Pileus 4.5~8cm broad, firsts soild whitith, rust when dry, yellowish brown to bright brown with dull, umblicate, funnel-shaped, even, fleshy, firm throughout, margin involved when young, upraised when old. Flesh firm, white, tasteless, Juiceless. Stem stout, sordid white, solid, compact, light greenish gray at the apexs. Gill decurrentor distant thin unequal, white, light greenish gray at the edge and base, exuding small watery drops under wet weather. Spores globose, beseted with short bristles, 8~9 μ in diameter.

This species resembles *Lactarius piperatus* in appearance, but because milk or juices not appear in the gills, they may easily be distinguished.

This species was found on the grownd in mixed woods at small mountain near Suweon(Dong tan Myeon) on July 13, 1978.

Edibility: edible, taste is mild but it does not have a good flavor

Distribution: Korea, Japan, China Europe and North America.

Lepiota atroscamulosa Hongo 매꽃 갓버섯(신칭)

Imazeki R. and T. Hongo, col. Illus, Fung. Jap. 2, 49, f. 92. 1965.

Pileus 1.5~4cm wide, bell shaped then plate, scattered with reddish brown scales on the pileus breaked up and crowded at the disc. Flesh thin, white. Gills distant, whitish to whitish yellow, 2~3mm wide, crowded to slightly distant. Stem 1.5 to 3.5cm long, 1.5~5 mm thick, whitsh and then pale yellowish-red. Ring membranous, soon disappeared. Spores oblong to egg shaped, 6~9×4~5.5 μ . Cystidia club-shaped, 20~40×6~135 μ .

They grow on the humus in pine trees from summer to autumn. And they were found at Kwangneung, Mt. Chiri and near Suweon from summer to autumn.

Edibility: uncertain

Distribution: Korea, and Japan.

Leucocoprinus fragilissimus(Berk. et Rav.) Pat. 날개 갓버섯(신칭)

Ito, S. Myc. F. Jap. 2. 271. 1959.—Singer, R. Agari. Moder. Tax. 464. 1962.

Agaricus licmophorus Berk et Br. Cooke, Handb, Aust. Fungi, 8. 1892.

Pileus 2~5cm wide, conical when young, then bell-shaped to plated sometimes depressed in the center, membranous, very thin, yellow or pale yellow, striate even though when young, covered with same dark color powder on the striates. Gills distant, pale yellow. Stem 11~12cm long, 2~3mm. thick, tapering upward, slightly thick at the base, yellow, hairless or powdery when young, covered with tinge hairs at the base, splited easily, hollow. Ring membranous, yellow, disappeared. Spores, oblong, smooth, 10~12×6~8 μ .

Solitary or scattered on the grownd in the mixed woods. They were found at Kwangneung on Oct. 1976.

Edibility: unknown

Distribution: Korea, Japan, North America and Australia

Rhodophyllus rhodopolius(Fr.) Quel. 갓갓 외래 버섯(신칭)

Imazeki R. and T. Hongo, col. Illus. Fungi, Japan 79, f. 202, pl. 35, 1967.—S. Ito, Myc. Fl. Jap. vol. 2, vol. 5, 448, 1959.—Sing, R. pp.687, 1962.

Agaricus rhodopolius Fr. Cooke, Handb. Brit. Fungi. 1: 94. 1871; Illus. Brit. Fungi. 3: pl. 342 (no. 338). 1886.

Entoloma rhodopolius Fr. Cooke, Handb. Brit. Fungi. 1: 94. 187; Illus. Brit. Fungi. 3: pl. 342(no. 338). 1886.

Entoloma rhodopolium Fr. Mcilvaïne C. and R.K. Macadam, one Thous. Amer. Fungi. 253, 1973. Gilliam, M.S. Mushr. Edib. Otherwise, 244, Fig. 196, 1976.

Pileus 3~8cm broad when moist dingy-brown or livid at young, becoming pale when old, isabelline-livid when dry, silky-shining, slightly-fleshy, bell-shaped when young then expanded and somewhat umbonate or gibbous, at length rather plane and sometimes depressed, fibrillose when young, smooth when adult, margin at the first bent inwards and when large undulated. Flesh white, thin, almost odourless Gills adnate somewhat sinuate, slightly distant, broad, white, then rose color. Stem 5~10cm long, 5~15mm thick, hollow, equal when smaller, when larger attenuated upwards and white-pruinat at the apex, other wise smooth, slightly striate, white. Spores 8~10.5×7~8 μ .

This was found in mixed woods in autumn.

Edibility: Fries and Mcilvaine reported them edible, but the authors have never found people to eat them in our country. This was collected at Suweon, and Kwangneung, in 1976.

Distribution: Worldly.

摘 要

1974~1977년까지 채집되어 분류되지 않은 상태로 보관되어 있던 표본중에서 7종과 금년 4월부터 10월까지 수원 근교와 속리산에서 채집한 2종을 새로이 분류하여 한국 미기록종 9종, 즉 *Hygrophorus pratensis*, *H. flavescens*, *H. puniceus*, *Rhodophyllus rhodopolius*, *Lepiota atroscamulosa*, *Leucocoprinus fragilissimus*, *Lyophyllum semitale*, *Russula delica*, *Xerocomus badius* 등이 확인되었고 그의 한국명을 신칭하였다.

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Explanation of the plates

- A *Hygrophorus puniceus* (Fr.) Fr.
- B *H. pratensis* Fr.
- C *H. flavescens* (Vauffm.) Sing.
- D *Lyophyllum semitale* (Fr.) Kühner
- E *Russula delica* Fr.

- F *Lepiota atosquamulosa* Hongo
- G *Leucocoprinus fragilissimus* (Berk. et Rav.) Pat.
- H *Rhodophyllus rhodopolius* (Fr.) Quél.
- I *Xerocomus badius* (Fr.) Kühner



Photo A



Photo B

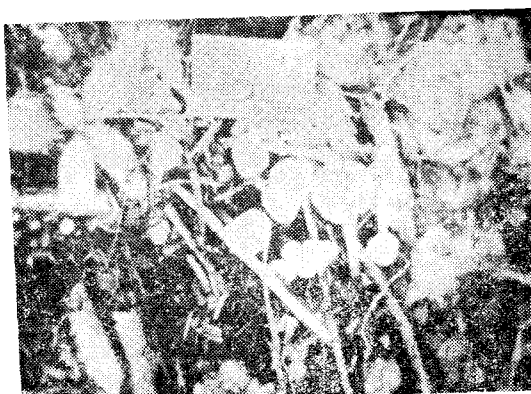


Photo C

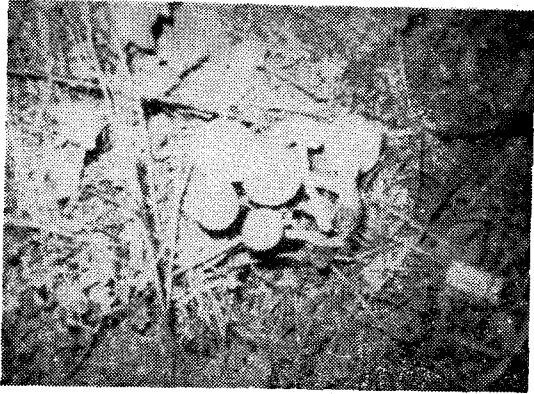


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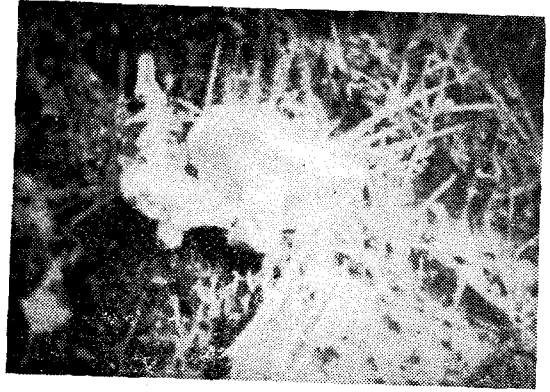


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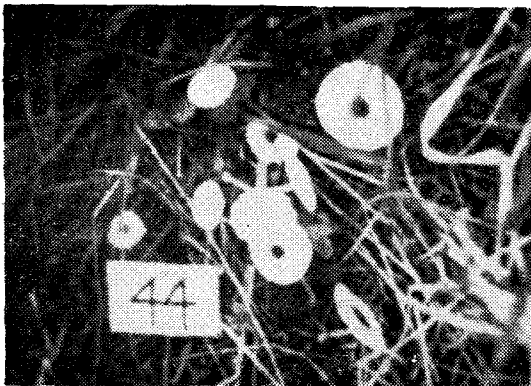


Photo F

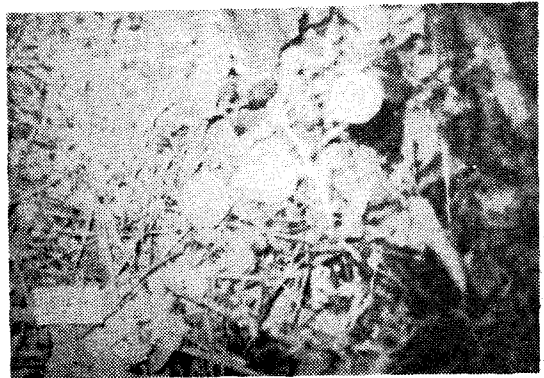


Photo G



Photo H

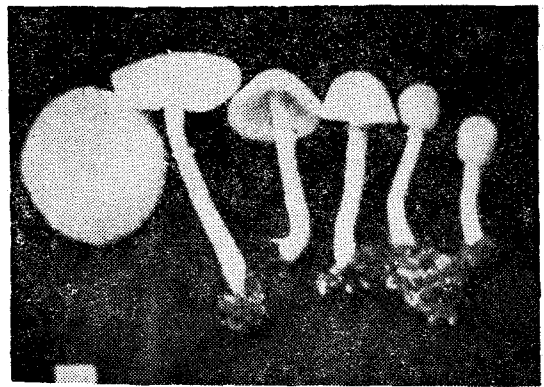


Photo I