

한국산 외대버섯속의 기록(X)

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Notes on the genus *Entoloma* of Korea(X)

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Abstract

Mnay *Entoloma* were collected at Mt. Baiyang, Mt. Jiri, Mt. Sunun, Mt. Naejang and Mt. Manduck to September 1991 from June 1991. These species were identified. According to the resulting, *Entoloma readii*, *E. cinerascens*, *E. spadiceum*, *E. squamulosum* and *E. umbilicatum* were newly to Korea.

Kew Words : *Entoloma readii*, *E. cinerascens*, *E. squamulosum*, *E. spadiceum* and *E. umbilicatum*.

Introduction

In Mt, Baikyang National Park, there is dominant forests of *Abies nephroleis* and this species were collected along the hiking route.

In Mt. Jiri National Park, there are dominant forests of *Carpinus lanifera* and *Quereus serrata* and the species were colleted around areas of Whaom-Sa.

In Mt. Sunun Provincial Park, there are forests of *Camellia japonica* and deciduous forests and the species were collected around of Sunun-Sa and along the valley.

In Mt. Naejang National Park, there are forests of *Torreya unucifera* and *Daphninphyllum macropodom* of Natural Monument and this species were collected Bammoki-Kol between Naejang temple.

In Mt. Manduck, there is Experiment of Forests

of Chonbuk-Do and mixed needle and braod leaves. This species were collected along the roads of the Gomti-Jae.

Entoloma readii Stevens 덧외대버섯(신칭)

Stevens Kew Bull. 16 : 233, 1962.

Horak, Nova Hedwigia 65 : 205, pl.16, fig. 150, 1980.

Pileus 2.2-3.5cm broad, slightly convex to plane, slightly depressed, grayish yellow or light brown, disc darkish brown, striate to disc from margin, margin irregular. Context thin, white, odor and taste none.

Lamellae free or slightly distant, white to pale pink, close, mixed two pices of short and a pices of long, edges even, concolorous.

Stipe 5.2-6.5cm long, 2.0-2.5mm thick, cylindrical, bent, flexible, whitish gray or gray, base white, hollow.

Spores $8.0(-7.5)-9.0 \times 6.0-7.0 \mu\text{m}$, mostly with 5 angles, rarely with 6 angles, angles obtuse, in outline mostly subglobose or rarely elliptical, rarely with oil drop, basidia $22.5-25 \times 9.5-10 \mu\text{m}$, clavate, two-spored, with pigment, subhymenium parallel, pleurocystidia and cheilocystidia absent, pileipellis $40-17 \times 10-15 \mu\text{m}$, clavate or cylindrical, apex irregular, hyphae from stipe $147.5-160 \times 5.5-11.3 \mu\text{m}$, cylindrical, often with prominent.

Habitat : Clustered or scattered on soil in forests.

Distributions : Korea (Mt. Baikyang) and New Zealand.

Specimens studied : CHO-2482 collected at Baikyang-Sa on the 24th August 1991.

Discussions : The characteristics of this species has two-spored under the light microscope, but this will be studied with electronic microscope.

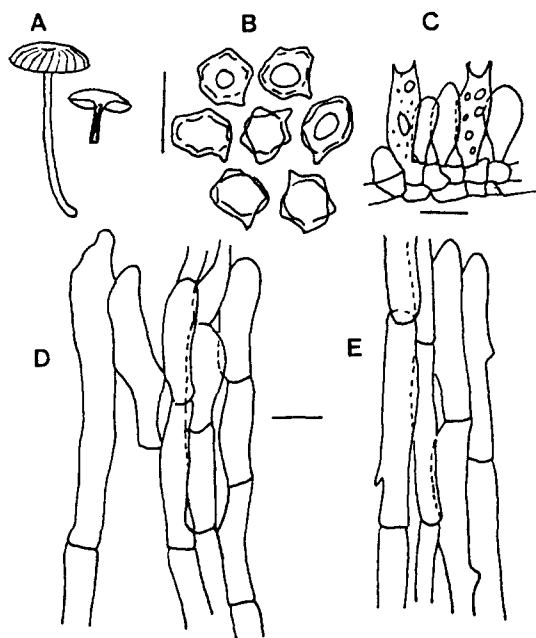


Fig. 1 *Entoloma readii*

A. carpophores, B. spores, C. basidia, D. pileipellis, E. hyphae from stipe trama

E. cinerascens Hesler 재외대비섯(신칭)

Hesler, Beih. Nova Hedwigia 23-177, figs. 143, 1967.

Entoloma albidum Murr., North Amer. Flora 10 : 119, 1917.

Pileus 1.4-3.5cm broad, slightly umbo to plane, hygrophanous, whitish yellow or grayish brown when wet, glabrous, shining, margin even, striate when wet, even when dry. Context white, odor mild, taste farinaceous with bitter.

Lamellae sinuate, white to pinkish, rather narrow, close or slightly crowded, edges even, mealy, concolorous.

Stipe 3.5-6.0cm long, 2.0-3.0mm thick, the concolorous with the pileus, equal or slightly tapering upward, apex squamulose, base more or less curved, stuffed to hollow.

Spores $8.5-10 \times 6.5(-6.0)-7.0(-8.5) \mu\text{m}$, mostly with 5-6 angles, angles obtuse, in outline subelliptical or subglobose, basidia $32.5-35 \times 7.5-8.5$

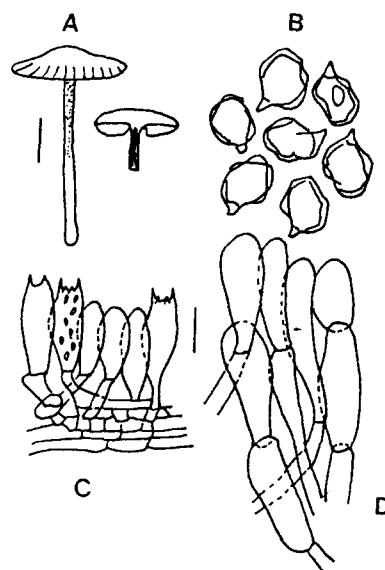


Fig. 2 *E. cinerascens*

A. carpophores, B. spores, C. basidia, D. cheilocystidia, E. pileipellis F. hyphae from stipe trama

μm , clavate, cheilocystidia $37.5\text{--}42.5 \times 10\text{--}11.3\mu\text{m}$, clavate, pleurocystidia absent, pileipellis $60\text{--}67.5 \times 10\text{--}15\mu\text{m}$, clavate, apex acute, hyphae from stipe trama $62.5\text{--}112.5 \times 6.3\text{--}20\mu\text{m}$, slightly cylindrical.

Habitat : Clustered on soils of grasses.

Distribution : Korea (Mt. Jiri) and North America.

Specimen studied : CHO-2435 collected at Mt. Jiri on the 12th August, 1991.

Discussions : This species is suggestive of *Rhodophyllus speculus* (Fr.) Quel., (not recorded in Korea) in which, however, the spores are larger, and cheilocystidia are lacking.

E. spadiceum Hesler 가래외대버섯 (신칭)

Hesler, Beih. Nova Hedwigia 23 : 62, 63 fig. 195, 1967.

Pileus 1.5–3.7cm broad, broadly convex, somewhat obtusely umbonate, hygrophanous, slightly viscid, cutical separable to disc, grayish brown, darkish brown when wet, even when dry, disc dark, shining, often radiately rugolose, at times subzonate, margin finely striatulate when wet, even when dry, Context white, thick on disc, elsewhere rather thin, pliant to firm, odor and taste farinaceous.

Lamellae emarginate to sinuate or free, close, white to dirty pale grayish, narrowed behind and in front, subventricose, many short, edges even or eroded.

Stipe 4.5–6.5cm long, 1.5–2.5mm thick, whitish gray, slightly twisted, silky shining, apex white floccose to mealy, base white myceloid, sponge soil to hollow.

Spores $8.0\text{--}9.0(-9.5) \times 5.0\text{--}6.0\mu\text{m}$, mostly with 5 or 6 angles, angles obtuse, in outline elliptical, rarely with one oil drop, basidia $23.8\text{--}25 \times 7.5\text{--}10\mu\text{m}$, clavate, subhymenium parallel, pleurocystidia and cheilocystidia absent, pileipellis $30\text{--}65 \times 12.5\text{--}17.5\mu\text{m}$, clavate.

Habitat : Clustered on soil under the tree or fallen leaves.

Distribution : Korea (Mt. Sunun) and North America.

Specimen studied : CHO-2451 collected from Sunun-Sa on the 17th August, 1991.

Discussions : This species is distinguished by its dark brown colors when wet, white flesh, grayish young lamellae, slightly gelatinous cuticle and subhymenium. It appears close to *E. rubrunneum* (not recorded in Korea), which has white lamellae, reddish brown pileus, smaller stipe, and larger spores.

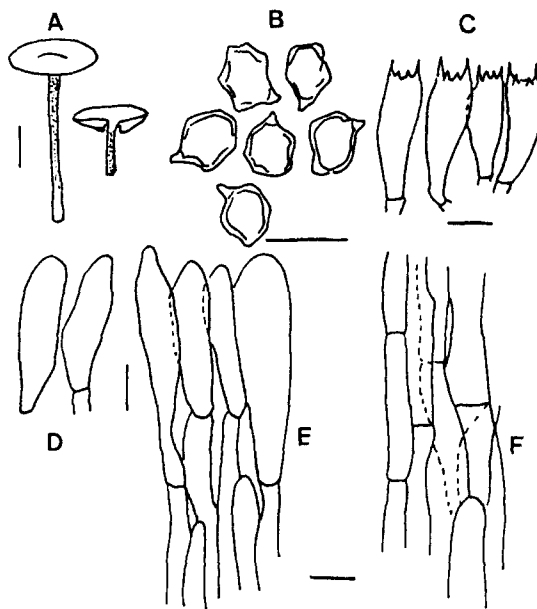


Fig. 3. *E. spadiceum*

A. carphophores B. spores C. basidia D. pileipellis

E. squamulosum Hesler 큰비늘외대버섯 (신칭)

Hesler, Beih. Nova Hedwigia 23 : 125, Figs. 73–74, 1967.

Pileus 3.0–4.0cm broad, convex–expanding to plane umbilicate, grayish brown, darkish brown when wet, margin not even, margin striate. minutely scaly to scurfy all over, disc darkish brown scale, hygrophanous. Context thin, dull yellow orange, easily fragile. Taste farinaceous, odor mild.

Lamellae 3.0-8.0mm wide, broad, adnexed, seceding, broad behind, wave-forme, narrow in front, close or slightly sparse, white to pinkish, edges even, concolorous.

Stipe 5.0-7.5cm long, 3.0-7.0mm thick, cylindrical or slightly tapering downwards, floccose, apex white scale, easily fragile, the concolorous with the pileus, base white myceloid, white scale, hollow.

Spores 11.0(-10)-12.5(-13) × 6.0(-5.0)-7.(-8.0) μm, mostly with 6-7 angles, angles obtuse, in out line elliptical, spore print pallid pinkish, basidia 20-31.3 × 7.5-8.8 μm, clavate, rarely with pigment, subhymenium parallel, pleurocystidia 50-75 × 6.3-17.5 μm, ventricose, cheilocystidia 32.5-35 × 12.5-17.5 μm, clavate or fusoidform, pileocystidia 50-80 × 17.5-25 μm, ventricose, pileipellis 125-175 × 11.3-25 μm, long clavate, with clamp connection.

Habitat : Solitary on the soil of forests.

Distributions : Korea(Mt. Naejang) and North America

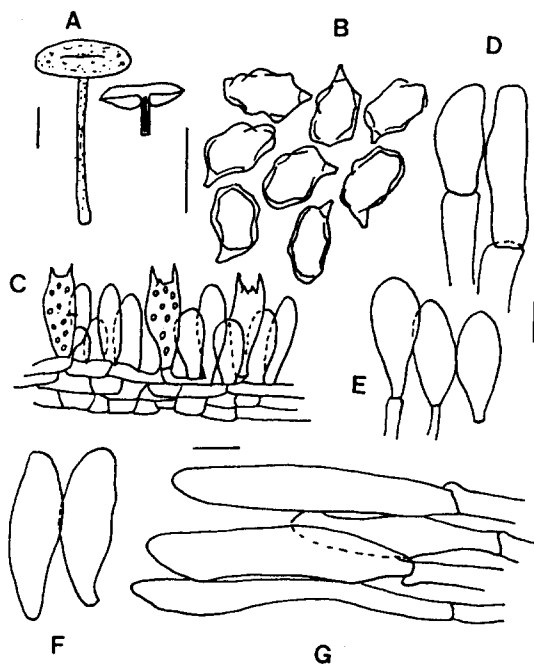


Fig. 4. *E. squamulosum*

A. carpopores B. spores C. basidia D. pleurocystidia
E. cheilocystidia F. pileocystidia, G. pileipellis

Specimen studied : CHO-2413 collected from Naejang-Sa on the 10th August 1991.

Discussions : The inconspicuous lamellae cystidia, and the minutely scaly pileus are distinctive features of this species. It is somewhat remotely related to *Rhodophyllum(Leptoniella) whiteae* (Murr.) Heim and Romagn., which lacks both pleurocystidia and cheilocystidia and has a yellowish stipe.

E. umblicatum Hesler 배꼽외대버섯(신칭)
Hesler, Beih, Nova Hedwigia 23 : 29, 1967.

Leptoniella umblicata Murr., North Amer. Flora 10 : 91, 1917.

Leptonia umblicata(Murr.) Murr., *Mycologia* 9 : 180, 1917.

Pileus 2.0-3.5cm broad, deeply umbilicate, deep depressed, yellowish brown or grayish brown, darker when dried, disc darkish gray or darkish brown, fibrillose-scaly, especially on the disc, margin fine striate, even. Context thin, pallid.

Lamellae adnexed or slightly adnate, white to pink, close, rather narrow to medium broad, edges even, concolorous.

Stipe 3.0-6.0cm long, 2.0-3.0mm thick, grayish brown or whitish gray, glabrous, equal or slightly bulbous downwards, rarely apex white myceloid, cartilaginous, base white myceloid, solid.

Spores 9.0-11(-12) × 6.5(6.)-7.(8.0) μm, mostly with 6 angles, angles obtuse, rarely with one oil drop, in out line elliptical, hyphae from lamellae 50-75 μm wide, filamentous, with pigments, pleurocystidia and cheilocystidia absent, pileipellis 30-35 × 3.8-7.0 μm, filamentous, often pigments, hyphae from stipe trama 50-72.5 × 3.8-5.0 μm, filamentous, rarely with pigment.

Habitat; Solitary on soil of fallen leaves in mixed woods.

Distributions: Korea(Mt. Manduck) and North America.

Specimen studied: CHO-2215 collected at Mt. manduck on the 17th July, 1991.

Discussions: The characteristics of this species is deeply umbilicate.

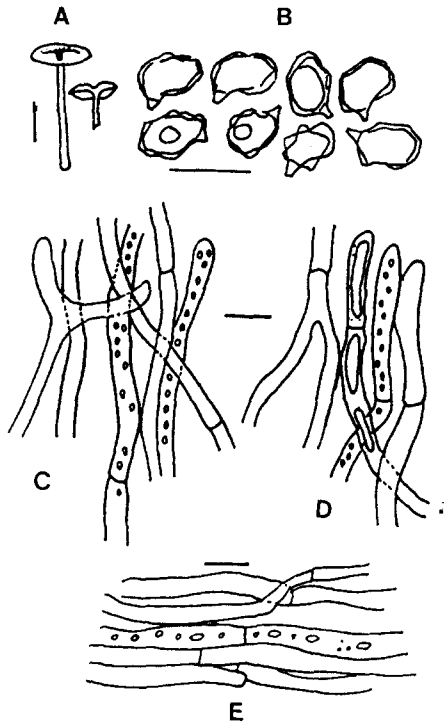


Fig. 5 *E. umbilicatum*

- A. capophores B. spores C. hyphae from lamellae trama D. pileipellis
E. hyphae from stipe trama

要 約

한국산 외대버섯을 백양산, 지리산, 선운산, 내장산, 만덕산에서 1991년 6월부터 1991년 9월까지 채집하여 동정하였다.

그결과 한국산 미기록종으로 확인된 것은 다음과 같다.

Entoloma readi(덧외대버섯) : 균모는 소형, 평평, 회황색, 줄무늬가 있다. 주름살의 간격은 보통이고, 끝붙은 또는 떨어진 주름살이다. 자루는 원통형, 굽었고, 회백색 또는 회색이며 속은 비었다. 포자는 중형이고 전체적인 모양은 아구형 또는 타원형이다. 연낭상체와 측낭상체는 없다. 숲속의 흙

에 단생한다.

E. cinerascens(재외대버섯) : 균모는 소형, 평평, 회황색, 습기가 있을 때 줄무늬가 있다. 주름살은 홈파진 주름살, 간격은 보통이다. 자루는 균모와 동색, 윗쪽에 인편, 속은 비었다. 포자는 중형, 전체적인 모양은 아구형 또는 타원형, 연낭상체는 있으나 측낭상체는 없다. 풀속의 흙에 균생한다.

E. spadiceum(가래외대버섯) : 균모는 소형, 둥근형, 약간 점성, 회갈색, 줄무늬가 있고, 홈파진 주름살 또는 끝붙은 주름살, 간격은 보통이다. 자루는 회백색이고 비틀리고 윗쪽에 미세분말, 속은 비었다. 포자는 중형, 전체적인 모양은 타원형, 연낭상체와 측낭상체는 없다. 나무 밑 또는 낙엽의 흙에 균생한다.

E. squamulosum(큰인편외대버섯) : 균모는 소형, 약간 배꼽형, 회갈색, 인편이 있다. 주름살은 내린 주름살, 간격은 보통이다. 자루는 원통형, 솟털 인편, 부서지기 쉽고, 속은 비어 있다. 포자는 약간 대형, 전체적인 모양은 타원형, 연낭상체와 측낭상체가 있다. 숲속의 흙에 균생한다.

E. umbilicatum(배꼽외대버섯) : 균모는 소형, 배꼽형, 황갈색, 인편이 있다. 내린 주름살, 간격은 보통이다. 자루는 회갈색 또는 회백색, 윗쪽에 미세분말, 속은 차 있다. 포자는 중, 대형, 전체적인 모양은 타원형, 연낭상체와 측낭상체는 없다. 혼효림의 낙엽속의 흙에 단생한다.

이 종들에 대하여 분류학적 기재와 한국 보통명을 신청하였다.

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