TYPE STUDIES ON AGARICS III [1]

POR ROLF SINGER

RESUMEN

Estudios sobre los tipos de agáricos III. — Se trata del estudio analítico de los tipos de hongos americanos, especialmente de la América tropical, subtropical, y subantártica. Continuando esta obra, el autor dedica la tercera parte a los *Agaricales* con lamelas (''agáricos'') descritos por C. Spegazzini y conservados en el herbario del Instituto ''Spegazzini'' de la Universidad Nacional de La Plata. El autor añade un análisis de unas pocas especies descritas por Murrill en Florida (Estados Unidos). La mayoría de las especies pertenece a especies austrosudamericanas de los géneros *Pleurotus, Panus, Lentinus, Marasmius, Pholiota,* todos comprendidos en el sentido clásico de Saccardo. Especies que fueron estudiadas por el autor no solamente en el herbario sino también en estado fresco, son redescritas, como *Lentinellus perstrictifolius* (Speg.) Sing. comb. nov., *Hohenbuehelia paraguayensis* (Speg.) Sing. comb. nov., *Panus microspermus* (Speg.) Sing. comb. nov., *Lentinus puiggarii* Speg., *Marasmius bahamensis* Murr., *Marasmius pallipes* Speg., *Crinipellis subtomentosa* (Peck) Sing. (= Marasmius dasypus Speg.), *Pholiota subflammans* Speg., *Gymnopilus peliolepis* (Speg.) Sing. comb. nov., *Gymnopilus aculeatus* (Bres. & Roumeguère) Sing., *Galerina helvoliceps* (Berk. & Curt.) Sing. (= Pholiota pseudoblattaria Speg.), *Galerina microcephala* (Speg). Sing. comb. nov., *Clitopilus argentinus* Sing. nom. nov. (= Pleurotus pusillimus Speg., non *Clitopilus pusillimus* (Speg.) Sing.).

The background of C. Spegazzini's work and some general data on the Argentine mycoflora were briefly outlined in my *Type Studies en Basidiomycetes* IV[2]. The necessity of type

1) This is the third contribution toward an integration of the classical species of agarics, especially those of the western hemisphere into the modern system of classification of the *Agaricales*. The contributions that have appeared thus far were published 1942 -1945 in *Lloydia* 5:97-135 1942 and *Lloydia* 9: 114-131, 1946. While most of the specimens examined in part I came from the herbarium of New York Botanical Garden, and those indicated in part II from the Farlow Herbarium and the University of Florida (FLAS), the present contribution is based on material preserved at the Instituto de Botánica, ''C. Spegazzini'', University of La Plata, Argentina, (LPS) and was kindly lent to the author by Ing. J. C. Lindquist, La Plata.

2) The type studies published in this series appeared in *Mycologia* (I: *Mycologia* 34:64-93. 1942; II: *Mycologia* 35:142-163. 1943; III: *Mycologia* 39:171-189. 1947); part IV in *Lilloa* 23:147-246. 1950; part V in *Sydowia* 5:447-475. 1951.

studies has become more and more evident in the course of the taxonomic work carried out in South America. Many species of *Basidiomycetes* observed in Argentina were actually known to Spegazzini and other authors from Brazil, Paraguay, Chile and Argentina but were described in genera where they have never been looked for, or at least were described in such a manner as to suggest characters or affinities which the actual material never had. If work of nomenclatorially permanent character is desired, and unnecessary accumulation of synonyms is to be avoided, type studies have to run parallel with the work in the field. As shown by such examples as *Ripartitella brasiliensis, Marasmius spegazzinii, Clitopilus septicoides, Crinipellis perpusillus,* etc., such investigations may have farreaching nomenclatorial consequences for plants common in other countries and it appears better to clear the matter up now than to wait for surprises later. The custom to describe as new every specimen collected in a poorly investigated region —unfortunately very much the vogue in the later writings of Berkeley, in all writings of Hennings, and some of Rick and Spegazzini— may be excused as difficult to avoid as has been pointed out by Spegazzini himself, but it is now time to see that somebody occupy himself with the material left by these authors so that the work left undone by them may be supplemented with the data needed for comparative studies. It is to be hoped that from now on, authors describing material from the tropics, inspire themselves by the tradition of Patouillard, or examples of excellent work such as that published by Roger Heim on the *Termitomyces*. There is no more demand for additional poor descriptions, with the tedious work left to be done by others. He who describes new species from the tropics should at least be acquainted with the anatomy of the *Agaricales* and the necessary technique.

TRICHOLOMATACEAE

Collybia pampicola Speg., see *Marasmius pampicola* (Speg.) Sing.

Collybia platensis (Speg.) Sing. comb. nov.

Marasmius platensis Speg., *An. Mus. Nac. B. A.* 6:109. 1899.

The type specimen is in good condition. This species was also collected by me in Tierra del Fuego, and a redescription

of the species in a forthcoming paper on the fungus flora of the Magallanes region will show that this is a *Collybia* rather than a *Marasmius* according to the delimitation between the two genera proposed by me (*Beih. Botan. Centralbl.* 56 B: 157-160.1936).

Cantharellula tarnensis (Speg.) Sing. comb. nov.

Pleurotus tarnensis (Speg.) Sacc., *Syll.* 9:48. 1891.
Agaricus tarnensis Speg., *Bol. Acad. Nac. Cienc. Córdoba* 11:9. 1887.

The type specimens are in comparatively good, at least recognizable condition. This species was also collected by me in Tierra del Fuego, and will be redescribed in a forthcoming paper on fungi from the Magallanes area. The redescription will prove that *A. tarnensis* is a species of the genus *Cantharellula* rather than of the genus *Pleurotus*. Among the *Cantharellulae,* it is remarkable because of an unusual combination of characters: Unchanging context, heteromorphous gill edge, presence of clamp connections, deeply decurrent but not strongly forking lamellae, almost pleurotoid habit, and lignicolous habitat. It belongs in a subgenus apart from the subgenera already known in the northern hemisphere, and transitional towards the genus *Porpoloma* (see *Lilloa* 22:746. 1949 (1951).

Lentinellus perstrictifolius (Speg.) comb. nov.

Pleurotus perstrictifolius Speg., *Bol. Acad. Nac. Cienc. Córdoba* 26: 290. 1926.

The type is in good condition. It has been compared with material collected recently by me in fresh condition. The following descriptive account is based on both the type specimen and these fresh collections:

Pileus "sunset" to "dorado", "Seminole", "Bombay", more or less hygrophanous and becoming much paler (e. gr. "Pablo") in dry condition, the rear portion either concolorous or deep chestnut, often transparently striate on the margin, the latter sometimes lobed to crenate, glabrous, or in the rear portion pruinate-pubescent, glabrescent, smooth when dry, not viscid or

sticky, convex or convex with uplifted margin, rear portion often elevated and with a heart-shaped sinus where the (pseudo-) stipe (if present) is attached, or else sessile and then with a more or less reniform to circular outline, 6-20 mm broad.— Lamellae concolorous with the pileus or "toast" to "tan bark", narrow or more rarely medium broad, with entire but then often somewhat lacerate, or with slightly denticulate-serrulate edge, the specimens with entire edge frequently with broad and obtuse edge, but just as frequently with normally developed thin edge, usually about 1 or between 1 and 1,5 mm broad, crowded, emarginate or adnate and then decurrent with a tooth or with several teeth, or else directly decurrent on the (pseudo-) stipe (in there is one), otherwise concurrent at a lateral point.— Stipe, if present, formed after the formation of the pileus tissue, or at least reaching its best development comparatively late (hence— a pseudostipe), more often developed than absent, concolorous with the pileus, or deep chestnut, reaching "Montella" (M. & P.), smooth or more rarely sulcate, more or less velutinous-pubescent without brown rhizomorphs, equal, or attenuate at the base or at the apex, solid, lateral, terete, 1,5-21 ×1,5-3 mm; veil none.— Context pallid to subconcolorous, tough but becoming watersoaked and sometimes almost transparent when wet, unchanging; inodorous; taste peppery.

Spores 3,3-4,8 × 2,7-3,5 µ, short-ellipsoid to almost subglobose, finely spinulose-punctate (from hardly visible under a good oil immersion lens to distinctly ornamented with low, isolated warts, i.e. ornamentation type VII, VI), strongly amyloid, hyaline; basidia 12-14 × 5,5-6,2, short-clavate or ventricose, tetrasporous; cystidia of two types: (1) "empty", and then usually acute or with an acute appendage, numerous on sides and edges of the lamellae, subulate or more often clavate and then with a needle-sharp appendage, 19,7-32 × 5-5,5 (7) µ; (2) macrocystidia with inside body or with hyaline granular contents, rounded above and usually gradually broader below, rather numerous on the sides and edges, 30-35 × 6,8-8,3 µ; these latter continuing into the hymenophoral trama where they appear as oleiferous hyphae with granular contents, cylindric-filiform, 3-5,3 µ in diameter; hymenophoral trama with exclusively nonamyloid elements which are thick-walled, hyaline-stramineous, or thin-walled and hyaline, forming a

truly regular layer; cuticle of the pileus consisting of an epicutis of hyaline filamentous hyphae which appeared strangely roughened in one preparation, and of o hypodermium of strongly interwoven hyphae which are thick-walled and fuscous-fulvous; all hyphae non-amyloid and with clamp connections.

On wood of *Alnus, Sambucus, Quercus, Solanum,* and *Podocarpus* in montane woods, and also on fallen branches of varicus frondose trees in the subtropical-montane rain forest, also in parks, etc. in the lowlands. Fruiting in summer and fall.

Material studied: Prov. Buenos Aires: La Plata, Parque, May 1919, C. Spegazzini, LPS, type. Prov. Tucumán, Anta Muerta, Sierra de San Javier, 2-I-1950, R. Singer, T. 806, LIL. Cerro Alto de Taficillo, 4-III-1951, T. 1390, LIL. T. 1373 (astipitate form) Río de los Sosas, 27-I-1951, T. 1133, LIL.

This species is close to *L. flabellinus* and *L. tridentinus* but differs in crowded and narrow lamellae, just as *L. angustifolius* (Romell) Sing. differs from *L. ursinus* and allied species. When fully developed, it is easy to recognize as it has a long lateral pseudostipe which gives it the appearance of *Auriscalpium,* a European hydnaceous genus on coniferous cones; however, there are sessile forms —like the type— which come rather close to *L. angustifolius* as far as appearance is concerned but differ clearly in the glabrous to somewhat pruinate-pubescent pileus and, at least in our Argentina material, in the absence of amyloid hyphae in the hymenophoral trama.

Hohenbuehelia paraguayensis (Speg.) Sing. comb. nov.

Pleurotus paraguayensis Speg., *An. Mus. Nac. Hist. Nat. B. A.* 31: 303. 1922.

The type is labeled "Pleurotus guaraniticus", evidently by mistake. In the original account, pl. II, nº 10 illustrates *Pleurotus paraguayensis* Speg., not, as the legenda says, *Pleurotus guaraniticus* Speg. The specimen is characterized by rather small size, light colors (margin white), small spores and small metuloids, also by smooth margin. However, all these characters merely indicate young carpophores which is also demons-

trated by the small number of spores present in the available type material.

However, this species also occurs in Argentina and Florida, and some of the Argentine specimens are undoubtedly fully mature, with larger spores and metuloids, and with eventually transparently striate margin of the pileus.

Pileus "polo tan" to "blondine", with almost white margin or entirely grey to greyish white, not viscid, pubescent behind but glabrescent, smooth but in age up to one half of the rádius transparently striate, sessile and ostreate or else attached by a lateral nodule not recognizable as a stipe from above, convex-applanate and behind depressed or with an umbonate elevation in some specimens, 5-15 mm broad.— Lamellae white, close or almost crowded behind, but almost subdistant in front, moderately broad to narrow (1-1,3 mm broad), attenuate or emarginate behind; spore print white.— Stipe rudimentary or absent.— Context with a gelatinous hyaline zone, otherwise white orpallid inodorous.

Spores (5,5) 7,5-7,8 × 3-4,1 µ, hyaline, smooth, with very thin, non-amyloid wall, ellipsoid; basidia 29 × 6,7 µ; cheilocystidia, at least a large number of them, capitate, much as those of *Pholiotina septentrionalis*, 16,5-30 × 4-7 µ, fewer ampullaceous to subulate, sometimes branching at the apex and with 2-3 capitula; metuloids ventricose-fusoid, of fewer with a cylindric middle-portion, all with abrupt, more rarely continuous needle-sharp apex, stramineous, with moderately strongly incrusted (crystalline granulation) apex, with 2,7-5,7 µ thick wall, consisting of several layers when mature, numerous on sides and edge of lamellae, 27-117 × 8,2-24,5 µ, very variable in length and breadth, especially according to the age of the carpophores; trama partly gelatinized, all hyphae with clamp connections.

On dead wood on the most different substrata (palm débris, urticaceous trees, etc.), fruiting in summer.

Material studied: PARAGUAY: Asunción, Puerto Sajonia, C. Spegazzini, February 1920, LPS, type. ARGENTINA: Tucumán, Parque Aconquija, March 24, 1949, R. Singer, T. 276, LIL. Misiones, November 24, 1949, Singer & Digilio, M. 49, LIL. USA: Florida, Highlands Hammock State Park, August 11, 1942, R. Singer, F. 170, FH.

This species is extremely close to *Hohenbuehelia phalligera* in the sense of Sydow, *H. reniformis* in the sense of Pilát, and *H. approximans* (Peck) in the sense of Coker. It differs from these in the shape of the cheilocystidia, besides, from *H. approximans* and *reniformis* in the closer lamellae, and *H. phalligera* in color and other surface characters of the pileus. Nevertheless, it is not entirely out of the question to assume that the four species are merely extreme forms of one and the same species.

Hohenbuehelia grisea (Peck) Sing., *Lilloa* 22: 255. 1949 (1951).

Pleurotus atrocaeruleus var. *griseus* Peck, *N. Y St. Mus. Bull.* 131:25. 1909.
Pleurotus portegnus var. *microsporus* Speg., *An Mus. Nac. Bs. As.* 8:50. 1902.
Resupinatus griseus (Peck) Murr., *N. Amer. Flora* 9:240. 1915.

The spores of the type of Spegazzini's variety are slightly larger than indicated by him, viz. 7,5-8,2 × 3,7 µ; the metuloids are 62-90 × 11-15 µ, melleous, acute, fusoid, or subulate, moderately numerous; trama of the pileus densely arranged directly above the lamellae; above this zone there is a strongly gelatinized hyaline layer; cuticular layer consisting of a brownish cutis (hyphae more or less parallel, 4,8 µ thick with 1 µ thick walls) and above this cutis there is a layer of less parallel elements but still cutis-like and hyaline; this latter layer forms the tomentum seen on the specimens reaching the very margin of the pileus in the younger caps but later absent in the marginal zone; the margin is then striate. The carpophores are medium sized and ostreate.

These data show that Spegazzini's form is exactly like the *H. grisea* of the northern woods. The type of this latter species has been studied by A. H. Smith who redescribed it. It cannot be a variety of *H. portegna* since the authentic material of the type form best in agreeement with the original description (collected by Spegazzini in 1919, neo-type) has larger spores (8,5-9,8×3,3-4,5 µ) and shorter metuloids (49,5-69×11,2-14 µ), and agrees in almost all details with the typical European *H. atrocaerulea*.

H. grisea is sometimes regarded as a form of *H. atrocaerulea* but is very different from the original picture approved by Fries.

Hohenbuehelia petaloides var. **victoriensis** Speg., *Bol. Acad. Nac. Córdoba* 25:12. 1921.

This a nomen confusum since the type consists of two fragments, one of them a *Hohenbuehelia* near *H. petaloides*, the other some indeterminable species not belonging to *Hohenbuehelia*. The description refers to both of them. The *Hohenbuehelia* portion is rather interesting. It is not glabrous as the description claims it to be. Its spores are cylindric-allantoid, 6-7,5 × 2,7-3 μ, sometimes reaching 4,2 μ in breath, hyaline and thin-walled the metuloids are stramineous and extremely thick-walled (wall e. gr. 4,8 μ thich), very acute, sometimes almost solid, 34-59 × 9,5-12,3 μ. This should be redescribed from better material. It was first collected by Campo at Mariluán, Chile, in May 1908.

Panellus longinquus (Berk.) Sing. ined.

Pleurotus minusculus (Speg.) Sacc., *Syll.* 9:50. 1891.

The type of Spegazzini's species is in remarkably good condition. It was redescribed in a forthcoming paper on agarics from Tierra del Fuego by the present author. It has all the characters of a *Panellus*, and is consequently transferred to this genus. Moreover, it is identical with Berkeley's type from Cape Horn.

Phyllotopsis nidulans (Pers. ex Fr.) Sing., *Revue de Mycologie* 1:76. 1936.

Panus domicola Speg., An. Mus. Nac. B. A. 19:265. 1909.

In the type specimen of Spegazzini's species, all characters agree with those of *Phyllctopsis nidulans*. The spores are smooth, hyaline, cylindric, with the hilar end somewhat curved, non-amyloid, about 6 × 2,8 μ; basidia 22-24 × 4,5-6 μ; subhymenium consisting of filamentous hyphae, thin, not strongly differentiated; hymenophoral trama regular, but its hyphae more or less interwoven; hyphae with distinct clamp connections, especially in the tomentum of the pileus, all non-amyloid, in the context extremely thick-walled. The surface of

the pileus turns orange-brownish when moistened. Since both species, *P. nidulans*, and *P. domicola*, type specimen, show these characters, there can be no doubt but that they are identical with each other, and *P. domicola* becomes a synonym of *P. nidulans*.

The genus **PLEUROTUS**

The following species described by Spegazzini from Southern South America are listed.

Pleurotus berberidicola (Speg.) Sacc., from Chile.

No specimen is in existence.

Pleurotus brasiliensis Speg., from Brazil, is *Ripartitella brasiliensis* (see *Lilloa* 23:180. 1950).

Pleurotus elegantissimus Speg., from Paraguay.

No specimens were found.

Pleurotus guaraniticus Speg., from Paraguay.

The specimens found under this name are actually the type of *Pleurotus paraguayensis* Speg. but were mislabeled. Those found under *P. paraguayensis* are actually the type of *Pleurotus guaraniticus*. This latter species does not belong in *Pleurotus*. It has the habit of a *Collybia*. Clamp connections are present; the cuticle of the pileus is little differentiated, dense, and consists of repent filamentous hyphae; the trama is regular, and consists of slightly interwoven hyphae which are non-amyloid. The spores are non-amyloid, ellipsoid to ellipsoid-subfusoid, thin-walled, hyaline, 7,5-9,5 × 4,2-5,5 μ. The hyphae of the stipe are very slighly thick-walled. The basidia are medium sized and clavate. All these characters would indicate that *Pleurotus guaraniticus* belongs to *Collybia* or thereabouts. An actual transfer is not proposed at the moment since it is hoped that further studies, preferably at the type locality, will unearth more precise data on this species in order to make it possible to compare it with other species of *Collybia* and related genera.

Pleurotus guarapiensis Speg., see *Lentinus guarapiensis* (Speg.) Sing.

Pleurotus heteropus Speg. from the province of Buenos Aires. The type envelope contains only substratum, no carpophores.

Pleurotus hirneolus Speg., from tre province of Buenos Aires, also indicated from the Chaco, and the province of Salta. There are no specimens preserved.

Pleurotus inornatus Speg., from Brazil. This is the same as*Heliomyces etrabeculatus*, see *Lilloa* 23:196. 1950.

Pleurotus laciniatocrenatus (Speg.) Speg., see *Lilloa* 23:182. 1950.

Pleurotus lichenicola Speg. from Brazil, growing on *Usnea*. There are no specimens available for study.

Pleurotus microscopicus (Speg.) Sacc., see *Marasmiellus microscopicus* (Speg.) Sing.

Pleurotus microspermus Speg., see *Panus microspermus* (Speg.) Sing.

Pleurotus minusculus (Speg.) Sacc., see *Panellus longinquus* (Berk.) Sing.

Pleurotus nambi (Speg.) Sacc. see *Lilloa* 23:168. 1950.

Pleurotus perstrictifolius Speg., see *Lentinellus perstrictifolius*.

Pleurotus paraguayensis Speg., see *Hohenbuehelia paraguayensis* (Speg.) Sing.

Pleurotus perpusillus (Speg.) Sacc., from the province of Buenos Aires. There are no type specimens available for study.

Pleurotus petaloides var. **victoriensis** Speg., see under *Hohenbuehelia*, after *H. grisea*.

Pleurotus portegnus (Speg.) Sacc. and var. **microsporus** Speg., see under *Hohenbuehelia grisea*.

Pleurotus puiggarii Speg. *Bol. Acad. Nac. Cord.* 11:401. 1889, from Brazil.

The type of this species is well preserved. It is identical with *Tyromyces aculeifer* (Berk. & Curt.) Linder & Singer comb. nov. (*Trametes aculeifer* Berk. & Curt.).

Pleurotus pusillimus Speg., see *Clitopilus argentinus* Sing.

Pleurotus pusillus Speg., see *Clitopilus septicoides* (Henn.) Sing.

Pleurotus submitis Speg., *Bol. Acad. Cienc. Cord.* 11: 400. 1889.

The type was described from Brazil. It may be a fragment of a *Collybia* or *Marasmiellus* spec. There are some ve-

siculose-clavate cystidia with strange horn-shaped outgrowths; the trama is non-amyloid. Spores on basidia not seen. The spores observed may be foreign. There are many mold conidia. It is impossible to determine this poor specimen.

Pleurotus submutilus Speg., *Bol. Acad. Nac. Cienc. Cord.* 11:398. 1889.

The type has no veil; the pileus might have been slightly radiato-fibrillose; the lamellae are close to crowded, narrow, decurrent. The spores seen are slightly thick-walled, slightly opaque, non-amyloid, smooth, ellipsoid, with or without applanation, 6-7,5 × 3,7-5,8 µ. The presence of cystidia and cheilocystidia is doubtful; basidia none seen; trama of small elements, non-amyloid. This species is impossible to determine. The type comes from Apiaí and was collected in June 1881 It is possible that collections with good descriptive notes and with better preserved hymenial and surface layers can be gathered at the type locality. Otherwise, the species will have to be given up as a nomen dubium.

Pleurotus tarnensis (Speg.) Sacc. see *Cantharellula tarnensis* (Speg.) Sing.

Pleurotus tropicalis Speg., see *Marasmiellus tropicalis* (Speg.) Sing.

Some species described by Spegazzini in other genera actually belong to *Pleurotus:*

Lentinus paraguayensis Speg., *An. Soc. Cient. Arg.* 16: 275. 1883.

The type, from Paraguay, is identical with the type of *Pleurotus hirtus* (Fr.).

Panus campoi Speg., *Tercera Contrib. Micología Chil.*, p. 2. (*Rev. Chil. Hist. Nat.* 1918).

The type is from Chile. It is identical with *Pleurotus hirtus* (Fr.).

The Genus **PANUS** Fr.

Spegazzini described various species in that genus but many do not belong there:

Panus crenatolobatus Speg., see *Pleurotus laciniatocrenatus* (Speg.) Speg.

Panus domicola Speg., see *Phyllotopsis nidulans* (Pers. ex Fr.) Sing.

Panus guaraniticus Speg., *An. Soc. Cient. Arg.* 16: 275. 1883.

The type collection consists of carpophores varying in their characters but within the species limits of *Panus rudis*, i.e. including var. *strigellus* (Berk. & Curt.) Sing. — *Panus conchatus* (Bull. ex Fr.) Fr. sensu Speg. non Fr. (see also *Type Studies on Basidiomycetes* V) is also *Panus rudis*. Both these collections came from Paraguay.

Panus hymenirhizus Speg., see *Marasmiellus tropicalis* (Speg.) Sing.

Panus laciniatocrenatus Speg., see *Pleurotus laciniatocrenatus* (Speg.) Speg.

Panus microspermus (Speg.) Sing. comb. nov.

Pleurotus microspermus Speg., *Rev. Arg. Hist. Nat.* 1:101. 1891 (ex *Rev. Mycol.* 1889, p. 93).

The type is somewhat similar to certain forms of the *Panus rudis* group, but fresh material of this species, compared with the type shows that it is not identical with any of the varieties of *Panus rudis*. The material described by Spagazzini coincides with my own notes on the Tucumán material, and the discrepancies between the latter and Spegazzini's diagnosis are due to errors in the original description. So, the spores of the type, are not "e globoso ovoideis" but cylindric, (3,5)-5 × (1,5)-2,5 µ. The lamellae are not "sublatiusculae" but narrow. In order to facilitate the understanding of this interesting species — differing from all other species of *Panus* in the fragile and soft context of old specimens — a revised description is added:

Pileus sordid whitish to "Leghorn" when fresh, sordid when dry, very finely tomentose or subtomentose, never quite

glabrous, never gelatinous or viscid, variable in shape, applanate with depressed center to infundibuliform or infundibuliform-spathulate, eccentric, always marginate behind, never striate or sulcate when fresh but in dried condition slightly striate in some specimens, and often lobed, (20)-50-65 mm broad. — Lamellae pallid to "bamboo" when fresh, moderately to extremely crowded, narrow to very narrow but never venose, with acute entire edge, linear, about 1-2 mm broad, very few forked, but many inserted, deeply decurrent; spore print not obtained. — Stipe concolorous, glabrous, subtomentose, or tomentose, varying from straight and erect to curved or oblique, always eccentric and very short but well developed, 10-12-25 × 3-5 mm, often with nodose or fasciculate-confluent base. — Context concolorous with the pileus, thinner than the breadth of the lamellae, at first fleshy, then fragile and almost caseous, watery when wet in age, becoming tough when dry and dried; odor none; taste mild.

Spores (3,5)-5-5,7 × (1,5)-2,4-2,9-(3,2) µ, cylindric to subcylindric-ellipsoid, with applanate inner side, or with convex inner side, hyaline, non-amyloid and smooth Basidia 4-spored. Metuloids 27-51 × 5-10,3 µ, versiform, usually clavate, also often cylindric, more rarely capitate, often with a central constriction, frequently with strange outgrowths, thick-walled, the walls 0,7-2,2 µ thick, most frequently about 1,5 µ thick, very little incrusted or more frequently not incrusted at all, with rounded to acute apices, never lilac in cresyl blue mounts, scattered to moderately numerous on the sides, crowded on the edges of the lamellae, hyaline or (especially in older herbarium material) melleous. Subhymenium thin, indistinct. Hymenophoral trama irregular, its elements partly thick-walled, interwoven in all directions, but often with a distinct axial trend. Surface of the pileus formed by a distinct and somewhat individualized trichodermium, some of the terminal hyphae of the trichodermium (at places all of them crowded into fascicles of palisades) cystidioid much like the metuloids of the hymenial surfaces, thin-walled or thick-walled, versiform, but usually elongate-clavate or cylindric or capitate, sometimes with nodose or ramose excrescencies, specially on the sides in the middle portion (more often so than in the metuloids of the hymenium) e. gr. 65 × 6,5 µ. Hyphae of the trama of the

pileus nowhere gelatinized, many of them strongly thick-walled, non-amyloid, with clamp connections.

Growing cespitosely or fasciculately on the lower side of old trunks and on the point where the soil touches the rotting wood and then often covered by earthy or sandy particles, rather rare, fruiting in fall, especially in March.

Material studied: PARAGUAY: Guarapí, coll. Balansa 1884, type, LPS. — ARGENTINA: Selva Tucumano-Boliviana, San Javier, above the Confiteria in the Parque Aconquija, March 12, 1949, coll. Rolf Singer, det. R. Singer, T. 215, LIL.

Panus stipticoides Speg., *Bol. Acad. Nac. Cienc. Córdoba* 25:11. 1921.

The type comes from Victoria, Mariluán, Chile. It was collected the 20th of May 1918. The carpophore is white with brownish white lamellae; there are no hairs on the surfaces. The habit is between *Panellus* and *Pleurotellus*. The spores are as described by Spegazzini, somewhat thick-walled to very thick-walled, but I am not certain that they are the basidiospores of this specimen. I could not find any basidia. The hyphae have clamp connections and are conspicuously thin and fragile and loosely arranged. Neither the spores nor the hyphae are amyloid. Assuming that the spores are basidiospores of this fructification, this might be a *Rhodophyllus* with non-angular spores. However, it will be necessary to re-collect this species at the type locality, or else discard it.

The Genus **LENTINUS** Fr.

Spegazzini described some species in this genus but few actually belong here:

Lentinus bonaerensis Speg. The type does not exist. Other specimens still preserved at La Plata seem to belong to *Panus triginus* (Bull. ex Fr.) Sing. Spegazzini identifies his own species with *Lentinus tener* Klotzsch in his *Adiciones* (*Bol. Acad. Nac. Cienc. Córdoba* 28:297. 1926), But the type of the latter species is *Panus crinitus* (L. ex Fr.) Sing. which hardly occurs around Buenos Aires.

Lentinus cordubensis Speg., *An Mus. Nac. Bs. As.* 8:50. 1902

The type consists of two different carpophores, one of them being a poorly preserved but entire carpophore of a collybioid species, the other a *Crinipellis* sp., possibly what Spegazzini later called *Marasmius molfinoanus* Speg. As such, *L. cordubensis* is a mixtum compositum which should be discarded as a nomen confusum.

Lentinus eximius Speg., *An. Soc. Cient. Arg.* 12:73. 1881.

The type consists of immature or at least very young specimens of some species of the *Agaricaceae* or *Amanitaceae*, now indeterminable. It is not a *Lentinus*.

Lentinus fallax Speg., *An. Soc. Cient. Arg.* 16:274. 1883.

The type, from Paraguay, is identical with *Lentinus velutinus* Fr. which is actually a *Panus, Panus siparius*.

Lentinus fuscoferrugineus Speg. The type was not found at La Plata.

Lentinus fuscopurpureus Kalchbr. sensu Speg.

The specimens from Paraguay and Misiones are *Panus rudis* var. *rudis* and var. *strigellus* (Berk. & Curt.) Sing.

Lentinus guarapiensis (Speg., *An. Soc. Cient. Arg.* 16:246. 1883, ut *Agaricus*) Sing. comb. nov.

Pleurotus guarapiensis (Speg.) Sacc., *Syll.* 5:371. 1887.

The type looks somewhat like a new species of *Lentinus*, collected by Say in the alder woods in the montane zone west of Tucumán, Argentina, which shall be described in a forthcoming paper; however, Spegazzini's plant collected by Balansa at Guarapí, Paraguay, is different. The stipe is distinctly laterally attached and not visible from above. The spores are very scarce and less evident because of a large number of mold conidia, yet they are undoubtedly small, hyaline, and cylindric. The subhymenium is poorly developed although present but it is not of the *Pleurotus*-type. The hymenophoral trama is strongly

interwoven but has a definitely axial trend; its elements are rather narrow and are thickwalled although moderately so. The basidia are small. Since the material has been pressed and is not in the very best condition, the structure of the trama is not quite clearly visible. The lamellae are too crowded for a species of the *Pleurotus ostreatus* type, and the stipe is not like that of a *Panus*. There are no metuloids. More material should be collected at the type locality in order to obtain a complete description of this little known species.

Lentinus paraguayensis Speg., see under *Pleurotus*. It is *Pleurotus hirtus*.

Lentinus perpusillus Speg., see *Crinipellis perpusillus* (Speg.) Sing.

Lentinus platensis Speg., *An. Mus. Nac. Bs. As.* 6:113. 1899.

The type, from the province of Buenos Aires, is in poor condition. I would guess that it is a form of *Lentinus lepideus* Fr.

Lentinus puiggarii Speg., *Bol. Acad. Nac. Cienc. Córdoba* 23:387. 1919.

The type specimen is identical with a fresh collection from the province of Tucumán. A full description is given below:

Pileus pale pinkish buff, finely floccose-squarrulose, the floccons becoming appressed squamulose when dry, eventually sometimes glabrescent, dry, with orbicular or elliptical outline, with arched margin, eccentrically umbonate and depressed around the umbo, or with a slight depression in age and obtuse, 15 × 9,5 mm, or, if more nearly orbicular, 10-20 mm broad. — Lamellae nearly pure white (somewhat tending to ochroleucous), not decurrent, emarginate at the stipe, with entire edge, subclose, medium broad (0,5-1,5 mm); spore print not obtained.— Stipe between pinkish buff and white and more nearly of the color of the lamellae than of the pileus, finely floccose-squarrulose, solid, comparatively short, straight or curved-asdendant, smooth or sometimes slightly longitudinally sulcate in dry material, subequal, deeply inserted in the substratum, eccentric to subcentral, often compressed from the sides, 10-15 × 2-2,5 mm.— Context white; odor none; taste mild or almost so.

Spores 5-7,3 × 2,8-7,3 µ, from as narrow as 6 × 3 µ to as broad as 7,3 × 4,3 µ, ellipsoid to cylindric, comparatively short for a *Lentinus*, hyaline, smooth, non-amyloid, thin-walled. Basidia 23-25 × 5-6,5 µ, 4-spored, clavate; numerous narrowly fusoid basidioles are intermixed among the basidia, and some of them seem to be cystidioles or pseudoparaphyses since they remain "empty" and sometimes become a little thick-walled and projecting beyond the general level of the basidia; they originate in the same fascicles of terminal hyphae of the subhymenium as the basidia, and consequently cannot be termed cystidia. Subhymenium rather thin but very distinct, slightly lighter (more transparent-hyaline) than both the hymenium and the hymenophoral trama. Some sort of a hymnopodium forming a transitional layer between the subhymenium and the hymenophoral trama; it consists of elements smaller and more thin-walled than those of the latter and more axillarly arranged than those of the subhymenium. Hymenophoral trama with a definite axillar arrangement although rather strongly interwoven but not intermixed and its elements not running in all directions, most of them rather thick-walled. Floccons of the pileus where present, formed by irregularly interwoven thin (1,5-3 µ) hyphae which are succineous-melleous from an incrusting pigment; where there are no floccons, the surface is formed by scattered hyphal ends which are thin and ascendant, hyaline to melleous and filamentous; the cuticle proper little differentiated from the context of the pileus but more horizontally arranged and forming almost a cutis with hyphae of 4-10 µ in diameter and often somewhat golden-melleous. Trama of the pileus consisting of colorless hyphae with often very thick wall, irregular. All hyphae with clamp connections.

On rotting wood in the subtropical woods and in plantations, on stakes and posts etc., solitary or gregarious rarely densely clustered; fruiting in summer (December).

Material studied: BRAZIL: State of São Paulo, Apiaí, coll. Puiggari, nº 86, December 1889, type, LPS. ARGENTINA: Prov. of Tucumán, Quebrada de los Sosas, coll. R. Singer & A. Digilio, nº T 19, December 18, 1948, LIL.

This species is very closely related to *Lentinus ixodes* (Mont.) Sing. = *Agaricus ixodes* Mont. = *Lentinus cubensis* Berk. & Curt. It seems that the vestiment of pileus and stipe is more distinct in young and fresh material of *L. puiggarii*

than in the corresponding species of the northern hemisphere. This vestiment is apparently some sort of veil, most probably a marginal veil since these species belong to the group of *Lentinus lepideus* Fr. and *L. edodes* (Berk.) Sing. which have pseudoangiocarpous development. Furthermore *L. ixodes* = *cubensis* is perhaps somewhat whiter when quite fresh, at least in the marginal zone, its spores are somewhat smaller, its basidia somewhat narrower, its odor more distinct, and its average size considerably larger. For a detailed description of this latter species see *Type Studies on Agarics, part II, Lloydia* 9:124-125. 1946.

Lentinus schnyderi Speg., see *Type Studies on Basidiomycetes IV.*

Lentinus spegazzinii Sacc. & Cub. in Sacc., *Syll.* 5:584. 1887.

This was a nomen novum for *Lentinus eximius* Speg. non Berk. & Br.; see under *Lentinus eximius* Speg.

Mycenella eriopoda (Sacc. & Syd.) Sing. comb. nov.

Marasmius hirtipes Speg., *Mus. Nac. Bs. As., Anales* 6:112. 1899, non Clements.

Marasmius eriopus Sacc. & Syd. in Sacc., *Syll.* 16:55. 1902.

The type came from the province of Buenos Aires. The spores are 6-6,8 × 4,8-6 µ, globose, some somewhat subangular, some with large hilar appendage, hyaline, smooth, nonamyloid. Basidia not measured, normal. Sterigmata not seen. Metuloids very distinctive, 50-60 × 12,3-16,5 µ, non-amyloid, smooth (not ramose above), melleous, acute, often incrusted with a resinous or mucous mass, thick-walled as in *Inocybe*, the thickest portion in the middle or lower third. Surface of the stipe could not be studied well because of the condition in which the specimens were found, but it seems that the hyphae are finely diverticulate and that there are some dermatocystidia present such as seen on the stipe. Dermatocystidia of the stipe causing the hairiness of the latter (as indicated by Spegazzini), e. gr. 40-50 × 5-9 µ, similar to the metuloids of the hymenium but more variable in shape, some even obtuse, some more hair-like, some with the thickest portion in the upper third, some thinner walled, hyaline, numerous; underneath this covering the

hyphae of the stipe with clamp connections, parallel, rather thick-walled, non-amyloid.

The characters indicated above show that this species is a *Mycenella* rather than a *Marasmius*.

Marasmiellus tropicalis (Speg.) Sing. comb. nov.

Pleurotus tropicalis Speg., *An. Soc. Cient. Arg.* 26:5. 1888.

This was described as growing on roots in almost virgin woods near Peribebuy, Paraguay. The type is obviously identical with that of *Panus hymenirhizus* Speg. from Brazil. Since the latter belongs to *Marasmiellus* as pointed out in a previous paper *(Type Studies on Basidiomycetes IV)* but is a later synonym of *Pleurotus tropicalis* Speg., the new combination *Marasmiellus tropicalis* must be used.

Marasmiellus nigripes (Schwein.) Sing. *Papers Mich. Acad. Sc.* 32:130. 1946.

Marasmius dichromopus Speg., *Bol. Acad. Nac. Cienc. Córdoba* 28: 293. 1926.

The type of Spegazzini's species which was described as occurring on parts of *Eucalyptus globulus* in the Park of La Plata, prov. of Buenos Aires, is in rather poor condition, but appears to belong to *Marasmiellus nigripes*. The occurrence of this latter species in Argentina is demonstrated by the fact that I was able to make several collections of typical material of this species in the Territory of Misiones, and since this species is not indicated in any of Spegazzini's lists, in spite of the rather striking characters it shows, it would not be otherwise accounted for. As for other synonyms of *Marasmiellus nigripes* see Singer, *l.c.*

Marasmiellus oligocinsulae Murr., *Bull. Torr. Bot. Club* 66:160. 1939.

The type of this species was collected by Murrill on dead grape vine, and is preserved at Gainesville (FLAS). The spores are scanty, some of those observed are collapsed now; they measure about 9,5 × 4,8 µ and are non-amyloid. The cheilocystidia are versiform, few are entire while the majority shows branched or nodose-diverticulate outline. The trama of

the context and the hymenophoral trama is not amyloid; its hyphae show numerous clamp connections. The hyphae of the epicutis of the pileus are distinctly interwoven, slightly thick-walled, strongly brownish incrusted by the pigment, and intermittently strongly nodulose to diverticulate. Pseudoamyloid hairs are absent. The host is *Muscadenia* spec.

These data prove that *M. oligocinsulae* Murr. is a good species of *Marasmiellus,* one of the eccentric representatives of the section *Rameales* with small, curved dark stipe. Murrill compares it with *Marasmius concolor* Berk & Curt. but this latter species is smaller and has no stipe. I have not studied the type of *Marasmius concolor* but I have collected a species in Argentina that corresponds to the description given by Berkeley and Curtis: Pileus at first almost white, then "Apricot" to pl. 9, F-7 (M & P.), i.e. flesh-color-salmon-pink, sinuate, grooved, laterally attached or with resupinate point attached to the substratum, glabrous, reniform in outline, 1-2,5 mm broad. Lamellae white, distant (there are only 3-4), concurrent to the sinus behind. Context white, thin; odor none. Spores 9,5-10 4-4,8 µ, hyaline, smooth, oblong-subfusiform; basidioles fusiform; cystidia none; epicutis subcellular, the upper side of the outermost cells granulose to diverticulate and often incrusted by a yellowish pigment, but slightly and indistinctly so; all hyphae thin-walled and with clamp connections, amyloid. On various twigs, probably of *Bignoniaceae* or *Leguminosae,* Cataratas de Iguazú, Territory of Misiones, at the Argentine-Brazilian border in dense subtropical woods, 24-XI-1949, leg. Singer & Digilio, nº M. 57, LIL.

A comparison between this description and the anatomical data and the macroscopical description of *Marasmiellus oligocinsulae* Murr. shows that these species are not even congeneric. *M. concolor* is a true *Marasmius.*

Marasmiellus microscopicus (Speg.) Sing. comb. nov.

Pleurotus microscopicus (Speg.) Sacc., *Syll.* 5:386. 1887.
Agaricus microscopicus Speg., *An. Soc. Cient. Arg.* 16:248. 1883.

The type is a tiny resupinate pleurotoid *Marasmiellus* with smooth, hyaline, non-amyloid spores of 4,8-5,5 × 3,5 µ, remarkably small (15 × 5,2 µ) basidia and regular hymenophoral

trama which is non-amyloid. The hyphae of the epicutis of the pileus are not hymeniformly arranged but diverticulate in the manner of those occurring in most species of section *Rameales;* these epicuticular elements are versiform, often branched, often locally thickened. All hyphae have clamp connections.

This comes from Paraguay and was obviously collected on bamboo *(Chusquea).* Since all its characters agree with those of *Marasmiellus,* the species is transferred to this genus.

Some species described by Spegazzini as *Marasmius* belong to *Marasmiellus* but cannot be transferred to this genus because of the lack of certain pertinent data:

Marasmius eburneus Theissen var. **chilensis** Speg. (ined.?).

This specimen is a *Marasmiellus* near *M. opacus* (Berk. & Curt.) Sing. but slightly different in various aspects. It is indicated here because it might serve as a key to the interpretation by Spegazzini of Theissen's species, otherwise difficult to verify.

Marasmius bonaerensis Speg., *An. Mus. Nac. Bs. As.* 6:110. 1899.

The "type" from the province of Buenos Aires consists of several collections, none of them specifically designed as holotype, and the single collections hardly identical with each other. The envelope contains one specimen labeled "tipo separado" but this consists of fragments only. In another form also present in the type envelope there are some small but entire specimens on what looks like the root of some *Graminea;* it was collected at La Plata March 24, 1888; its spores are 7,5-9,5 × 2,8-3,5 µ; the epicutis seems to have the structure of the section *Rameales* of *Marasmiellus,* e. gr. M. *ramealis.*

This might be an introduced species such as *Marasmiellus ramealis* or *M. anthocephalus,* depending on how much care is taken to investigate the mixture preserved at La Plata and to choose a lectotype from it. It seems hardly worth one's while to do so.

The Genus **MARASMIUS** Fr.

Numerous species were described by Spegazzini as new species of *Marasmius.* Several of these are good species of

Marasmius in the modern sense. Others have to be transferred to other genera. Spegazzini's species are (a few of Murrill's species are included in the alphabetical order):

Marasmius androsaceus var. **ushuvaiensis** Speg., *Bol. Acad. Nac. Cienc. Cord.* 11:159. 1887.

No specimens have been found at La Plata, and nothing similar was encountered in Tierra del Fuego.

Marasmius antarcticus Speg. There are no specimens.

Marasmius argentinensis Speg., see *M. platensis* Speg. (1902).

Marasmius bahamensis Murr., *North Am. Flora* 9: 265. 1915.

Fragments of the type from the Bahama Islands, W. I., are preserved at Gainesville (FLAS). Fresh material identical with the Gainesville material has been collected by me in South Florida. A complete description of this species is given below:

Pileus "clay color", margin "pinkish buff" (Ridgway) in dry condition, "amber brown" with "buckthorn brown" (Ridgway) margin when wet, smooth and estriate when fresh but somewhat striate in some dried material, convex, eventually more or less applanate, 7-10 (-15) mm broad. — Lamellae "light ochraceous buff" (Ridgway), close, ventricose, rounded-free or very narrowly adnexed, without a collarium, not anastomosing; spore print not obtained. — Stipe brown with the apex concolorous with the lamellae and the base pale melleous to ocher brown tomentose on blackish ground, pruinate above, smooth, equal, but sometimes with enlarged apex or with enlarged base, 22-50 × 1 mm; mycelium white. — Context pallid to brownish, tough, without distinctive odor.

Spores 15-15,8 × 3,8-4,2 µ, subfusoid, or somewhat inequilateral as conidia of *Fusarium*, or club shaped, hyaline, smooth, non-amyloid, thin-walled. Basidia 17-25 × 7-8,2 µ, 4-spored; basidioles fuscid; pseudoparaphyses often with capitate apex, otherwise like the basidioles and inserted between them: Cystidia none seen. Epicutis hymeniform, consisting of versiform but mostly more or less subisodiametric elements "en brosse", i.e. with erect spines or appendages above, golden melleous above, hyaline and smooth below. All hyphae strongly amyloid and with clamp connections.

Gregarious on fallen leaves and small sticks of various trees, e. gr. *Quercus virginiana, Nectandra, Ficus* etc.

Material studied: BAHAMAS: New Providence, Lake Cunningham, coll. Britton, type. — FLORIDA (USA): Dade Co., Matheson Hammock, Dec. 9, 1942, R. Singer, F. 1597, FH.

Marasmius balansae Speg., *Rev. Arg. Hist. Nat.* 1:102. 1891, non Pat., see *Marasmius spegazzinii* Sacc. & Syd.

Marasmius brachypus Speg., *An. Mus. Nac. Bs. As.* 6: 111. 1899.

The type consists of one tiny fructification which looks like a very small *Lepiota*. I have the impression that the spores belonging to this carpophore are now collapsed and amyloid, but there are also other spores, more numerous which may be of foreign origin. The material is strongly molded. I doubt whether this species can be maintained.

Marasmius bruchianus Speg., *Bol. Acad. Nac. Cienc. Córdoba* 29: 121. 1926.

The type comes from the province of Córdoba. It consists of stipes. Nothing else could be discovered in the type envelope. Unless a similar fungus can be discovered on the stems of *Stipa cordobensis*, this binomial will have to be abandoned.

Marasmius coprophilus Speg., *l.c.*, p. 122.

The type comes from the province of Córdoba. Its hyphae are amyloid and the elements of the epicutis are arranged in a hymeniform layer; they are hand-shaped in outline, "en brosse". The hymenium contains opalescent clavate cystidia. There are no spores as the fructification seems to have been sterile. Under these circumstances, it is easy to determine the specimen generically but it is impossible to tell whether or not this is a good species, different from similar Marasmii such as *M. anomalus* Lasch.

Marasmius cyperinus Speg. No specimens present except for one poorly preserved pileus and much substratum.

Marasmius dichromapus Speg., *Bol. Acad. Nac. Cienc. Córdoba* 28: 293. 1926.

This is most probably a synonym of *Marasmiellus nigripes* (Schwein.) Sing. (see there).

Marasmius dasypus Speg., see *Crinipellis subtomentosa* (Peck) Sing.

Marasmius eriopus Sacc. & Syd., see *Mycenella eriopoda* (Sacc. & Syd.) Sing.

Marasmius graminicola Speg., *An. Mus. Nac. Bs. As.* 6: 111. 1899.

The type comes from the province of Buenos Aires. It is in good condition. It has the appearance of *M. graminum* and most of its characters but belongs in the *Haematocephalus*-group because of distinct mycelial fibrils visible under hand lens. The base is bulbous and fibrillose. The spores are scarce in the type; one of those I discovered was 10,2 × 4,8 µ. The basidia are not intermixed with conspicuous cystidia. The trama of the pileus is amyloid. The epicutis is hymeniform, consisting of echinate ("en brosse") elements which are melleous in NH_4OH. Clamp connections are present. These data show clearly that *Marasmius graminicola* Speg. is a good species of *Marasmius*, section *Globulares*.

Marasmius hirtipes Speg., see *Mycenella eriopoda* (Sacc. & Syd.) Sing.

Marasmius magellanicus Speg. In the type envelope only stipes are preserved.

Marasmius molfinoanus Speg., see *Crinipellis molfinoana* (Speg.) Sing.

Marasmius pallipes Speg., *An. Soc. Cient. Arg.* 16: 272. 1883.

The type came from the forest near Guarapí, Paraguay, and is still in rather good condition. Since I have additional material from Brazil, the species is here redescribed on the basis of both collections:

Pileus said to be sordid whitish when fresh, rufescent to greysih brown but always light colored in the herbarium, glabrous, deep sulcate, with a deep obtuse umbilicus in the center, 2-5 mm broad. — Lamellae sordid-concolorous rather

broad, more or less collariate, distant (10-12 through lamellae in the larger caps); spore print unknown. — Stipe concolorous but usually somewhat paler than the pileus at least in dried material, smooth and glabrous, in dried material becoming deep brown and shining in age, insiticious and equal to subequal, 30-40 × 0,2-0,6 mm. — Context tough.

Spores 9,5-14 × 4,8-6,3 µ, hyaline, often with oily contents, ellipsoid-oblong to subfusoid, with suprahilar depression or applanation, non-amyloid, thin-walled. Basidia 28-31 × 7,5-8 µ, 4-spored. Cheilocystidia "en brosse", yellowish. Cystidia on the sides of the lamellae none observed. Epicutis hymeniform and consisting of elements of e. gr. 16,5 × 9,5 µ, "en brosse" with the spines at the tip brown, coarse, echinate-spinose, or subcylindric-obtuse, 2-4 µ long. Hyphae of the pileus with clamp connections, non-amyloid. Hyphae of the stipe non-amyloid to extremely weakly amyloid, likewise with clamps.

On sticks and stems of trees as well as on rotten trunks among mosses in subtropical forests, usually growing subcespitosely, fruiting in fall.

Material studied: PARAGUAY: Guarapí, coll. Balansa March 1880, nº 3379, LPS, type. — BRAZIL: State of Santa Caterina, São Canisio do Porto Novo, 1928, coll. J. Rick, FH (sub nom. M. subaciculiformis Sing. ad int. ined., det. Singer).

This species belongs in the section *Hygrometrici* Kühner.

Marasmius platensis Speg., *An. Mus. Nac. Bs. As.* 6:109. 1899, see *Collybia platensis* (Speg.) Sing.

There is also a homonym of this species but different; it was later renamed *Marasmius argentinensis* Speg. by Spegazzzini, see under *Marasmius platensis*, following paragraph!

Marasmius platensis Speg., *Ann. Mus. Nac. Bs. As.* 8:51. 1902 (non Speg. 1899) =

Marasmius argentinensis Speg., *Bol. Acad. Nac. Cienc. Córdoba* 28: 291. 1926.

This species is also represented with the type specimen (from Santa Catalina near Buenos Aires) and belongs likewise to *Collybia*. Yet, I hesitate to propose a new combination in *Collybia* since the material is extremely similar to *Collybia*

plectophylla (Mont.) Sing. (*Marasmius plectophyllus* Mont.) differing merely microscopically in smaller spores, e. gr. 68 × 3-4,3 µ, always slightly smaller than in the specimens of *C. plectophylla* studied by me. The surface of the pileus consists of broad hyaline hyphae (9,5 µ in diameter) which are strongly interwoven and even interlaced, filiform and densely arranged. It is possible that this is a smaller spored variety of *C. plectophylla;* it is also possible that it is a closely related species.

Marasmius pseudoperonatus Speg., *An. Mus. Nac. Bs. As.* 6:109. 1899.

The type is fertile (spores e. gr. 8,9 × 3,2 µ, non-amyloid, smooth); the co-type is sterile. Both have a cuticle consisting of repent hyphae which are smooth. This species is extremely close to *Collybia collybioides* (Speg.) Sing., and *C. peronata* of Europe. The apex of the stipe is not enlarged into the pileus. The taste is indicated as mild. Since it is possible that this species is too close to one of the Collybias mentioned above, or to *C. confluens,* I shall refrain from a transfer to *Collybia* until a more careful revision of new material has taken place. Both collections came from the prov. of Buenos Aires.

Marasmius setulosus Murr., *Bull. Torr. Bot. Club* 67:150. 1940, non *Marasmius setulosus* (Murr.) Sing., *Lilloa* 22: 326. 1949 (1951).

When transferring *Gymnopus setulosus* Murr. to *Marasmius,* I proposed a new combination *Marasmius setulosus* (Murr.) Sing. This binomial is, as was overlooked by me at the time, preoccupied by another homonymous binomial *Marasmius setulosus* Murr. which is not identical with *Marasmius setulosus* (Murr.) Sing. The latter is therefore a later homonym (even though Murrill's *Marasmius setulosus* is a synonym), and must be renamed. I propose the nomen novum *Marasmius murrillianus* Sing. n. n. for the species originally described in *Gymnopus.* The species originally (1940) described in *Marasmius* is represented by a type specimen in good condition (FLAS). It came from Florida, U.S.A. Its spores are hyaline, smooth, and non-amyloid, about 7,2 × 4,2 µ, with suprahilar depression. There are setuloid cystidia in the hymenium which are fusiform, acute, hyaline below and brownish

to brown above, pseudo-amyloid, with thick (1,3-1,7 µ) walls, e. gr. 83 × 8 µ. The epicutis consists of a hymeniform layer of broom-cells which are stramineous and of some smaller setuloid dermatocystidia, much like those of the hymenium, interspersed among the broom-cells, but only a minority reaching the size indicated for the latter: There are also some setuloid dermatocystidia on the stipe. All hyphae are amyloid and clamp-bearing. This Floridian fungus differs from typical European (Catalonia, Spain) and Northeastern United States (Huntington Forest, Singer 171, (FH), and authentic material of *Collybia spinulifera* Peck, Herbarium Burt, from Vermont, FH) material of *M. cohaerens* I have studied, in the fact that the setuloid cystidia of the hymenium are hyaline below and brown only at the apex, in the less distant lamellae (which may be a transition to the closely related *M. echinatus* Theissen of South America) and possibly in slightly smaller spores (but probably spores not fully mature). With these slight differences, the Florida species can hardly be considered specifically different from *Marasmius cohaerens* (A. & S. ex Fr.) Quél. In fact, I consider it a synonym of the latter.

Marasmius spegazzinii Sacc. & Syd., *Syll. Fung.* 14: 117. 1899.

Marasmius balansae Speg., *Rev. Arg. Hist. Nat.* 1:102. 1891, non Pat.
Marasmius floridanus Murr., *Bull. Torr. Bot. Club* 67:149. 1940.

The two types of *Marasmius balansae* Speg. (which is also the type of the nomen novum *Marasmius spegazzinii* Sacc. & Syd.) and *Marasmius floridanus* respectively (LPS, FLAS) are identical with each other, and also with fresh material collected by me in Florida, U.S.A. The color of the pileus is usually bright fulvous but somewhat variable. The spores are oblong-ellipsoid, 8,5-10 × 3,3-4 µ. The hyphae of the trama are amyloid. The epicutis consists of melleous broom-cells which are 17-20 × 6-9,5 µ; spinules at their apex 7-10 µ long. The cystidia are usually distinct, opaque. Clamp connections are numerous. This appears to be a good species near *Marasmius berteroi* which differs in some macroscopical details and occurs frequently in the subtropical and subtropical-montane rain forests of Southern South America.

Marasmius sphaerodermus Speg., *An. Soc. Cient. Arg.* 9: 163. 1880.

The type (on fallen twigs of *Salix humboldtiana,* near Buenos Aires, LPS) and one authentic specimen do not contain any carpophores. A second authentic collection (April 1881) contains one complete carpophore which cannot be sectioned without being destroyed. The position of this species remains unknown.

Marasmius trichorhizus Speg., *An. Soc. Cient. Arg.* 16: 173. 1883.

The type from Caá Guazú, Paraguay is hardly different from authentic material, collected in the Territory of Formosa, R. Argentina, and determined by Spegazzini.

The type collection is in good condition. It consists mainly of black rhizomorphs from the characteristic aereal rhizomorph-system, but also contains some carpophores. A small section from one of these pilei gave the following results:

This is the first species which does not completely fit into the scheme of sections proposed by Kühner. While *Marasmius multiceps* Berk. & Curt. has an epicuticular structure similar to that of *Marasmius androsaceus,* i.e. the epicutis consisting of irregular —not hymeniform— bodies, and a similar species from the Tucumán region has the structure of the epicutis like that of *Marasmius hygrometricus,* viz hymeniform, *Marasmius trichorhizus* has a somewhat intermediate structure, with some elements being erect and hand- to cauliflower-shaped while others are completely irregular and horizontally elongate; all are echinate above ("en brosse"), brown down to the main body, and yellowish hyaline below. The spores measure 8,2-9 × 2,2-3,5 µ; they are smooth, non-amyloid, and thin-walled. The elements of the epicutis measure 12,3-19,2 × 8,2-11 µ (if part of hymeniform structure, otherwise very variable in size), spines 2,5-3,7 µ long. There are no conspicuous cystidia. All hyphae have clamp connections and are non-amyloid, even those of the white interior of the rhizomorphs.

There has been a tendency to combine all those Marasmii with aereal rhizomorphs into one species. Nevertheless, the anatomical analysis of some of them shows clearly that there are several species with very different characters. While it might be advisable to combine the tropical true Marasmii such as the Tucumán species mentioned above, *M. multiceps* and *M. trichorhizus* into one section in spite of the different structure of the epicutis, the fact remains that there is a marasmioid agaric with aereal rhizomorphs, having the characters of *Micromphale* rather than *Marasmius.* This is *Micromphale westii* (Murr.) Sing.

Marasmius trichorhizus Speg. is a good *Marasmius,* and differs from all those species formerly analysed by me. I have never seen the type of *M. equicrinis;* however, in view of the facts indicated above, any a priori identification without careful comparison of authentic material should not be taken too serious.

Marasmius vinosus Speg., *An. Mus. Nac. Bs. As.* 9:264. 1909.

The type, from Tucumán, is apparently *Crinipellis eggersii* Pat.

There is one species, described in *Collybia* but actually belonging in *Marasmius:*

Marasmius pampicola (Speg.) Sing. comb. nov.

Collybia pampicola Speg., *Bol. Acad. Nac. Cienc. Córdoba* 28:284. 1926.

The type from the province of Buenos Aires, near Quequén, looks like a *Collybia* but is a species of the *Oreades* group of *Marasmius,* section *Globulares.* The stipe of fresh specimens (Tafí del Valle, prov. de Tucumán, January 1950, coll. Singer) is stuffed but becomes hollow in herbarium material. The color of the pileus is much darker than in *Marasmius oreades.* The spores are fusoid-ellipsoid, often somewhat curved inward at the hilar end and curved outward at the apex, hyaline, occasionally becoming pseudoamyloid and bicellular in age, smooth, non-amyloid when studied on freshly dried material large: 11-15 × 5-7,7 µ. Basidia long and 4-spored. Trama amyloid, hyphae with clamp connections. Epithelium on the surface of the pileus very distinct much as in *Marasmius oreades.*

This species is particularly interesting as an example of area disjunction in South America. It occurs in the moist

pampa-steppe vegetation in the lowlands around Buenos Aires and south and in the equally mesophytic mountain pampa with moderate but sufficient yearly rainfall in the Aconquija Mountains west of Tucumán. It has never been found in the arid regions between the mountains and the coastal region. *Marasmius pampicola* is characteristic of the moister regions of the grasslands of Argentina and replaces *Marasmius oreades* completely. The latter species does not occur in Argentina, excepting the parks and gardens of the capital where it has been introduced with foreign grass seeds.

Marasmius pampicola is furthermore remarkable since it is the first species of South American origin which could be shown to produce cyanic acid.

Crinipellis subtomentosa (Peck) Sing., *Lilloa* 8:463. 1942.

Marasmius dasypus Speg., *An. Mus. Nac. Bs. As.* 19:264. 1909.

The type of Spegazzini's species is obviously identical with the type of Peck's species, the latter having priority. Since I have also collected abundant material in Tucumán, I shall take advantage of the opportunity to give a revised description:

Pileus "Hindu" with a "leather brown" belt around the disc, this color combination where moist and less tomentose, "Alamo" with "stone" center where more tomentose and when dry, very pale and sordid tan or buff when dried, somewhat hygrophanous, thinly and somewhat irregularly covered by a hoary tomentum, the hairs often appressed and radially arranged, with the center subtomentose, subcampanulate to nearly plane, often with an obtuse umbo, the flat center often narrowly depressed, the margin often sulcate, 10-20-(35 sec. Spegazzini) mm broad.— Lamellae "almond" to "aloma", moderately broad or rather broad, free or more rarely subfree, often ventricose, distant; spore print not obtained.— Stipe concolourous with the pileus, at the base "sorrel", and becoming blackish fuscous there when dried, silky-tomentose to hoary tomentose, solid, equal or somewhat thickened downward, 25-39 × 1-3,5 mm (above usually not more than 1,5 mm broad). Context white, inodorous.

Spores 8,7-16 × 4,5-6,8 µ, mostly about 8,7-13 × 5,5-6,5 µ, in 2-spored and mixed forms larger, in completely 4-spored forms mostly about 10-12 × 5,5-6, µ, with a quotient near 2

(length divided by breadth), with some spores with a larger or smaller quotient always present, but in an average again = 2 or near 2, in purely 4-spored material Q = 2, or very slightly smaller than 2, walls non-amyloid, smooth, hyaline. Basidia 1-2-3-4-spored, in most specimens the 4-spored basidia predominant, in some exclusive, suprahilar deperession in some spores small and indistinctive, in others absent, diameter of the wall in some spores very small, in others moderately so; in some spores of the two-spored forms, the sterigma breaks so that a fragment of it adheres to the spore which bears it still at maturity as some sort of appendage. Size of basidia: 32-38 × 7,5-9 µ. True cystidia none; cheilocystidia at the edge which is heteromorphous and occasionally near the edge where the cheilocystidia are very scattered, 15-39 × 3,5-9 µ, mostly simple, only a few forked, or with hook-like outgrowths, with rounded ends, the simple ones often wavy, or curved, with knot-like irregularities, or straight and then usually basidiomorphous or subcylindric, usually rising from a thickened cell together with two or more other cheilocystidia, the branched cheilocystidia usually bifurcate and rarely both branches thickened into club-like bodies which reach 8 µ in diameter. Pileus with a hairy covering consisting of rather short hairs, approximately 175 µ long and 3,5-6 µ broad, the apex gradually tapering towards the tip but the tip itself obtuse or broadly rounded, very few subacute, subhyaline to pale melleous, the walls 1,5-2,2 µ thick, distinctly pseudoamyloid. Hairs of the stipe similar and likewise distinctly pseudoamyloid. Hyphae of the trama thin-walled, hyaline, non-amyloid, with clamp connections.

On grass roots in pastures and parks, singly, not gregarious but in large numbers scattered over wide aereas, fruiting in July in North America, in April in Africa, and in January in South America.

Material studied: NORTH AMERICA, Kansas: Rockport, E. Bartholomew, July 1, 1885, Kansas Fungi 1735, FH, type. Ellis & Everhart, North American Fungi, sec. ser. nº 3403, coll. E. Bartholomew, FH. AFRICA, French Equatorial Africa; Loango, coll. Dybowsky 1891, det. Patouillard (as *C. stipitaria*), FH. SOUTH AMERICA, Argentina, prov. Jujuy: Ledesma ("ad ramenta foliaque" but evidently only on grass roots), Jan.

1906, LPS, type of *Marasmius dasypus* Speg. Prov. Tucumán: Tucumán, Parque Urquiza, January 8, 1949, coll. Singer, LIL.

Crinipellis perpusillus (Speg.) Sing. comb. nov.

Lentinus perpusillus Speg., *Bol. Acad. Nac. Cienc. Cordoba* 11:406. 1889.
Crinipellis bambusae Pat., *Bull. Soc. Myc. Fr.* 24:8. 1908.
Marasmius bambusae (Pat.) Sacc. & Trott. in *Sacc., Syll.* 21:113. 1912.

The type of Spegazzini's from Brazil and that of *C. bambusae*, likewise from Brazil, are identical with each other. Consequently, Spegazzini's epithet wich has priority, has to be used and *C. bambusae* falls into synonymy. It is to be noted that both types come from the same state (São Paulo) and the same host.

Crinipellis molfinoana (Speg.) Sing.

Marasmius Molfinoanus Speg., *Bol. Acad. Nac. Cienc. Cordoba* 29: 123. 1926.

The type comes from the Sierra Grande near Córdoba and was collected by J. F. Molfino (nº 212) on dead roots of *Fagara coco* and on rotting branches of the same tree, at Yacanta, February 1921. This, in my opinion, is a good new species of *Crinipellis*, and was therefore transferred to that genus.

Macroscopically, it is more sordid colored than *Crinipellis patouillardii* Sing. There is a glabrous disk on the pileus which is very small and macroscopically indistinct, but well visible under a hand lens although often partly covered by overhanging hairs, always flat and circular. Otherwise much like *C. patouillardii*. Microscopically, it has the following distinctive characters: Spores 9-11 × 6-7,5 µ (i.e. Q distinctly smaller than 2), hyaline, non-amyloid, smooth. Basidia 28-35 × 6,8-8,5 µ, 4-spored, few 1-2-3-spored. Cheilocystidia not very well seen in the specimen studied but seem to be similar to those of *C. patouillardii* (i.e. very variable, almost echinate, somewhat branched, or simple). Hyphae non-amyloid with clamp connections. Hairs of the margin of the pileus acuminate and very frequently needle-sharp, the upper protion with membrana-bridges across the lumen, the walls about 3 µ in diameter, hyaline, stramineous, or brownish, the diameter of the hairs 6-8,3 µ.

STROPHARIACEAE

Pholiota apiahyna Speg., *Bol. Acad. Nac. Cienc. Córdoba* 23:392. 1919.

The type is probably very close to *Pholiota pseudofascicularis* Speg. but more distinctly veiled and deeper colored in the herbarium. The spores are light melleous, 6-7 x 4-4,2 µ, plainly ellipsoid, only rarely with a tendency to be reniform, with or without suprahilar depression, smooth, with medium thick wall, without germ pore or with a very indistinct one. Chrysocystidia are present. The cuticle of the pileus is very little pigmented; there are clavate voluminous hyphae in the hypodermium and the epicutis consists of hyaline filamentous repent hyphae. Macroscopically, this specimen recalls some species of *Agrocybe;* it has white rhizomorphs, clavate stipe and glabrous pileus. Its size is medium to small. However, it is not an *Agrocybe* but as the anatomical characters show — a true *Pholiota*.

Pholiota chacoensis Speg., *l.c.* 28:309. 1926.

The spores of the type which was collected in the province Presidente Perón (Chaco Territory) near Resistencia, are now "leafmold" in thick print on white paper, and melleous with a rusty line under the microscope, with truncate germ pore 10,2-11 × 7-7,5 µ. It seems that this is a species of the genus *Agrocybe*.

Pholiota crassivela Speg. see *Type Studies on Basidiomycetes IV*.

Pholiota flavipunctata (Speg.) Speg., as above.

Pholiota formosa Speg., as above.

Pholiota imperialis Speg., as above.

Pholiota impudica Speg., as above.

Pholiota leptopoda Speg., *Bol. Acad. Nac. Cienc. Córdoba* 11:415, 1889.

The type from Brazil is not a *Pholiota* but a *Psathyrella* spec.

Pholiota montevideensis Speg., *Bol. Acad. Cienc. Córdoba* 28:312. 1926.

The type from Uruguay is undoubtedly a representative of the *Strophariaceae*. Yet, I am at a loss to tell which genus it belongs to. The spore print left on the annulus seems to be something between a deep rust and black but it may have darkened. The spores have thick walls, and are smooth with a distinct germ pore, 17,6-20,5 × 10,8-11 µ. Chrysocystidia cannot be demonstrated. If it is a *Pholiota* it belongs in the *Pseudonematoloma*-group. It should be easy to re-collect this striking fungus with the conspicuous annulus and the gigantic spores at the type locality (Parque del Prado, Montevideo, on the earth, February 1920, coll. Dr. Felippone).

Pholiota peliolepis Speg., *Bol. Acad. Nac. Cienc. Córdoba* 23:394. 1919.

The type came from Brazil. It is in good condition and belongs undoubtedly to *Gymnopilus*, see there.

Pholiota platensis Speg., *An. Mus. Nac. Bs. As.* 6:123. 1899.

The type comes from the province of Buenos Aires. It is extremely close to *Agrocybe dura* and *A. puiggarii* (Speg.) Sing. The spores are 10,8-13 × 6,8-7,5 µ. The cystidia are balloon-shaped. The epicutis is cellular.

Pholiota pseudoblattaria Speg., see *Galerina helvoliceps* (Berk. & Curt.) Sing.

Pholiota pseudofascicularis Speg., *An. Mus. Nac. Bs. As.* 6:122. 1899.

The type came from La Plata, province of Buenos Aires. It is in rather good condition. Fresh material was collected by me near La Plata, also in fall and on *Salix* (Spegazzini's material was collected on some *Salix* in May, mine on *Salix humboldtiana* in June). Both are precisely identical with *Agaricus alnicola* var. *salicicola* Fr. (about the type picture at Stockholm, Riksmuseet, see *Type Studies on Basidiomycetes V*) of the European mycologists. Since it will become necessary to separate this variety from *Pholiota alnicola* (Fr.) Sing. (which has broader spores) as an autonomous species, it is

desirable to keep in mind that it was first described as a species by Spegazzini under the name cited above. *Pholiota pseudofascicularis* is particulary distinct in both Europe and South America because of its narrow (3,5-4,5 µ) spores and the submild taste. The stipe is not white (as indicated erroneously by Spegazzini), but about "Indian straw" (M. & P.).

See also under *Inocybe leptocephala* Speg. which is another synonym of *Pholiota pseudofascicularis* Speg.

Pholiota puiggarii Speg., see *Type Studies on Basidiomycetes IV* (belongs to *Agrocybe*).

Pholiota subflammans (Speg.) Sacc., *Syll.* 9:91. 1891.

The type from fallen trunks of *Berberis ilicifolia* in Voces Bay, Patagonia, consists of a few lamellae fragments pressed between paper. Judging from the macroscopical description and the data obtained from these lamellae fragments, this species can easily be identified with a species collected by me several times in Tierra del Fuego:

Pileus "tortoise shell", becoming "cocoa" when exposed to the light and eventually pl. 12, G-8 (Maerz & Paul), with distinct squarrose floccons when sheltered, the floccons brownish and loose, but the surface of the pileus subviscid and the floccons coming off easily, glabrescent, drying rapidly, convex, subumbonate, sometimes semiglobose, finally expanding, 20-38 mm broad.— Lamellae pale grey, eventually cream-grey with yellowish edges, medium broad (3-4,5 mm broad), subclose or close, sinuate, broadly adnexed, or adnate; spore print in thin layer "cinnamon brown", in thick layer varing from between "Mandalay" and "Clove" to "Clove".— Stipe pallid brown at the apex, with brownish squarrose scales all over on brownish pallid ground, subequal, sometimes curved below, hollow, 24-47 × 3-5 mm; between the squarrose zone and the naked apex there is a slight cortina in young specimens which is pallid brown and easy to overlook.— Context whitish, in the stipe pallid brown, with an odor reminding one of *Inocybe dulcamara*, or spermatic.

Spores 5,5-7 × 3,7-4,2 µ, with indistinct to distinct germ pore (which is easily overlooked because of the small size of the spores and the absence of a truncate apex), smooth, well pigmented, ellipsoid. Basidia 19-24 × 6,2-8,2 µ, sometimes the

majority 2-spored, sometimes the majority or all 4-spored, clavate. Cheilocystidia very variable in size and shape, small, 17-22 × 6-8,2 µ, vesiculose-basidiomorphous, broadly subulate, ampullaceous, or cylindric with a constriction between the middle and upper third, smooth, hyaline. Cheilocystidia 30-36 × 8,5-12 µ, with a hyaline to yellowish amorphous body inside (in ammonia), vesiculose and attenuate upwards from below the middle and with broadly rounded apex, or vesiculose-subelongate with mucronate apex, on the sides of the lamellae. Hyphae with clamp connections. Hymenophoral trama regular. Epicutis of repent filamentous hyphae, somewhat gelatinous.

On the ground in woods, often on grassy or mossy earth, coincidentally on very rotten wood, loosely fasciculate- cespitose, fruiting in summer and fall. Tierra del Fuego and South Patagonia.

Material studied: Voces Bay, C. Spegazzini, type, LPS. Estancia Nueva Argentina, R. G., February 1950, R. Singer, nº M. 180, M. 307, M. 307a, LIL.

This species belongs to the group of Pholiotas characterized by the detersile squarrose floccons or scales, small spores, and habitat on the earth or on charcoal. *Pholiota carbonicola* A. H. Smith, *P. terrestris* Overholts, and an unpublished species from the montane region of the Selva Boliviano-Tucumana (*Pholiota digilioi* Sing. spec. nov.)[1], and the Spegazzinian

1) A Latin description of this species will be furnished elsewhere. But for the sake of comparison, we add a description in English of *P. digilioi* Sing. spec. nov. In regard of *P. terrestris* Overholts, see *The Amer. Midl. Naturalist* 32:685. 1944, and for *P. carbonicola*, see *Mycologia* 36:253. 1944.

Pholiota digilioi Sing. — Pileus "pond lily" to "corn", umbo becoming "antique gold", distinctly lubricous-viscid when quite fresh but drying fats, with separable cuticle, with squarrose floccons all over but the floccons easily washed off and surface becoming naked in age, convex-subumbonate then repand and umbonate, sometimes depressed around the umbo, 10-50 mm broad. — Lamellae pl. 12, H-3 to pl. 13, I-6, individually pl. 13, K-6, horizontal, more rarely subarcuate, broadly adnate and with an indistinct tooth subdecurrent, separating in age, close to crowded, narrow to moderately broad (1,5-2,5 mm broad); spore print "clove". Stipe a mixture of "Leghorn" and "chamois", shining, with the apex subconcolorous with gills, squarrose below the apex, the scales pl. 11, C-4 to pl. 12, F-6, reaching down to the very base, solid, eventually hollow, equal, often slightly bulbous at base, 30-80 × 1,5-5 mm; veil appendiculate on margin of pileus and forming a narrow and fugacious annulus, initially unbroken and beset with the sqarrose floccons of the universal veil preserved on pileus and stipe. — Context creamy white in cap, subconcolorous with surface in apex of stipe, below "jasmine" in inner core, and "mustard br." in rind. — Spores 5-8,8 × 3,5-4,8 µ, subellipsoid-reniform to oblong-ovoid, with germ pore, not truncate, with suprahilar applanation rarely with depression, smooth, deep melleous. — Basidia 20-22 × 4-6,5 µ, 4 spored. — Cheilocystidia type I, pale melleous because of a melleous incrustation, 29-50 × 8-9,5 µ, cylindric, fusoid, or ampullaceous, the base often lemon yellow, type II flanking those of type I on both sides, but constantly present, differing from type I in being vesiculose, shorter. — Chrysocystidia numerous, on the sides of the lamellae, 26-38 × 7,5-11 µ, clavate to clavate-mucronate, or broadly fusoid with rounded apex, with a yellow amorphous body inside, mostly in the upper portion (ammonia medium), smooth. — Hymenophoral trama regular, consisting of filamentous, hyaline hyphae. — Subhymenium consisting of strongly interlaced, very small hyphal elements, hyaline. — All hyphae with clamp connections. — Chemical characters: $FeSO_4$: greenisch. — KOH: more vivid and deeper in flesh of stipe, darker on pileus. — NH_4OH as KOH but less strongly so. — Phenol, "methol", formalin, anilin, and strong acids: negative. — Growing cespitosely on humus, sometimes on humus mixed with completely rotten woody particles or with manure, in the upper region of the subtropical woods and the *Alnus* woods, common west of Tucumán, Argentina, fruiting almost the year arund.

species described above, belong in this group. There does not seem to exist any European representative of this affinity.

CORTINARIACEAE

Inocybe argentina Speg. *An. Mus. Nac. Bs. As.* 6:124. 1899.

The type from La Plata is not preserved. Only the envelope with notes exists. This species will never be located and redescribed, and should be considered as a nomen dubium.

Inocybe caespitosella Speg., *Bol. Acad. Nac. Cienc. Córdoba,* 28: 314. 1926.

The type from La Plata has the spores 6,8-8,2 × 3,8-4,5 µ; basidia 4-spored; chrysocystidia clavate-mucronate with (in ammonia) yellow amorphous body, e. gr. 30 × 9,5 µ, cheilocystidia ventricose below and capitate above, about 40 µ long, the ventricose and the capitate portion about 4,5-5 µ broad, but rather variable.

This is undoubtedly identical with *Pholiota pseudofascicularis* Speg., which occurs on wood of *Salix*. In this species, Spegazzini indicates *Ligustrum japonica* as host. Either this species is occasionally found on this new host, or else Spegazzini's observation is faulty. *Inocybe caespitosella* was published after *P. pseudofascicularis*, and in addition in the wrong genus, and with a wrong host (?).

Inocybe fuegiana (Speg.) Sacc. *Syll.* 9:101. 1891.

Agaricus fuegianus Speg., *Bol. Acad. Nac. Cienc. Córdoba* 11:145. 1887.

The fragments of the type specimen from Ushuaia, Tierra del Fuego, are in miserable condition. In the first place, they consist of pressed particles of the carpophore and are so shapeless, they cannot be determined as to what organ they came from. Besides, the specimen must have been immature or substerile, since the number of spores is extremely small, at least of spores that might be considered to be *Inocybe* spores. The latter are smooth, melleous, ellipsoid, 9,5-11 × 6,2-7,5 µ; the basidia seen were 2-spored (one 3-spored), 20-35 × 6,8-9 µ. There are no metuloids. The hyphae of the trama are very thin, hyaline to stramineous. Aside from the *Inocybe* (?) spores, there are numerous white basidiospores (hyaline in ammonia), smooth, nonamyloid, 7-10,8×4,2-5,3 µ, one *Galerina* spore, 1 bolbitiaceous spore and at least three kinds of conidia of *Fungi Imperfecti* were observed. Nothing was found by the author in the region where this species came from to match the description or the scanty microscopical data derived from the type specimen. Under these circumstances, it seems best to consider *Inocybe fuegiana* a nomen dubium with hardly any chance of later rediscovery.

Inocybe fumosifolia Speg. *l.c.* p. 315.

The type from La Plata is identical with another specimen collected by the author in the Park of Castelar, prov. de Buenos Aires, under similar conditions as those found at the type locality but probably not connected with *Cedrus atlantica* but with *Tilia* sp.

Pileus in our specimens fibrillose, subrimose, with a sericeous remainder of the universal veil in the center; stipe solid when fresh, slightly pruinose all over; odor spermatic. Otherwise as described by Spegazzini. The microscopical characters are identical in the type specimen and our specimens: Spores with vague to (usually) well projecting nodules (8-13, usually 12-13, easy to count), 6,7-9,5 × 4-5,5 µ, most frequently about 8,2 × 5,3 µ, rarely reaching 6,2 in breadth; basidia 4-spored; metuloids remarkably thick-walled (wall 2,5- 3,5 µ thick), with crystalline deposits at apex, comparatively short, usually

strongly ventricose below with short bottle-neck-shaped apex, 41-57,5 × 13-25 µ; dermatocystidia in the middle of the stipe and below still rather numerous and of the same type as in the hymenium; hyphae with clamp connections.

This is undoubtedly a species of *Inocybe*, sect. *Marginatae* Kühner. It is extremely close to both *Inocybe mixtilis* Britz. sensu Kühner and *I. oblectabilis* Britz. sensu Kühner. It differs from *I. mixtilis* because of larger spores, larger size of the carpophores, lack of the predominantly yellow pigmentation, etc. It differs from *I. oblectabilis* because of the color of the stipe which is never pinkish (but white, eventually avellaneous-isabelline), and the shape of the metuloids (cf. however, Kühner, *Bull. Soc. Myc. Fr.* 49:113, 1933 where he says that sometimes thickened cystidia are found together with the normal fusoid type in the typical *I. oblectabilis*). Since the mycorrhizal host of the Argentine species is not a native plant, and *I. fumosifolia* does not seem to occur with native trees in this country, it is to be expected that *I. fumosifolia*, with the combination of characters indicated above, also occurs in Southern Europe or North Africa.

Inocybe lepidocephala Speg., see under *Inocybe variabillima* Speg.

Inocybe microcephala Speg. see under *Galerina microcephala* (Speg.) Sing.

Inocybe platensis Speg., *An. Mus. Nac. Bs. As.* 6:124. 1899.

The species, collected by Spegazzini in the Parque of La Plata, prov. of Buenos Aires, is represented by several syntypes, all identical with each other. This species is extremely remarkable, and it is regrettable that it was thus far impossible to recollect it in La Plata. Yet, it may be hoped, that, due to the easy identification, possible on the basis of the type studies, it will be possible to collect fresh material of this plant in order to obtain better data on certain features which cannot be cleared up completely on the sole basis of the dried material available.

The spores are ellipsoid to ellipsoid-amygdaliform and have a perisporial ornamentation which appears in various shapes and configurations, mostly in broad plaques, warts, or coarse reticulations leaving naked portions where the exo-

sporium shows through, turning deeper blue and becoming well visible when dyed with a 1 % watery solution of anilin blue; exosporium strictly applicate to the episporium and hardly visible except at the strange button-like appendage at the apex of the spores which is a callus and whose outer wall is formed by the hyaline exosporium which also turns blue inside with anilin blue; episporium pale brownish in water, well visible in optical section; endosporium hyaline, continuous through the apex of the spore with the episporium; internal body of the spore colorable entirely with phloxine but cavernous-sponge-like and not homogeneous; the entire spore becoming almost homogeneously blue in cresyl blue mounts somewhat like that of *Chlorophyllum molybdites,* non-amyloid, 7,5-11,5 × 5,5 u without the perisporium (somewhat larger with the perisporium), the perisporium not persistent in most media. There is a faint punctation which may also express a perforation of the epi- or exosporium visible in cresyl blue mounts just before the dye is taken on too abundantly to make observations on the fine structure but I am not sure what kind of ornamentation, if any, this may be.

The basidia are hyaline, clavate with a variable number of sterigmata. No cystidia could be demonstrated; they are probably absent on sides and edges of the lamellae; hymenophoral trama of a reasonably young carpophore regular; subhymenium very irregular, not thick; clamp connections present. The condition of the cuticle of these specimens was not very good since the uppermost layer was partly destroyed by the action of numerous moulds, yet it appeared to be a cutis, consisting of horizontal hyphae.

The spore prints preserved are now "Ginger Kaiser br." (M & P). The habit of these carpophores reminds one of *Neopaxillus;* the lamellae are somewhat decurrent; the veil is now obliterated.

This species does not fit into any genus known to me. A definitive generic determination, however, is impossible at present, since it will be necessary to restudy this species in fresh condition. With the data at hand, one would be inclined to assume that it is congeneric with *Cuphocybe* Heim (nom. subnud.) from New Zealand. However, the description of that genus is likewise incomplete. It does not contain clear indications on the anatomy of the carpophores since we are dealing

with a provisional communication which will, it is hoped, soon be followed by a formal diagnosis (cf. R. Heim, *Sur la flore mycologique de la Nouvelle-Zélande,* Extrait des *Comptes r. séances de l'Académie des Sciences* 250:2246 (2). 1950). Spegazzini's species is certainly not an *Inocybe,* but a transfer to another genus will not be attempted at the present moment.

Inocybe variabillima Speg., *An. Mus. Nac. Bs. As.* 6:125. 1899.

Inocybe lepidocephala Speg., *l.c.* p. 126.
Inocybe decipientoides Peck, *Bull. Torr. Cl.* 34:100. 1907.
Inocybe astoriana Murr., *Mycologia* 3:104. 1911.
Inocybe ochraceoscabra Atk., *Amer. Journ. Bot.* 5:214. 1918.
Inocybe globocystis Velen., *Ceske Houby* 2:368. 1920.

The types of Spegazzini consist of a series of syntypes for *I. variabillima* Speg. from La Plata (var. c of Spegazzini should be the lecto-type since it evidently represents the average form in the sense of Spegazzini) and a good type collection for *I. lepidocephala* Speg., also from La Plata. All these collections are identical with each other as well as with specimens collected by the author at Punta Lara near La Plata and in the interior, at Tafí del Valle, province of Tucumán, in the Aconquija-massive where it grows under *Salix.* All these Argentine collections, based on material growing under and with planted trees of European origin, are identical with the North American collections seen by the author (types not studied —synonymy *fide* Kühner—) and a European collection determined *Inocybe decipientoides* by the author. All these collections are in close agreement with the typical form of what Kühner describes as *I. decipientoides* Peck, forme Parisienne. This is undoubtedly the most frequent non-endemic Argentine species with nodulose spores, and seems to be particularly adapted for spreading beyond its original area with cultivated *Salix,* especially on wet ground. Spegazzini published two photographs, and Heim a colored picture (Spegazzini, *Bol. Acad. Nac. Cienc. Córdoba* 28: 316-317. 1926, and Heim, *Le Genre Inocybe,* pl. 26, fig. 3. 1931).

Since there can be no doubt but that Spegazzini's specimens are identical with the European species and with the North American species cited above, the names chosen by Spegazzini have priority. The fungus should be known as *Inocybe varia-*

billima Speg. Since there are several good descriptions available, I refrain from redescribing the species.

Gymnopilus peliolepis (Speg.) Sing. *Lilloa* 22:561. 1949 (1951).

Pholiota peliolepis Speg., *Bol. Acad. Nac. Cienc. Córdoba* 23:394. 1919.

Material identical with the type of Spegazzini's species from Brazil has been discovered by me in Florida, United States of America. This fungus is in need of redescription, and, consequently, a complete description is given below:

Pileus whitish yellow between the fibrillose scales which are floccose to squarrose and wine red to deep purple ("burnt lake" R., "Hay's maroon" R., "diamine brown" R.), more densely scaly when young, later often not so distinctly purple and not so densely squarrose, especially towards the margin of the pileus, where the scales are slightly smaller than in the center, when quite young entirely and rather equally covered with the scales with the exception of the extreme margin which is olive yellow fibrillose with appressed fibrils, eventually scaly only in the center and glabrescent in the marginal zone, dry, at first hemispherical to convex and often umbonate, later applanate and then concave or with a small central depression, with involute, later straight margin and with traces of a cortinoid veil in young material, 25-45 mm broad.— Lamellae "yellow ocher" to "raw sienna" (Ridgway) becoming more golden yellow or bright rusty depending on the number of mature spores formed, narrow to moderately broad (up to 5 mm broad), close, sinuate-adnate to adnato-decurrent; spore print bright rusty as in other *Gymnopili*.— Stipe whitish ochraceous, becoming browner, glabrous, dry, smooth, or coarsely fibrillose, tapering upward, becoming equal, stuffed then narrowly hollow when mature, sometimes slightly eccentric 22-50 × 2-8 mm; veil cortinoid concolorous, distinct in young specimens, leaving a distinct annulus or a ring mark on the apex.— Context white becoming more or less brown in the stipe and yellow in the pileus, fleshy, tough in the stipe of mature material; taste mild or very slightly astringent or bitterish-submild; odor slight, not distinctive.

Spores 6,8-9 × 4,3-5,8 u, distinctly rough and warty but warts sometimes concolorous with the episporium and not apparently different from the latter, often enveloped in a resinous

chestnut brown incrustation, ellipsoid. Basidia 22-24 × 5,5-7,6 µ, 4-spored, very few with fewer than four sterigmata, mostly clavate, yellow and sometimes incrusted by a chestnut brown resinous mass, or else hyaline. Cheilocystidia 23-36 × 6,8-10,3 µ, mostly ampullaceous as in *Gymnopilus chrysopellus;* cystidioid bodies (cystidioles?) at the edges and on the sides of the lamellae either hyaline and free or enveloped in a chestnut brown resinous mass, fusoid to subrhomboid, 27-36 × 7,5-8,8 u, varying in number according to the abundance of the resinous incrustations (with few sterile bodies in caps with scanty incrustation). Hymenophoral trama regular. All hyphae with clamp connections. Scales consisting of bunches and fascicles of elongate incrusted hyphae. Most hyphae of hymenophore with a strongly soluble lemon yellow pigment.

Chemical characters: NH_4OH on young pileus livid-black, on old pileus fulvous brown but the latter color disappearing or bleaching after a while. KOH on young pileus black, on old pileus deep fulvous brown.

On trunks of frondose trees, e. gr. *Quercus virginiana* (in Florida), fasciculate or gregarious in small groups, fruiting in the beginning of summer (June in Florida, December in South America).

Material studied: USA, Florida: Alachua Co., Kelley's Hammock, coll. & det. R. Singer, June 29, 1943, F. 2460, FH (sub nom. *Gymnopilus erythropellus* Sing. in sched. ad int.). BRAZIL, State of São Paulo: Apiaí, coll. J. Puiggari, December 1889, LPS, type. ARGENTINA: Tucumán, Los Sosas, coll. & det. R. Singer, December 31, 1950, T 1083, LIL.

This species differs from *G. aculeatus* in the color of the warts of the spores and in the color of the scales of the pileus, also in the shape of the cheilocystidia and the habitat on dicotyledons. In order to make it possible to compare the characters of these important species, a full description of *G. aculeatus* is added:

Gymnopilus aculeatus (Bres. & Roumeguère) Sing. *Lilloa* 22:561. 1949. (1951).

Pholiota aculeata Bres. & Roumeguère, *Bol. Soc. Broter.* vol. 7; 1890.

Pileus with a ground color of "amber y.", "Narcissus", or "goldenrod" when quite young and fresh, later "Cadmium y."

or "Florida gold" (M. & P.), covered with pilose suberect to erect squamules or spines which continue at their base into fibrillose concolorous lines or connections giving the pileus often an appearance reminding one of the ornamentation of some *Russulaceae*-spores, the color of the ornamentation of the pileus being "Zanzibar" (M. & P.) or "oxblood red" to "madder brown" (Ridgway), the squamules acute and varying from scarce on the center and absent on the margin to dense everywhere except on the extreme margin where they are scarce and radially applanate, later the squamules and fibrillose lines emanating from them loosing their bright color and consequently in accordance with the number of squamules and the age and exposure of the caps fading to "ochraceous orange" (Ridgway) with paler margin and eventually light tan and often dusted with the rusty spores, eventually all the squamules appressed, with the surface campanulately convex, then convex-applanate and then applanate, often subumbonate or umbonate, dry, 22-60 mm broad.— Lamellae "ochraceous buff" (Ridgway) or "Feuille morte" (M.&P.), with yellow edge, later bright rusty, orange rusty, broadly adnate with decurrent tooth or sinuate-subdecurrent, broadest in the middle, moderately broad or almost narrow to rather broad, 3-6 mm broad, close or crowded, more rarely moderately close; spore print between pl. 4, 12-A and pl. 11, 12-A (M. & P.), i.e. bright rusty. —Stipe pale yellow to "ochraceous orange" (Ridgway), "apricot y." to "golden glow" (M. & P.), later deeper colored but never red, paler above and in young stems, becoming pale tan or dusted by the spores in age, frequently ribbed at the apex in continuation of the lamellae, striate or striped by innate fibrils below, besides often fibrillose-subpruinate at the apex (very finely so) and occasionally fibrous-subsquamose at the base, later becoming glabrescent, solid, eventually hollow, dry, equal or slightly tapering upward, straight or somewhat curved, 23-68 × 2-10 mm; veil thin-membranous-subcortinoid, yellowish white, forming an apical ascendant annulus which is constant and distinct although at times rather narrow or even entirely appressed in mature specimens and disappearing in old carpophores.— Context yellowish white in the pileus, whitish yellow in the stipe, more yellow in the cortical zones; odor farinaceous

but slight to very slight; taste submild with farinaceous aftertaste, very slightly to moderately bitter.

Spores 6,8-11 × 4,8-6,8 µ, rather variable in size and shape from collection to collection (from as short as 9 × 7 µ to as elongate as 11 × 6,8 µ, mostly around 8-9,5 µ or less when quite mature and more often relatively short than relatively long), with very distinct exosporial warts which are much richer colored than the episporium. Basidia 26-28 × 6,8-7,5 µ, 4-spored. Cheilocystidia 23-33 × 6-8,2 µ, ventricose below and capitate above (capitulum 3,7-5,4 µ broad) and strongly constricted between the two thickenings, hyaline, later often lemon yellow in NH_4OH mounts, extremely numerous in young cap, later often more scattered. Hyphae of the hymenophoral trama with soluble and non-soluble rich yellow pigment in NH_4OH, with clamp connections. Scales made up by hyphae which are parallel with each other in dense bunches, the terminal hyphal elements of these bunches sometimes somewhat individualized and even cystidiform, fusoid, clavate, etc., the other hyphal elements farther downward with rusty incrustations and with yellow and purprish pink pigment, the latter soon destroyed in NH_4OH.

Chemical characters: NH_4OH on the pileus immediately "olivaceous black" (Ridgway), or merely darkened. KOH on the pileus immediately "olivaceous black", on old material all surfaces blackish brown with KOH. $FeSO_4$ on the context of pileus slowly olivaceous yellow.

On living and dead trunks of palms and on rhizomes of orchids, probably generally saprophytically on monocotyledons and forming endotrophic mycorhiza with orchids, on living trunks often high up above the ground on dead parts of the outer core, fasciculate or gregarious, more rarely in small groups, rarely solitary, fruiting from May until October.

Material studied: NORTH AMERICA, U. S. A. Massachusetts, Greenhouses of the Biological Laboratory at Cambridge, on orchid (from Oaxaca, Mexico), Oct. 23, 1946, coll. R. Singer, FH (with color slide). Florida, Dade Co., Matheson Hammock, R. Singer, October 12, 1943, nº F. 1053, FH. Highlands Co., Highlands Hammock State Park, September 4, 1942, nº F. 545, FH. AFRICA, St. Thomé, coll. Newton, FH., type. Liberia, Ganta, coll. G. W. Harley, May 22, 1939, nº 128, det. Singer, FH.

Galerina helvoliceps (Berk. & Curt.) Sing. *Lilloa* 22:572. 1949 (1951).

Agaricus helvoliceps Berk. & Curt., *Journ. Linn. Soc.* 10:290. 1868.
Flammula helvoliceps (Berk. & Curt.) Sacc., *Syll.* 5: 813. 1887.
Pholiota pseudoblattaria Speg., *An. Mus. Nac. Bs. As.* 6:121. 1899.

This species was treated in *Type Studies on Agarics* I (*Lloydia* 5:133. 1942) but no conclusion was drawn from Berkeley's and Curtis's material. However, since then fresh material was collected and the type of Spegazzini, from the province of Buenos Aires, was studied. It can now be said with certainty that these types are conspecific and that they belong to *Galerina*. It seems that the spore print of several species of *Galerina* fades in the herbarium after several years and that the spores are dulled by a gill fragment and the browning of the herbarium paper used for the preparation which is "russet brown" (Ridgway) on the original spore print. A complete description of this species is given below:

Pileus yellowish to beautifully ochraceous or yellowish ocher brown, e. gr. "Yucatan" to "Old gold", the thinner caps always distinctly transparently striate and eventually usually becoming sulcate to about the middle of the radius, when dry smooth or sulcate and paler (e. gr. pl. 10, H-4), distinctly hygrophanous, usually opimous-subviscid when fresh and moist, entirely glabrous and naked, or in large caps occasionally with appressed floccons on the disc, semiglobose, then convex, eventually often depressed or at least flattened and the margin occasionally uplifted, without an umbo, or with a very obtuse obsolete umbo in old caps, 8,5-32 mm broad.— Lamellae brown, moderately broad to very broad, especially near the lamellae, in an average 1/4 to 1/6 of pileus-diameter broad, adnate to decurrent, occasionally separating from the apex of the stipe, sometimes slighty sinuate, the lamellulae sometimes narrower than the through-lamellae, occasionally forked but mostly simple, close to distant (usually moderately close to subdistant) ; spore print on annulus between "Kis kilim" and "Cocoa".— Stipe pale yellow in youth and at the apex, more brownish in age and at the base, sericeous or fibrillose and fibrillosely striate, with stuffed base but otherwise hollow (tubulose), equal or subequal, more rarely with slightly thickened base, 15-45 × 2-5 mm; veil distinct, always forming an apical annulus which is thin-membranous,

whitish, later pale brown, smooth, simple and distant, but often very fugacious or becoming fragmentary at maturity; basal mycelium white.— Context light yellow or brownish pallid in the pileus and brownish or brownish pallid in the stipe, usually rather thin, more rarely somewhat thick, soft; odor farinaceous but very slight, more rarely odorless; taste mild, farinaceous.

Spores 8,5-15 × 4,8-7,5 µ, most frequently 8,7-11 µ long and 5,5-7 µ broad in four-spored material, more elongate and rarely reaching 16,6 × 8 µ in material with predominantly less than four sterigmata, rusty colored and rather well pigmented, usually with a distinct perisporium, with a warty exosporium which is composed of thick, conspicuous warty ornaments deeper colored than the frequently very thick episporium, and with pallid endosporium, versiform, mostly almond shaped, sometimes strangely oblong- fusoid, etc., with smooth suprahilar spot (plage), in some specimens many aborted or double spores present, sometimes V-shaped, etc. Basidia in some forms predominantly or exclusively 2-spored, in others 4-spored, with some 1- or 3-spored basidia often intermixed, the mixed forms being the commonest, 26-34 × 6-8,3 µ. Cheilocystidia not differentiated from the pleurocystidia, the latter with thin to rather thin wall, most frequently ampullaceous with 0,5 µ thick wall but characteristically variable in shape, often with one or two constrictions, often capitate at the apex, sometimes bifurcate or even septate, usually broadly rounded at the apex, but occasionally acute, 45-65 × 7-20 µ, usually the ventricose portion thicker than the capitulum (if the latter is present), but occasionally thickest at the apex, rather numerous and very conspicuous, hyaline to stramineous, naked or rarely somewhat incrusted. Hyphae of the regular hymenophoral trama hyaline or partly colored, sometimes with a lemon yellow soluble pigment, rather broad. Hyphae of the hypodermium golden melleous and many of them incrusted by yellow pigment; epicutis consisting of hyphae which are narrower than those of the hypodermium and radiately arranged. All hyphae with clamp connections.

On very rotten wood and woody humus, often among mosses (once on *Liquidambar*, once on *Alnus*, once on wooden frames in greenhouse), solitary or more often densely gregarious, fruiting practically the whole year.

Material studied: NORTH AMERICA, USA: Florida Alachua Co., Newnan's Lake, R. Singer, July 31, 1947, nº F. 3435, FH. CUBA: Wright, nº 90 and nº 93, FH, type and paratype. ARGENTINA: Prov. Tucumán, Estancia Las Pavas, coll. Say, det. Singer, nº T. 572, June 19, 1949, LIL. Prov. Buenos Aires, La Plata, August 1888, coll. C. Spegazzini, herb. nº 18266, LPS, type of *Pholiota pseudoblattaria* Speg. EUROPE, USSR, Leningrad Region, greenhouses of the Botanical Garden of the Academy of Sciences, Leningrad, on wooden frames and on rootlets of *Arundinaria khassica*, nº 4-362, June 1937 and January 1939, coll. and det. (as *Galerina Tranzschelii* Sing. ad int. in herb.), Singer, LE.

Galerina microcephala (Speg.) Sing. comb. nov.

Inocybe microcephala Speg., *An. Mus. Nac. Bs. As.* 6:127. 1899.

The type from La Plata was rediscovered in the Park of Santa Catalina near Buenos Aires by the author in company of Dr. Argentino Martinez, Ing. J. C. Lindquist and Ing. Sarasola. Since the most striking feature of the type, viz. the glaucous veil, has been overlooked by the original author of the species, our Santa Catalina collections were considered a new species until type studies showed their identity with Spegazzini's species. A redescription of the species is given below:

Pileus deep chestnut brown, hygrophanous, much paler brownish when dry, glabrous, naked and smooth, but transparently striate over one third of the radius of the pileus from the margin inwards when adult and wet, eventually sometimes minutely splitting from the margin, not even innately fibrillose, campanulate, umbonate, later expanding to subapplanate with declivous margin and moderately acute but very distinct papilla, 10-19 mm broad.— Lamellae light brownish (in the color of those of *Alnicola melinoides*), adnate with decurrent tooth, more rarely slightly sinuate, medium broad (about 2 mm broad), subclose to more often subdistant, forked or simple, at times somewhat thicker than usual in this genus, often separating from the apex of the stipe; spore print in thick layer not obtained.— Stipe ocher brown to chestnut brown, subconcolorous with the pileus or somewhat paler, with paler apex, equal with more or less subbulbous base, stuffed, eventually hollow, appressedly fibrillose, 30-40 × 1,5-5 mm; veil cortinoid, glaucous

("mermaid" M. & P.), at first covering the hymenophore but not leaving an annulus, rather dense and conspicuous, especially because of its color which fades soon; basal tomentum white.— Context fleshy in the middle of the pileus, pallid fulvous brownish, deeper colored in the lower part of the stipe; odor none; taste unknown.

Spores 8-9,8 × 5,5-7,3 µ, warty-rough because of a deep rusty exosporium, otherwise melleous, some with a hyaline perisporium, with plage, rather thick-walled, ellipsoid, with callus. Basidia 26-32 × 6-7,5 µ, 2-spored, some 1- and 3-spored ones intermixed. Cystidia present on the sides and the edges, 29,5-50 × 5,3-13,7 µ, more or less ventricose in the middle and capitate above (capitulum about as thick as the ventricose portion, or sometimes thicker: 5,7-13 µ thick), hyaline above with the lowest third usually pale brownish, moderately numerous. Hymenophoral trama, cuticle and trama of stipe with rusty pigment incrustations, with clamp connections. Epicutis consisting of parallel to subparallel repent hyphae with slight pigment incrustations, forming a cutis.

On earth and various débris and also on rotten wood around tree trunks (mostly *Ulmus* and *Salix*) in shady places of parks, characteristically fasciculate, in clusters of 3-20, Argentina, prov. of Buenos Aires.

Material studied: La Plata, around *Salix*, September 1888, coll, C. Spegazzini, LPS, type. Santa Catalina, around *Ulmus*, June 7, 1949, coll. Singer, Martinez, Lindquist and Sarasola, nº M. 94, LIL. On rotten *Ulmus* wood, June 7, 1949, nº M. 103, LIL.

CREPIDOTACEAE

Tubaria fimiseda Speg., *An. Mus. Nac. Bs. As.* 6:137, 1899.

The type exists but consists of no more than a stipe. Consequently, no data on the spores could be obtained, nor could the structure of the epicutis be ascertained. The stipe shows clusters of globose cells. This is probably some species of *Psathyrella* rather than a *Tubaria*.

Tubaria cisneroana Speg. *l.c.*

The type, collected by A. J. Cisneros at Mocoretá on a

straw roof, is strongly pressed and in poor condition. The spores are rusty melleous in KOH, and melleous in NH_4OH, just like those of *Agrocybe fimicola* (Speg.) Sing., 13-15,8 × 8,2-10,5 µ, with germ pore and more or less truncate. Other details of the anatomy of this specimen could not be obtained. I feel certain that this is but another synonym of the common *Agrocybe fimicola* (Speg.) Sing. (*Naucoria fimicola* Speg., see *Type Studies on Basidomycetes* IV).

Tubaria platensis *l.c.*, p. 138.

The type of this species, collected by Spegazzini at La Plata, is in rather poor condition. The spores are 12-12,8 × 6,8-7,3 µ, rusty melleous, with broad germ pore; cystidia were not observed. The cheilocystidia could not be located.

It is impossible to say more about this species than that it is a species of the *Bolbitiaceae*. It is not a *Tubaria* in the modern sense.

Tubaria privigna (Speg.) Sacc., *Syll.* 9:114. 1891.

Agaricus privignus Speg., *Bol. Acad. Nac. Cienc. Córdoba* 11: 148. 1887.

Both specimens, among them the type, have remarkably pale spores with not clearly truncate but mostly very distinct germ pore; they are smooth 9,6-13,7 × 6,2-9,6 µ, mostly 11,5-12,3 × 6,5-8 µ, with distinctly three walls. The cystidia are very characteristic, almost evenly thick-walled in the upper portion with a resinous melleous incrustation, without refringent body inside, ampullaceous with thin upper portion, rarely shorter and ventricose, 41-69 × 13-17,8 µ, more numerous at the edges where thinwalled cystidia also occur. The structure of the epicutis is difficult to ascertain. since the outer portion of the cuticle is strongly perpetrated by mould hyphae and beset with mould conidia, but it seems to be of the cutis-type, i.e. composed of repent hyphae which are filamentous.

The position of this species is a puzzle. The combination of spores with germ pore and pale melleous color on one hand, and metuloids (no chrysocystidia!) on the other is rather unusual. It is barely possible that this is the type of a new genus from the frigid zone of South America, yet the erection of a genus for *Tubaria privigna* has to wait until good material is available. The author was unable to gather fresh material in the "turberas" of Tierra del Fuego. The fungus makes the impression as if it belonged in the family *Strophariaceae*. In the turberas of Tierra del Fuego, one collects *Naematoloma elongatipes* and N. *myosotis* var. *lapponicum* but in these species the chrysocystidia remain perfectly demonstrable in dried material and thick-walled cystidia are never present.

RHODOPHYLLACEAE

Clitopilus septicoides (Henn.) Sing. *Lilloa* 22:606. 1949 (1951).

Pleurotus septicoides Henn., Hedwigia 43:184. 1904.
Octojuga pleurotelloides Kühner, *Le Botaniste* 17:158. 1926.
Clitopilus pleurotelloides (Kühner) Josserand, *Bull. Soc. Linn. Lyon* 10:14 (reprint pagination). 1941.
Clitopilus fayodi Konr. & Maubl., *Icon. Sel. Fung.* 6:234. 1924-36.
Pleurotus pusillus Speg., *An. Mus. Nac. Bs. As.* 19:262. 1909.
Geopetalum viticola Murr. *Bull. Torr. Bot. Cl.* 67:2. 1940.
Pleurotus viticola (Murr.) Coker, *Journ. Elisha Mitchel Sci. Soc.* 60: 92. 1944.
Pleurotus romellianus Pilát, *Atlas des Champ. de l'Europe* 2:51. 1935.
Marasmiellus violae Murr. ined. in herb. (FLAS).

As can be seen from the synonymy, the oldest specific epithet is that used by Hennings. The types of all the species indicated have been seen, including that of *Pleurotus pusillus* Speg. The microscopical notes drawn from Spegazzini's type are completely identical with the description given by me in *Farlowia* 2:558. 1946.

Clitopilus argentinus Sing., *Lilloa* 22:607. 1949 (1951), sine diagn. lat., nom. nov.

Pleurotus pusillimus Speg., *An. Mus. Nac. Bs. As.* 6:108. 1899, non *Clitopilus pusillimus* (Speg.) Sing.

The type was collected in the province of Buenos Aires, and turned out to be in good condition. Since I have also collected fresh material of this species, I am in a position to furnish a revised description of it:

Pileus whitish to whitish grey or pale grey, greyer in age, pubescent to subtomentose, especially behind, smooth or finely

sulcate toward the margin, convex then applanate, spathulate or reniform-sessile and the rear portion usually ascendant, 2-8 mm in diameter.— Lamellae concolorous with the pileus, eventually sometimes sordid from the spores, moderately broad, subventricose, rather close to distant, attenuate toward a lateral base; spore print sordid pink.— Stipe none.— Context white or whitish, inodorous.

Spores 5-7,5 × 3,5-5,2 µ, strongly ridged-angular longitudinally as in *C. orcelloides* Pat. & Demange, 6-, 7-, or mostly 8-angular when seen with the longitudinal axis of the spore pointing toward the objective, stramineous, non-amyloid, with thin wall. Basidia 16-23 × 6,2-7 µ, 4-spored, or mixed 4-spored and 2-spored. Cystidia none. Subhymenium subcellular but somewhat irregular. Hyphae of the cuticle of the pileus hyaline but strongly incrusted by a very striking hyaline incrustation which makes the surface of the walls coarsely verrucose, the incrustations of the walls scarcely dissolving in NH_4OH, but rather rapidly dissolving in concentrated H_2SO_4. All hyphae without clamp connections.

On wood and bark of dead trees (e. gr. *Podocarpus parlatorei, Polylepis australis*) and on mosses and hepatics, solitary or more often gregarious; fruiting in summer (January until March).

Material studied: ARGENTINA: Prov. Tucumán, Cerro Alto de Taficillo, R. Singer, January 6, 1950, nº T. 822, LIL. Cerro Muñoz, January 13, 1950, nº T. 861, LIL. Prov. of Buenos Aires, near La Plata, C. Spegazzini, March 1888, LPS, type.

This species differs from *C. septicoides* (Henn.) Sing. in having a very distinct warty incrustation on the hyphal walls of the epicutis. It seems to be quite frequent in the montane and subalpine region of the Aconquija Range. Since the combination *Clitopilus pusillimus* is preoccupied, a new name had to be proposed.

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