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Four New Species of Mushrooms Collected from a *Pinus rigida* Stand in Suweon*

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水原附近 리기다 소나무林分에서 採取한 네가지 未記錄 擔子菌類

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Abstract: Of about 70 different mushrooms (potential ectomycorrhizal fungi) collected from forest floor of a 24-year-old *Pinus rigida rigida*×*taeda* stand, four species have not been reported in Korea. They are *Inocybe fastigiata*, *Phylloporus bellus*, *Lactarius glaucescens*, and *Lactarius subvellereus*. The *Phylloporus bellus* has been incorrectly identified in Korea as *Phylloporus rhodoxanthus*. Taxonomic descriptions for these four mushrooms are reported in this paper. The collections cited are deposited in the herbarium of Institute of Agricultural science O.R.D.

Introduction

Recently Lee *et al.* (1982) reported identification of ectomycorrhizal fungi in a pine stand near Suw eon. They collected about 70 different mushrooms from forest floor of this stand during a five-month period in 1981 (late June to early November), and identified 26 mushrooms by species names and 20 mushrooms by genus names. They also found a new genus, *Hebeloma*, which has not been reported in Korea, but were unfortunate to identify it by species name. Of the 26 mushrooms identified, four species have not been reported in Korea and will be described here as new species.

Materials and Methods

Description of the Pine Stand. The study area was described in detail by Lee *et al.*(1982). The stand was a mixture of *Pinus rigida* and *P. rigida* ×*taeda* covering about 3ha. It was located in Suweon near the Institute of Forest Genetics, and was 24 years old. Starting late June 1981, the study area was visited daily and fruiting bodies of fungi appearing on the forest floor were collected until early November. The ground vegetation was descr ibed in the paper by Lee *et al.* (1982).

Results and Discussion

Taxonomic Description for the Four New Fungi

1) *Inocybe fastigiata* (Fr. ex Schaeff.) Quél. 솔땀버섯

Quelet, champ, *Jura vosg*, 1:180, 1872-Enchir, *Fung.* **96**, 1866-Kauffman, *Agar. Mich.* **457**. 1918; *N. Am. Fl.* **10**:258. 1924-Imaz. & Hongo, *Coloured*

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Ill. Fungi. Japan. 23, pl. 161, 66, 1965.

Pileus 4-6cm broad. conical to campanulate, then sub-expanded, bell-shaped with prominent umbo, surface dry, splitting radially on expanding and finely rimose, straw-yellow or dark brown at umbo. Margine incurved when young, then straight, textile white. Lamellae adnexed or adnate, yellowish-clay with white serrate edge. Stipe 3~7cm long, 3~4mm thick, equal, sometimes tapering upward, somewhat white at apex, pale buff below, with scales or fibrillose, no bulbous at near base. Spores smooth, ellipsoid 8.5−11.2×5−7μ, dark yellow ochre. Cheilocystidia thin-walled, scattered, cylindric 25−45×10−18μ pleurocystidia none.

Habitat: grow in deciduous forest, Suweon, collected on July 17, 1981 (no. IAS-L-33, collected by Mr. Koo). Very similar to *I. cookei*, but it is easily distinguished by the characteristics of having no bulbous base of the stipe.

Distribation: New in Korea,but reported in Japan, Europe, America, Africa.

2) ***Phylloporus bellus*** (Mass.) Corner 노란길 민주름 버섯

Nora Hedwigia **20**:798, 1970-Hongo, *Bull. Nation. Sci. Museum.* **16**(3), f. 30, 543-544. 1973-Singer. *The Agar. in Mod. Tax* third. 718, 1975.

Pileus 2-4.5cm broad, at first convex then plane, surface dry, somewhat subtomentose densely pubescent with matted wool or velvety, in dry weather pale reddish brown, pale olivaceous brown or pale brown. Flesh white, yellow, Lamellae, decurrent, distant, thick, remarkably intervenose or sometmes anastomoses, turning vivid blue when bruised. Stipe 2.5~4cm long, 4~7mm thick, so usually equal or rarely tapering downward, light red, indian red or red chalk above, dull yellowish below, more or less scurfy. Spores ellipsoid or subfusoid, 7.5−12×4−5μ, smooth, with or without suprahilar depression. Basidia four-spored, 28−47×8−14μ. Cheilocystidia fusoid, rarely subcylindric, mucronate at tip, hyaline, numerous, 75−100×9.5−14μ; hymenophoral trama of the phylloporus-type; all hyphae without clamp connections.

Habitat: single or scattered on the naked ground in a *Pinus rigida*×*taeda* stand near Suweon,collected on July 14, 1981 (no. IAS-L-10, coll. Mr. Koo)

Distribution: New in Korea, but reported in Japan, Europe, America.

3) ***Lactarius subvellereus*** Peck 털 젖버섯 아재비

Peck, *Bull, Torr, Bot, Club*, **25**:369, 1898-R. Imazeki & T. Hongo, *Coloured Ill. Fungi.* Japan. pl.45, P. 97, 1965-s. Ito, *Mycological Flora of Jap.* II, 5, f. 211, 489, 1959.-Singer. R. *The Agricales in Modern Taxonomy*, third ed. 779, 1975.

Pileus 3.5~6.5cm broad,whitish or somewhat pale brownish, umbilicate in the disc, margin inrolled when young, surface velvety pubescent, flesh compact. Lamellae white to pale cream, narrow, crowded, adnate or slightly decurrent. Stipe 3.5~5cm long, 2~2.5cm thick, stout, white, velvety, brown near the base, milk color unchanging, taste very acrid. Spores broadly elliptical to subglobose, white, 7−8.5×5−6.5μ, smooth when young, minutely echinulate connected with minute meshes. Cystidia abundant, spindle shape, with one short projection on the upper part. 45−88×6.5−10μ.

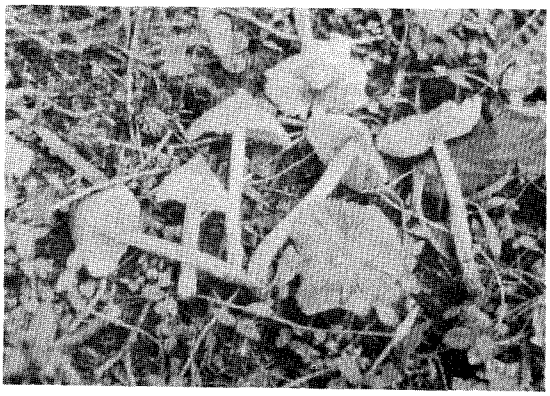
Habitat: Solitary or scattered in groups on the ground in mixed forests. Very close to *L. vellereus* Fr. from which it differs in the somewhat shorter spores and more crowd lamellae. This species was collected from an artificial *Pinus rigida*×*taeda* stand in Suweon, Gyeonggi Province on July 29, 1981. (no. IAS-L-60, coll. Mr. Koo)

Distribution: New in Korea,but reported in Japan, Europe, North-America

4) ***Lactarius glaucescens*** Crossland 푸른유액 젖버섯

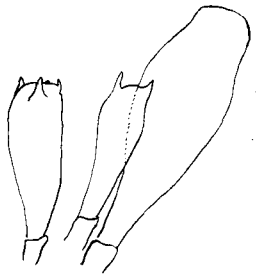
Neuhoff, W. *Die Milchinge in Die pize Mitteleu ropaszb:* 1-248, 1956.-Singer R. *The Agricales in Modern Taxonomy.* third. 779, 1975.

Pileus 3~6cm broad, at first white then becoming cream, with buff patches, somewhat smooth, more or less rigid, margin involuted when young, sometimes stains greenish blue when bruised or touched. Lamellae densely crowded, very narrow, adnexed, white to whitish cream, becoming greenish blue when touched or bruised. Stipe 2.5~3cm long, 1~1.5cm thick, white or cream, usually obconic, solid, flesh white turning greenish blue when bruised or

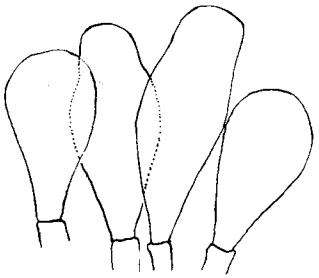


I-A

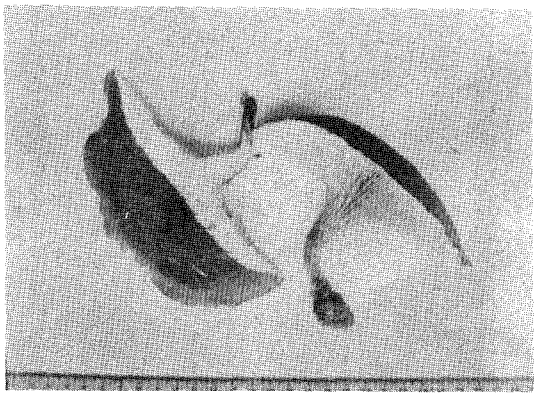
I-B



I-C



I-D



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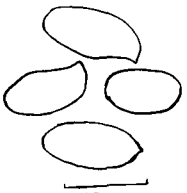
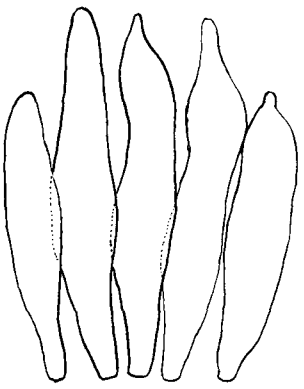


I-F

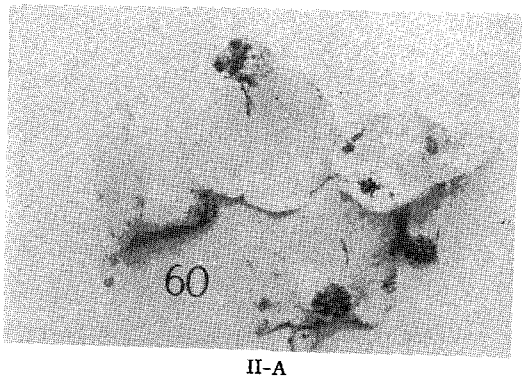


I-G

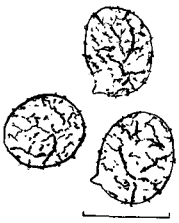
Plate I

Inocybe fastigiata: 1-A, Fructifications; 1-B, Spores; 1-C, Basidia; 1-D, Cheilocystidia

Phylloporus bellus: 1-E, Fructification; 1-F, Spores; 1-G Cheilo and pleurocystidia



II-A



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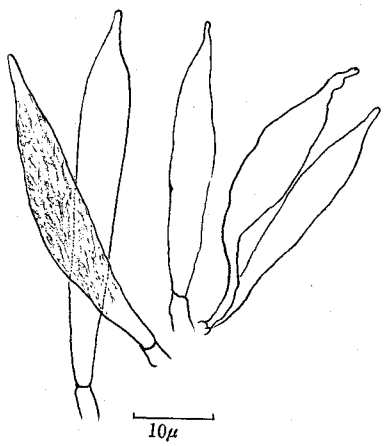

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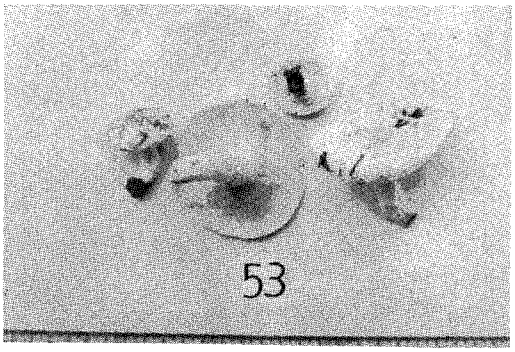

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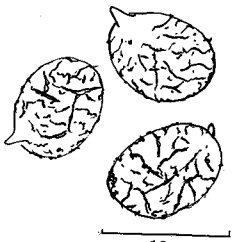
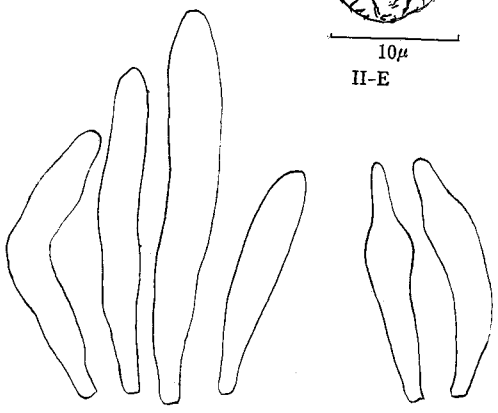


II-E



II-F

Plate II

Lactarius subvellereus; II-A, Fructifications; II-B, spores; II-C, cheilo and pleurocystidia

Lactarius glaucescens: II-D, Fructification; II-E, Spores; II-F, Cheilo and pleurocystidia.

touched. Milk white, turns greenish blue when exposed somewhat copious, spores subglobose, almost smooth, with minute warts, few thin lines or networks of thin lines, white, 6.5—8×6.7μ. becoming bright blue when soaked in 5% formalin. Cystidia abundant subclavate or fusiform, sometimes mucronate at tip. 42.5—72.5×7—10.5μ.

Habitat: grow on the ground in deciduous forest, but rarely found. This species was collected on the ground under the trees, *Pinus rigida×tada* at Mt Chilbo near Suweon, Gyeonggi Province, collected on July 28, 1981. (no. IAS-L 53, coll. Mr. Koo) This species closely resembles *L. piperatus* (Fr.) S.F. Gray but it distinctively differs from the latter in the milk colour and turns greenish blue when bruised or touched.

Distribution: New in Korea,but reported in Japan. Europe, North-America

摘 要

소나무와 外生根菌을 形成하는 것으로 보이는 高等菌類 約 70種을 소나무林(*Pinus rigida×rigid taeda*)에서 採集하였으며 그 중 韓國未記錄 4種, 즉 *Inocybe fastigiata, Phylloporus bellus, Lactarius glaucescens* 및 *Lactarius subvellereus*이 確認되었고, 그의 韓國名을 新稱하였다.

旣記錄된 *Phylloporus rhodoxanthus*는 子實體의 特徵으로 보아 *P. bellus*로 思慮된다.

References

Cho, D.H. *et al* (1979): Notes on Korean higher fungi (V). *Korean J. Mycology* **7**:75-82.

Cho,D.H. and Lee, J.Y. (1980): Fungal flora in Bamboo Forests of Korea (II). *Korean J. Mycology* **8**:29-32.

Cho, D.H. and Lee, J.Y.(1981): The flora of higher fungi in Mt. Mudeung area (II). *Korean J. Mycology* **9**:73-76.

Hongo, T. (1973): Enumeration of the Hygrophoraceae, Boletaceae and Strobilomycetaceae. Mycological Reports from New Guinea and the Solomon Island. (21) fig. 30, p. 543.

Imazeki, R. and Hongo, T. (1965): *Col. Ill. Fungi: Jap.* 23, 1965, Hoikusha Publ.

Ito, Imai (1959): *Mycological Flora of Japan* Vol. II, no. 5, Yokendo Ltd., Tokyo.

Kobayasi, Y. (1952): Nagaoa no. 2, F. 43, p. 92.

Korean Society of Mycology (1978): Suggestions on "Standard Korean Names of Mushrooms inKorea". *Kor. J. Mycol.* **6**:43-55.

Lee, J.Y. (1981): Taxonomical studies on Korean higher funi for the publication of colored illustrations. *Korean J. Mycology* **9**:77-91.

Lee, K.J., C.D. Koo, and Y.S. Kim (1982) Identification of ectomycorrhizal fungi in a *Pinus rigida×taeda* stand. *Korean J. Mycology* **10**:21-25.

Phillips, R. (1981): *Mushrooms and other fungi of Great Britain and Europe.* p. 150 Panbocks.

Singer, R. (1975): *The Agaricales in Modern Taxonomy*, third, 1975. 912pp., 84 Pls., Gantner Verlag, KG.

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