Notes on Taxonomy and Biogeography of *Rozites* KARSTEN

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Summary. — Two new species of *Rozites* KARSTEN (1879; cp. HORAK, 1968) are reported (*R. similis* from Papua New Guinea, and *R. neocaledonica* from New Caledonia). All 14 taxa now referred to *Rozites* are keyed out and their respective spores are illustrated. The biogeography of *Rozites* is discussed and the area of distribution of the species in mapped.

Introduction

The original circumscription of *Rozites* KARSTEN (1879) is exclusively based upon *Rozites caperata* (FR.) KARSTEN which is restricted to the temperate regions of Eurasia and North America. Subsequently the genus remained monotypic until CLELAND & CHEEL (1918) described a second species allotted to *Rozites* (*R. australiensis*; see below).

After a revision of several taxa described under *Rozites* MOSER (1953) introduced 2 further species in this genus, that is 4 species have been recognized. Upon critical re-examination one of those taxa had to be transferred to *Descolea* [*D. flavoannulata* (VASILIEVA) HORAK, 1971]. In addition the macroscopic and microscopic data reported and found on *R. australiensis* CLELAND & CHEEL (1918) indicate that this agaric rather belongs to *Cortinarius* (*Phlegmacium*) than to *Rozites*. Finally SINGER (1975) recognized only *Rozites caperata* (Fr.) and *R. emodensis* (Berk.) and the results of the present study fully support SINGER's opinion.

Recently several contributions on *Rozites* in *Nothofagus* forests of the southern hemisphere have been published. To present knowledge 5 taxa occur in southern South America (MOSER & HORAK, 1975; HORAK, 1979) and 5 species are recorded from New Zealand (HORAK & TAYLOR, 1981).

The present pattern of distribution (Fig. 6) supports the hypothesis that *Rozites* apparently evolved on the southern hemisphere (Argentina—Chile: 5 spp., New Zealand: 5 spp., New Caledonia 1 sp., New Guinea 1 sp.). The two taxa so far recorded from the northern hemisphere (*R. caperata*, *R. emodensis*) — or their ancestors — seem to have migrated from the Gondwanian territories to the North via the Indomalayan archipelago. In this connection *R. similis* (the name

emphasises its relationship to *R. caperata*) probably plays a key role in the relationships between the northern and southern taxa. In New Guinea *R. similis* enters obviously ectotrophic mycorrhiza with *Castanopsis* and *Lithocarpus* (both belonging to the Fagaceae). Since the two host trees (of northern origin) reach their southern limit in New Guinea the occurrence of *R. similis* can safely be predicted elsewhere in the Indomalayan region and in the Far East where *Castanopsis* and *Lithocarpus* locally predominate in deciduous forests. In New Guinean *Nothofagus* forests no species of *Rozites* has been recorded yet but *R. neocaledonica* gathered under *Nothofagus* on neighbouring New Caledonia is clearly a close relative of *R. similis*. Further fieldwork will demonstrate whether or not *R. neocaledonica* is also present in the *Nothofagus* woods of New Guinea which — needless to say — here and there are in direct contact with oak forests supporting *R. similis*.

Type material of the new species is kept in ZT. If not otherwise stated the magnifications of the figures are: carpophores (nat. size), spores (×2000), and basidia (×1000).

Key to Species of *Rozites* KARSTEN

1. Carpophores (pileus, young lamellae, context of stipe and/or veil remnants) with lilac to blue colours, at least in young specimens 2

1*. Carpophores without conspicuous lilac or blue colours (cp. *R. caperata* with pale lilac veil remnants) 8

2. Pileus dry, wrinkled in aged specimens (cp. also *R. caperata*, *R. rugosiceps*); stipe cylindric-equal to subbulbous 3

2*. Pileus glutinous or viscid 4

3. Pileus —65 mm, ochre-brown to orange-brown, with scattered concolorous or ochre squamules or patches from universal veil; lamellae pale blue turning rust brown; stipe —110× —12 mm, pale blue (at least at apex), whitish to ochre-brown in mature specimens; anulus white to pale ochre, membranous, substriate; several incomplete, submembranous zones of universal veil towards base; context distinctly blue to lilac in apex of stipe; spores 11—14.5×7—8 µm. On soil under *Nothofagus* spp. New Caledonia ..... 4. *R. neocaledonica*

3*. Pileus —80 mm, ochre-brown with distinct red-brown tinge over disc, densely covered with whitish, small squamules from universal veil; lamellae pale argillaceous (sometimes with pale lilac tinge in young specimens) becoming pale rust brown; stipe —110×—15 mm, white; anulus white, striate; several incomplete submembranous zones or belts from universal veil towards base; context pale lilac in apex of stipe; spores 11—

13×7—8 µm. On soil under *Castanopsis* spp. and *Lithocarpus* spp. Papua New Guinea ..... 3. *R. similis*

4. Stipe —150×—20 (—45) mm, often robust, with rooting base, rarely clyindric, whitish ochre below blue apex; anulus membranous striate, white; towards base with several, incomplete, submembranous, white to ochraceous belts from universal veil; pileus —120 mm, red brown or liver brown, margin with ochraceous remnants of veil; lamellae blue turning rust brown; context lilac to pale blue; spores 11—13×5—7 µm. On soil under *Nothofagus* spp. Chile, Argentina .. 10. *R. collariata*

4*. Stipe cylindric to subbulbous, base not rooting 5

5. Young lamellae argillaceous 6

5*. Young lamellae lilac to blue 7

6. Pileus —80 mm, argillaceous to ochre, disc often reddish, fibrillose or appendiculate, lilac veil remnants towards or on margin; stipe —110×—12 (—25, at base) mm, lilac to pale blue changing to whitish with age; anulus fibrillose to membranous, lilac, persistent, towards base with 1 to 3 incomplete, lilac belts of universal veil; odour none; spores 10—12.5×6—7 µm. On soil under *Nothofagus* spp. Chile, Argentina... ..... 11. *R. ochraceoazurea*

6*. Pileus —100 mm, lilac to purple changing to hazel brown or brown, margin appendiculate from whitish to pale lilac veil remnants; stipe —100×—20 mm, white to pale brown; anulus white to pale lilac, membranous, not striate, subpersistent, towards base with several incomplete, concolorous, appressed or submembranous belts from universal veil; odour strong, ranging from sweet to unpleasant (like coal gas); spores 9—11×5—5.5 µm; in subhymenium with conspicuous, yellow-brown (KOH) oleiferous hyphae. On soil under *Nothofagus* spp. Chile, Argentina ..... 12. *R. violacea*

7. Pileus —85 mm, grey to pale grey-brown with lilac tint, densely covered with white to pale yellow-brown, coarse, fibrillose squamules from universal veil; stipe —120×—20 mm, apex lilac, pale brown towards base; anulus pale ochre, striate, membranous, persistent; towards base with numerous, ochre, fibrillose or recurved scales from universal veil; context lilac in upper portion of stipe; spores 10—12.5×7.5—9.5 µm. On soil under *Nothofagus* spp. New Zealand ..... 5. *R. meleagris*

7*. Pileus —90 mm, brown, with white, floccose veil remnants; stipe —190×—30 mm, pale brown; anulus whitish, membranous, substriate, persistent; spores 13—16×8—9.5 µm. On soil under *Abies webbiana*. India (Sikkim)... 2. *R. emodensis*

8 (2*). Stipe —150×—14 mm, fusoid with rooting base, white changing to pale yellow-brown; anulus white, evanescent;

towards base with inconspicuous, white, fibrillose zones from universal veil; spores 11—15×6—7.5 µm. On soil under *Nothofagus* spp. New Zealand ..... 6. *R. fusipes*

8*. Stipe cylindric, base equal, bulbous or submarginate 9

9. Pileus —90 mm, centre conspicuously wrinkled or veined, yellow-brown to red-brown; stipe —80×—16 mm, whitish turning pale brown; anulus whitish, striate, membranous, persistent; towards base with whitish to reddish brown fibrils or scales from universal veil; spores 11—15×7—8 µm, strongly warted and warts often confluent to short crests. On soil under *Nothofagus* spp. New Zealand ..... 7. *R. rugosiceps*

9*. Pileus not conspicuously wrinkled (except *R. caperata*), spores covered by small to minute, isolated warts 10

10. Pileus —55 mm, whitish, grey or pale argillaceous, margin translucently striate, white squamules of universal veil "swimming" in gluten; stipe —80×—15 mm, white; anulus white, membranous, striate, persistent; towards base with several, inconspicuous, white zones of universal veil; spores 9.5—12×6—7.5 µm. On soil under *Nothofagus* spp. New Zealand ..... 8. *R. pallida*

10*. Pileus yellowish, yellow-brown, orange, or date brown, margin not (or indistinctly only) striate 11

11. Pileus argillaceous, yellowish or pale ochre-brown; cuticle viscid 12

11*. Pileus rich orange-brown, date brown or fuscous, often with red-brown tinge; cuticle glutinous 13

12. Pileus —60 mm, scattered white veil remnants on striate margin; stipe —65×—16 mm, white; anulus white, membranous, striate, subpersistent; towards base with few, white, incomplete zones of universal veil; spores 11—14×6.5—8 µm. On soil under *Nothofagus* spp. Argentina, Chile..13. *R. sarmienti*

12*. Pileus —120 mm, centre and/or margin hoary from lilac veil remnants, margin often wrinkled; stipe —120×—25 mm, pale ochraceous; anulus whitish, submembranous, smooth or substriate, often dehiscent; towards base with fugaceous, fibrillose, lilac to whitish veil remnants; spores 10—13×6.5—8 µm. On acid soil in coniferous and deciduous forests. Temperate regions of northern hemisphere ..... 1. *R. caperata*

13. Pileus —45 mm, conspicuous universal veil remnants absent; stipe —60×—8 mm, yellowish; anulus yellowish to ochre, striate, membranous, persistent; stipe —60×—8 mm, yellow; anulus yellow, membranous, striate, persistent; towards base with several, yellow-brown, fibrillose to submembranaceous squamules or belts from universal veil; spores 9.5—12.5×

5.5—7 µm. On soil under *Nothofagus* spp. Argentina ..... 14. *R. gamundiae*

13*. Pileus —60 mm often covered with conspicuous, whitish to reddish brown lumps of veil; stipe —80×—15 mm, pale ochre-brown; anulus membranous, pale ochre-brown, striate, persistent; spores 9—12×5—7 µm. On soil under *Nothofagus* spp. New Zealand ..... 9. *R. castanella*

Descriptions and Annotations to Species

1. *Rozites caperata* (Fries) Karsten 1879 — Fig. 1, 1

Bidr. Känn. Finl. Nat. Folk 32: 290.

Bas. *Agaricus caperatus* Fries 1821: Syst. Myc. 1: 241.
Syn. Cp. Moser (1953: 167).

Illustrations. — Horak (1968).

Habitat and distribution. — On acid soil in coniferous (*Picea*) and deciduous (*Fagus, Quercus*) forests, often associated with *Vaccinium* spp. — Temperate region of northern hemisphere.

2. *Rozites emodensis* (Berkeley) Moser 1963 — Fig. 2

Schw. Zeitschr. Pilzkunde 31: 169.

Bas. *Cortinarius* (*Myxacium*) *emodensis* Berkeley 1852: Hook. J. Bot. 4: 132.

Illustrations. — Moser (1953: 171).

Habitat and distribution. — On soil under *Abies webbiana* (about 10.000 feet a. s. l.). — Sikkim.

Material. — India: Sikkim, Lachen, 31. V. 1849, leg. Hooker (K, holotype).

3. *Rozites similis* Horak sp. n. — Fig. 3

Pileus —80 mm, ex convexo umbonatus, ochraceo-brunneus castaneo tinctu, siccus vel subviscidus, marginem versus subrugosus, squamis albis minutisque e velo dense obtectus. Lamellae sublilacinae dein argillaceae, ex adnato emarginatae, crenulatae. Stipes —110×—15 mm, cylindricus vel subclavatus, albus, anulus albus, striatus, membranaceus, persistens, basim versus zonis albis cingulatus. Caro lilacina. Sporae 11—13×7—y µm, amygdaliformes, verrucosae. Septa fibulata. Ad terram in silvis fagineis. Nova Guinea. Typus, ZT, 72/645.

Pileus —80 mm, hemispheric to convex when young, margin strongly incurved, becoming umbonate-expanded; orange-brown with distinct red-brown tinge (especially over disc), towards margin yellow-brown in aged specimens; subviscid when moist, soon dry, margin occasionally striate but always wrinkled; all over covered with small, fibrillose, white or grey squamules of the universal veil, margin sometimes appendiculate with lumps of veil. Lamellae 26—36, —7, crowded, adnate to emarginate; very pale lilac in young and fresh

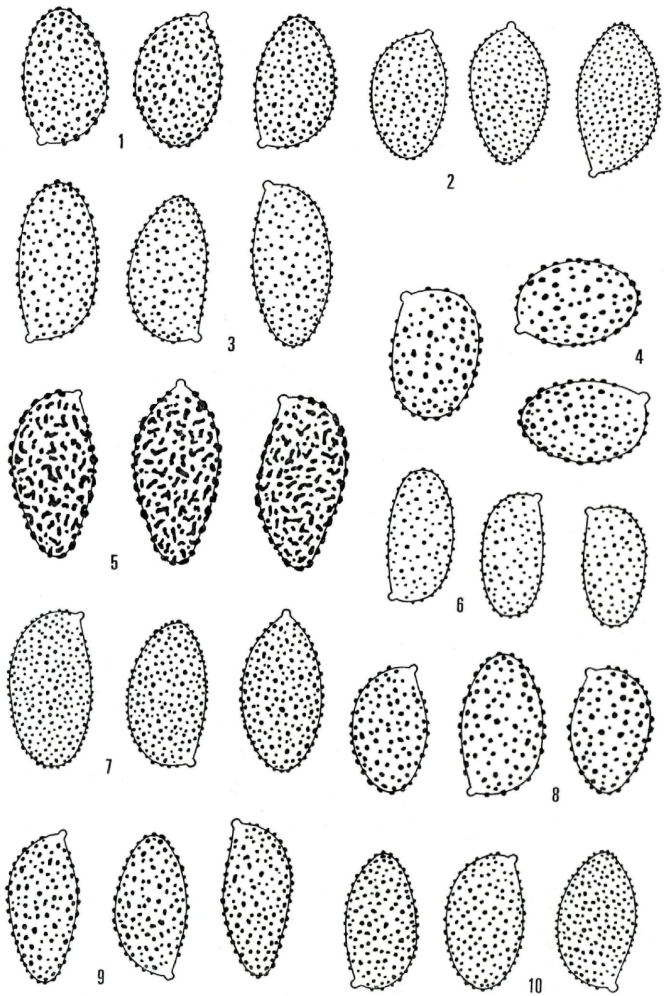

Fig. 1. Spores: 1. *Rozites caperata* (Fr.) Karsten (ZT, 79/349). — 2. *Rozites ochraceoazurea* (Horak) Horak (type). — 3. *Rozites fusipes* Horak & Taylor (type). — 4. *Rozites meleagris* Horak & Taylor (type). — 5. *Rozites rugosiceps* Horak & Taylor (type). — 6. *Rozites castanella* Horak & Taylor (type). — 7. *Rozites sarmienti* (Spegazzini) Horak (type). — 8. *Rozites pallida* Horak & Taylor (type). — 9. *Rozites collariata* (Horak & Moser) Horak (type). — 10. *Rozites gamundiae* Horak (type)

specimens, soon turning argillaceous to pale ferrugineous, edge paler, crenulate. Stipe —110×—15 mm, cylindric, base swollen or bulbous; pale lilac at apex turning white; strongly fibrillose, dry, solid, single, in groups; anulus white, striate, submembranous often dehiscent or incomplete, towards base with several, white, incomplete zones or squamules of universal veil. Odour and taste not distinctive.

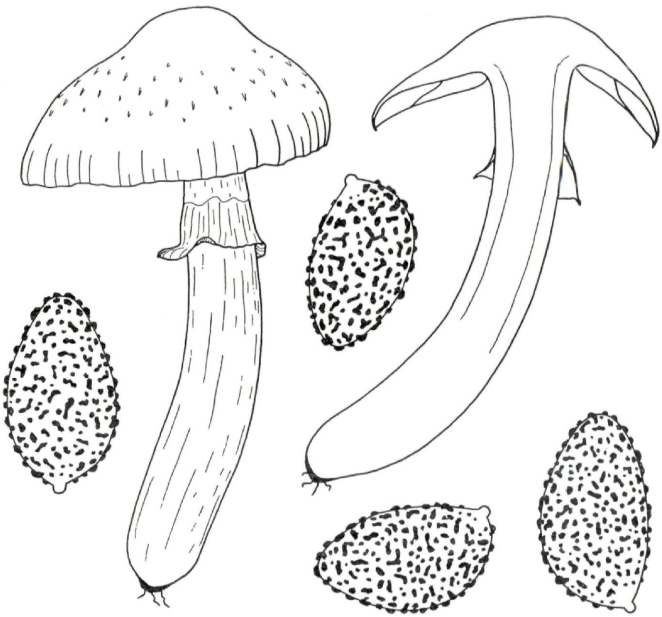

Fig. 2. *Rozites emodensis* (BERKELEY) MOSER (type): carpophores (½ nat. size), spores

Context orange beneath cuticle of pileus, lilac in apex of stipe, ochraceous in base of stipe. Chemical reactions on pileus: KOH, HCl and NH_3 — negative.

Spores 11—13×7—8 µm, amygdaliform to pip-shaped, rust brown, verrucose, plage and perispore absent. Basidia 35—45× 9—12 µm, 4-spored. Cheilo- and pleurocystidia absent. Cuticle a cutis of repent, cylindric hyphae (3—8 µm diam.), subcutis composed of ovoid to globose cells, strongly encrusted by brown (KOH) pigment. Clamp connections present.

Habitat and distribution. — On soil in forests dominated by *Castanopsis* spp. and *Lithocarpus* spp., 1000—1400 m a. s. l. — Papua New Guinea.

Material. — Papua New Guinea: Morobe district: Bulolo, Manki, 20. XI. 1972, leg. HORAK (ZT, 72/645, holotype). — Bulolo, Heads Hump, 4. XI. 1971, leg. HORAK (ZT, 71/252).

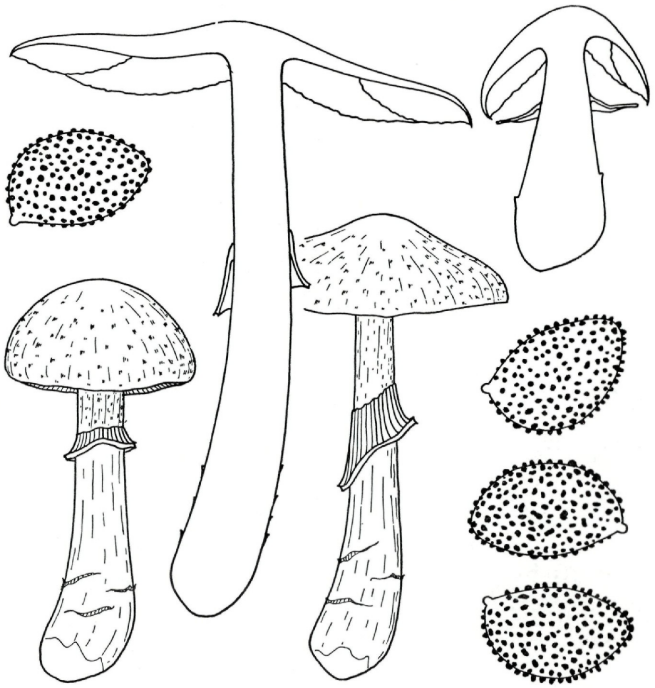

Fig. 3. *Rozites similis* HORAK (type): carpophores, spores

4. *Rozites neocaledonica* HORAK sp. n. — Fig. 4

Pileus —65 mm, e convexo umbonatus, laete ochraceus, siccus, marginem versus subrugosus, interdum squamis subochraceis e velo obtectus. Lamellae lilacinae dein argillaceo-ferrugineae, ex adnato-emarginatae, crenulatae. Stipes —110 × —12 mm, cylindricus, aequalis, primo lilacinus dein ochraceo-brunneus, anulus albus vel pallide ochraceus, striatus, membranaceus, persistens, basim versus zonis ochraceo-albis nonnullis cingulatus. Caro lilacina. Sporae 11—

14,5 × 7—8 µm, amygdaliformes, verrucosae. Ad terram in silvis nothofagineis. Nova Caledonia. Typus, ZT, 77/34.

Pileus —65 mm, hemispheric or convex with incurved margin when young becoming umbonate-expanded, occasionally margin upturned; ochre to ochre-brown, red-brown tints absent; dry, margin wrinkled; surface covered with silvery or pale ochraceous squamules or lumps from universal veil, remnants fugaceous hence absent in

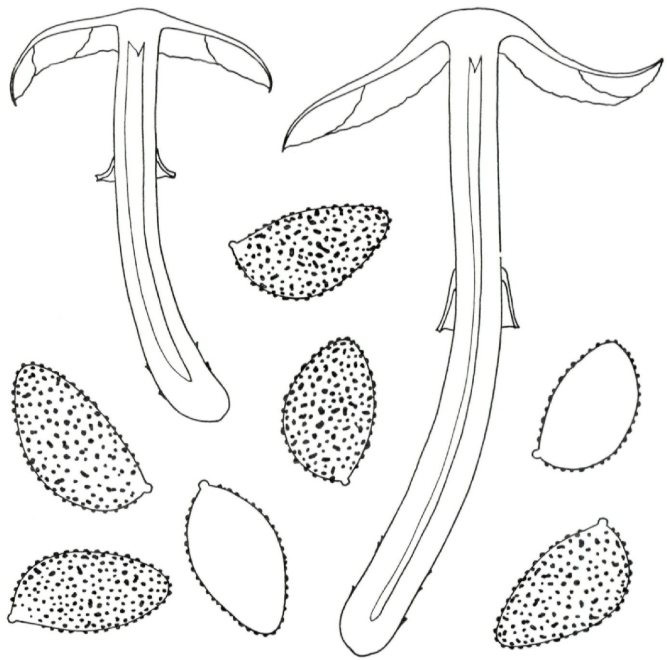

Fig. 4. *Rozites neocaledonica* HORAK (type): carpophores, spores

aged carpophores. Lamellae crowded, adnate to emarginate; at first lilac to pale blue turning argillaceous or ferrugineous; edge paler, crenulate; up to 5 mm wide. Stipe —110 × —12 mm, cylindric, equal; pale blue or lilac all over when young changing to pale brown or pale ochre-brown (especially towards base); dry, coarsely fibrillose, solid becoming fistulose with age; anulus white or pale ochraceous, membranous, striate, persistent; towards base with several, incon-

spicuous, white to ochre, incomplete zones or belts of universal veil; single, in groups. Odour and taste not distinctive. Context white in pileus, lilac in upper portion of stipe, pale orange in base of stipe. Chemical reactions on pileus: KOH — brown.

Spores 11—14.5×7—8 µm, amygdaliform (to elliptic), rust brown, verrucose, plage and perispore absent. Basidia 25—35× 10—12 µm, 4-spored. Cheilocystidia 20—65×4—10 µm, fusoid with tapering neck, membrane hyaline, pigment absent, often scattered on edge. Pleurocystidia none. Cuticle a cutis of repent cylindric hyphae (2—8 µm diam.), subcutis of ovoid cells, strongly encrusted with red-brown (KOH) pigment. Septa with clamp connections.

Habitat and distribution. — On soil among litter in forests dominated by *Nothofagus* spp., 1000—1200 m a. s. l. — New Caledonia.

Material. — New Caledonia: Paita, Mt. Mou, 22. II. 1977, leg. Horak (ZT, 77/34, holotype). — Same locality, 20. II. 1977, leg. Horak (ZT, 77/10).

5. *Rozites meleagris* Horak & Taylor 1981 — Fig. 1, 4

New Zealand J. Botany (in press).

Illustrations. — Horak & Taylor (1981: l. c.).

Habitat and distribution. — On soil under *Nothofagus* spp. — New Zealand.

Material. — New Zealand: Canterbury, E of Lewis Pass, 23. III. 1968, leg. Horak (PDD, 27164, holotype). — For further collections studied cp. Horak & Taylor (1981).

6. *Rozites fusipes* Horak & Taylor 1981 — Fig. 1, 3

New Zealand J. Botany (in press).

Illustrations. — Horak & Taylor (1981: l. c.).

Habitat and distribution. — On soil under *Nothofagus* spp. — New Zealand.

Material. — New Zealand: Nelson, Lake Rotoiti, Mt. Robert, 2. V. 1968, leg. Horak (PDD, 27162, holotype). — For further collections examined cp. Horak & Taylor (1981).

7. *Rozites rugosiceps* Horak & Taylor 1981 — Fig. 1, 5

New Zealand J. Botany (in press)

Illustrations. — Horak & Taylor (1981: l. c.).

Habitat and distribution. — On soil under *Nothofagus* spp. — New Zealand.

Material. — New Zealand: Otago, Haast Pass, Makarora, 16. IV. 1965, leg. Taylor (Herb. Taylor, 240, holotype). — For further collections examined cp. Horak & Taylor (1981).

8. *Rozites pallida* HORAK & TAYLOR 1981 — Fig. 1, 8

New Zealand J. Botany (in press)

Illustrations. — HORAK & TAYLOR (1981: l. c.).

Habitat and distribution. — On soil under *Nothofagus* spp. — New Zealand.

Material. — New Zealand: Nelson, Lake Rotoiti, St. Arnaud Range, 23. V. 1968, leg. HORAK (PDD, 27163, holotype). — For further collections examined cp. HORAK & TAYLOR (1981).

9. *Rozites castanella* HORAK & TAYLOR 1981 — Fig. 1, 6

New Zealand J. Botany (in press).

Illustrations. — HORAK & TAYLOR (in press).

Habitat and distribution. — On soil under *Nothofagus* spp. — New Zealand.

Material. — New Zealand: Gisborne, Urewera N. P., Ngamoko, 27. VI. 1968, leg. HORAK (PDD, 27161, holotype). — For further collections examined cp. HORAK & TAYLOR (1981).

10. *Rozites collariata* (HORAK & MOSER) HORAK 1979 — Fig. 1, 9

Fl. Criptogamica Tierra del Fuego 11: 345.

Bas. *Cortinarius collariatus* HORAK & MOSER ap. MOSER & HORAK 1975: Nova Hedwigia, Beih. 52: 234.

Illustrations. — MOSER & HORAK (1975: l. c.); HORAK (1979: l. c.).

Habitat and distribution. — On soil under *Nothofagus* spp. — Argentina, Chile.

Material. — Argentina: Neuquen: Pto. Manzano, Lago Nahuel Huapi, 19. III. 1963, leg. MOSER (IB, 63/88, holotype). — Chubut: P. N. Los Alerces, Lago Verde, 29. III. 1980, leg. HORAK (ZT, 339). — For further collections examined cp. HORAK (1979: 345).

11. *Rozites ochraceoazurea* (HORAK) HORAK 1979 — Fig. 1, 2

Fl. Criptogamica Tierra del Fuego 11: 348.

Bas. *Thaxterogaster ochraceoazureus* HORAK ap. HORAK & MOSER 1965: Nova Hedwigia 10: 237.

Syn. *Cortinarius ochroianthinus* HORAK & MOSER ap. MOSER & HORAK 1975: Nova Hedwigia, Beih. 52: 274.

Cortinarius gliocyclus HORAK ap. MOSER & HORAK 1975: Nova Hedwigia, Beih. 52: 275.

Illustrations. — HORAK & MOSER (1965: l. c.); MOSER & HORAK (1975: l. c.); HORAK (1979: l. c.).

Habitat and distribution. — On soil under *Nothofagus* spp. — Argentina, Chile.

Material. — Argentina: Tierra del Fuego: Ushuaia, Valle Glaciar Martial, 2. III. 1963, leg. HORAK (ZT, 64/22, holotype). — Chubut: P. N. Los Alerces, Lago Verde, 29. III. 1980, leg. HORAK (ZT, 336). — For further collections examined cp. HORAK (1979: 348).

12. *Rozites violacea* HORAK ap. MOSER & HORAK 1975 — Fig. 5

Nova Hedwigia, Beih. 52: 516.

Syn. *Rozites purpurea* MOSER ap. MOSER & HORAK 1975, Nova Hedwigia, Beih. 52: 514.

Illustrations. — MOSER & HORAK (1975: l. c.).

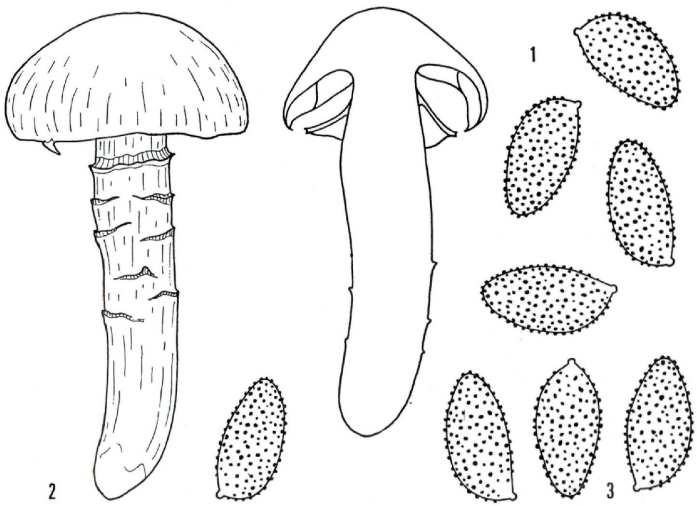

Fig. 5. *Rozites violacea* ap. MOSER & HORAK: 1. carpophore, spores (type). — 2. carpophore (ZT, 412). — 3. spores (type of *Rozites purpurea* MOSER)

Habitat and distribution. — On soil under *Nothofagus* spp. — Argentina.

Material. — Argentina: Rio Negro, Pto. Blest, El Albuelo, 4. IV. 1962, leg. HORAK (IB and ZT, 70/353, holotype). — Same locality, 8. IV. 1980, leg. HORAK (ZT, 412). — Neuquen, Lago Nahuel Huapi, Brazo Rincon, 18. III. 1973, leg. MOSER (IB, 63/80, holotype of *Rozites purpurea* MOSER). — For further collections studied cp. MOSER & HORAK (1975: l. c.).

13. *Rozites sarmienti* (Spegazzini) Horak 1979 — Fig. 1, 7

Fl. Criptogamica Tierra del Fuego 11: 350.

Bas. *Cortinarius sarmienti* Spegazzini 1887: Bol. Acad. Nac. Cs. Cordoba 11: 151.

Syn. *Cortinarius togularis* Horak ap. Moser & Horak 1975: Nova Hedwigia, Beih. 52: 277.

Illustrations. — Horak (1979: l. c.).

Habitat and distribution. — On soil under *Nothofagus* spp. — Argentina, Chile.

Material. — Chile: Magallanes: Monte Sarmiento, V. 1882, leg. Spegazzini (LPS, 38971, holotype). — Osorno: Refugio Antillanca (Volcan Antillanca), 22. IV. 1975, leg. Horak (ZT, 75/407). — For further collections examined cp. Horak (1979: l. c.).

14. *Rozites gamundiae* Horak 1979 — Fig. 1, 10

Fl. Criptogamica Tierra del Fuego 11: 346.

Illustrations. — Horak (1979: l. c.).

Habitat and distribution: On soil under *Nothofagus* spp. — Argentina.

Material. — Argentina: Tierra del Fuego, Ushuaia, Tierra Mayor, 5. III. 1974, leg. Horak (LPS, 37861, holotype). — For further collections examined cp. Horak (1979: l. c.).

Excluded Species

1. *Rozites australiensis* Cleland & Cheel 1918

Trans. Proc. Roy. Soc. S. Australia 42: 90.

= *Cortinarius* (*Phlegmacium*) *australiensis* (Clel. & Cheel) Horak comb. nov.

Material. — Australia: South Australia, Mt. Lofty, 7. IV. 1917, leg. Cleland (ADW 13692, holotype). — ACT: Canberra, Brindabella Range (Fauna Reserve Area), 24. III. 1972, leg. Shepherd, 776 (CANB 226784).

Remarks. — The revision of the type material (in addition with related taxa from New Zealand and Papua New Guinea) indicates that *R. australiensis* belongs to *Cortinarius* subgen. *Phlegmacium*. For additional information consult Cleland (1934: 100), Moser (1953: 170) and Willis (1963: 30).

2. *Rozites coerulea* Moser ap. Moser & Horak 1975

Nova Hedwigia, Beih. 52: 518.

= *Stephanopus coerulea* (Moser) Horak comb. nov.

Material. — Argentina: Neuquen, Pto. Blest, Los Cantaros, 15. III. 1959, leg. Singer, M 1816 (IB, holotype).

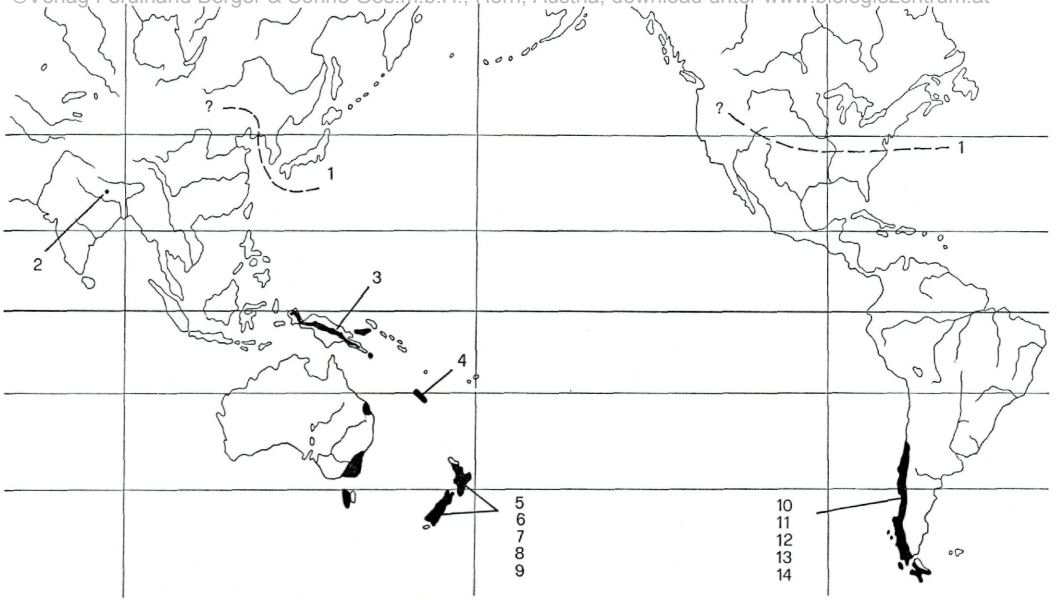

Fig. 6. Present distribution of *Nothofagus* spp. (black areas) and *Rozites* (numbers follow enumeration in text): 1. *R. caperata* (approx. southern limit on the northern hemisphere). — 2. *R. emodensis*. — 3. *R. similis*. — 4. *R. neocaledonica*. — 5. *R. meleagris*. — 6. *R. fusipes*. — 7. *R. rugosiceps*. — 8. *R. pallida*. — 9. *R. castanella*. — 10. *R. collariata*. — 11. *R. ochraceoazurea*. — 12. *R. violacea*. — 13. *R. sarmienti*. — 14. *R. gamundiae*

Remarks. — The critical re-examination of the amygdaliform spores demonstrated a distinct plage. Hence this species is transferred from *Rozites* to *Stephanopus* MOSER & HORAK (1975) taxonomically being a close relative of *St. azureus* MOSER & HORAK (1975).

3. *Rozites flavoannulata* VASILIEVA 1950

Bot. Mat. Inst. spor. Rast. 6: 199.

= *Descolea flavoannulata* (VASILIEVA) HORAK 1971. Persoonia 6: 246.

Remarks. — According to YOKOHAMA & al. (1979) this species is widely distributed in Eastern Siberia, Korea and Japan.

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