

Notes on Taxonomy and Biogeography of *Rozites* KARSTEN

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Summary. — Two new species of *Rozites* KARSTEN (1879; ep. 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 is 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 field-work 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 ($\times 2000$), and basidia ($\times 1000$).

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 cylindrical-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 \times — 12 mm, pale blue (at least at apex), whitish to ochre-brown in mature specimens; annulus 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 \times 7—8 μ m. 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 \times — 15 mm, white; annulus 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 cylindric, 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. collarjata*
- 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 $11-15 \times 6-7.5 \mu\text{m}$. 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; annulus whitish, striate, membranous, persistent; towards base with whitish to reddish brown fibrils or scales from universal veil; spores $11-15 \times 7-8 \mu\text{m}$, 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; annulus white, membranous, striate, persistent; towards base with several, inconspicuous, white zones of universal veil; spores $9.5-12 \times 6-7.5 \mu\text{m}$. 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; annulus white, membranous, striate, subsistent; towards base with few, white, incomplete zones of universal veil; spores $11-14 \times 6.5-8 \mu\text{m}$. 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; annulus whitish, submembranous, smooth or substrate, often dehiscent; towards base with fugaceous, fibrillose, lilac to whitish veil remnants; spores $10-13 \times 6.5-8 \mu\text{m}$. 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; annulus yellowish to ochre, striate, membranous, persistent; stipe —60×—8 mm, yellow; annulus yellow, membranous, striate, persistent; towards base with several, yellow-brown, fibrillose to submembranaceous squamules or belts from universal veil; spores $9.5-12.5 \times$

- 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 \times —15 mm, pale ochre-brown; anulus membranous, pale ochre-brown, striate, persistent; spores 9–12 \times 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 (Myxaciium) 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 \times —15 mm, cylindricus vel subclavatus, albus, anulus albus, striatus, membranaceus, persistens, basim versus zonis albis cingulatus. Caro lilacina. Sporae 11–13 \times 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

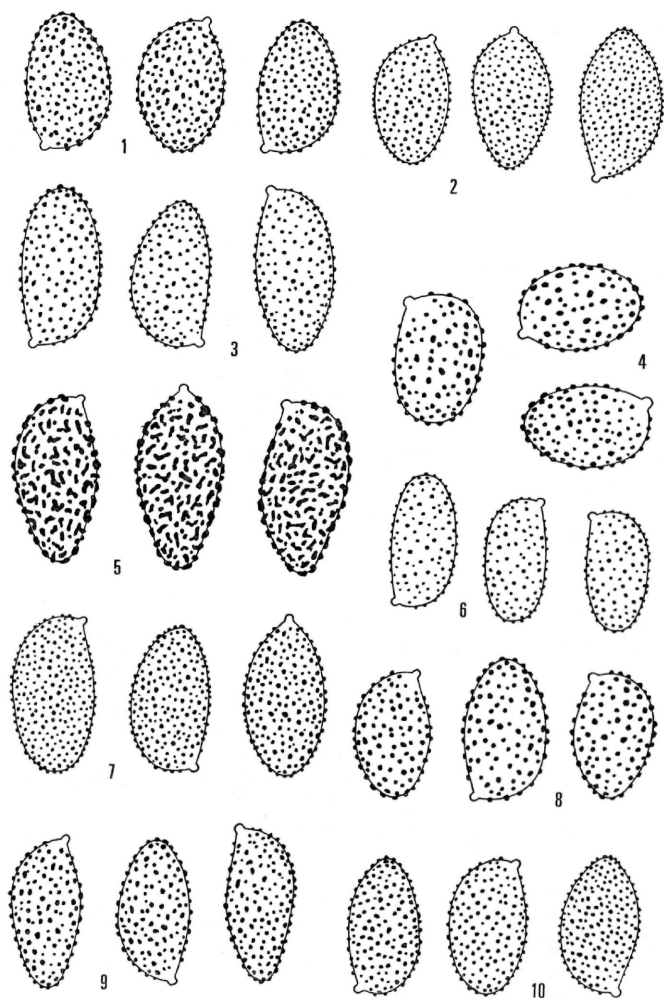


Fig. 1. Spores: 1. *Rozites caperata* (FR.) KARSTEN (ZT, 79/349). — 2. *Rozites ochraceoazurea* (HORAK) HORAK (type). — 3. *Rozites fusipes* HORAK & TAYLOR (type). — 4. *Rozites meleagris* HORAK & TAYLOR (type). — 5. *Rozites rugosiceps* HORAK & TAYLOR (type). — 6. *Rozites castanella* HORAK & TAYLOR (type). — 7. *Rozites sarmienti* (SPEGAZZINI) HORAK (type). — 8. *Rozites pallida* HORAK & TAYLOR (type). — 9. *Rozites collarata* (HORAK & MOSER) HORAK (type). — 10. *Rozites gamundiae* HORAK (type).

specimens, soon turning argillaceous to pale ferruginous, 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; annulus white, striate, submembranous often dehiscent or incomplete, towards base with several, white, incomplete zones or squamules of universal veil. Odour and taste not distinctive.

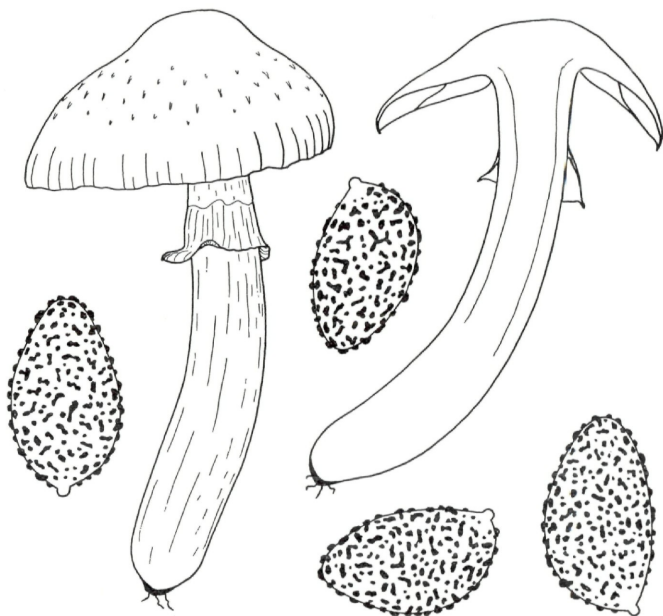


Fig. 2. *Rozites emodensis* (BERKELEY) MOSER (type): carpophores ($\frac{1}{2}$ nat. size), spores

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 $11-13 \times 7-8 \mu\text{m}$, amygdaliform to pip-shaped, rust brown, verrucose, plage and perispore absent. Basidia $35-45 \times 9-12 \mu\text{m}$, 4-spored. Cheilo- and pleurocystidia absent. Cuticle a cutis of repent, cylindric hyphae ($3-8 \mu\text{m}$ 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. HORÁK (ZT, 72/645, holotype). — Bulolo, Heads Hump, 4. XI. 1971, leg. HORÁK (ZT, 71/252).

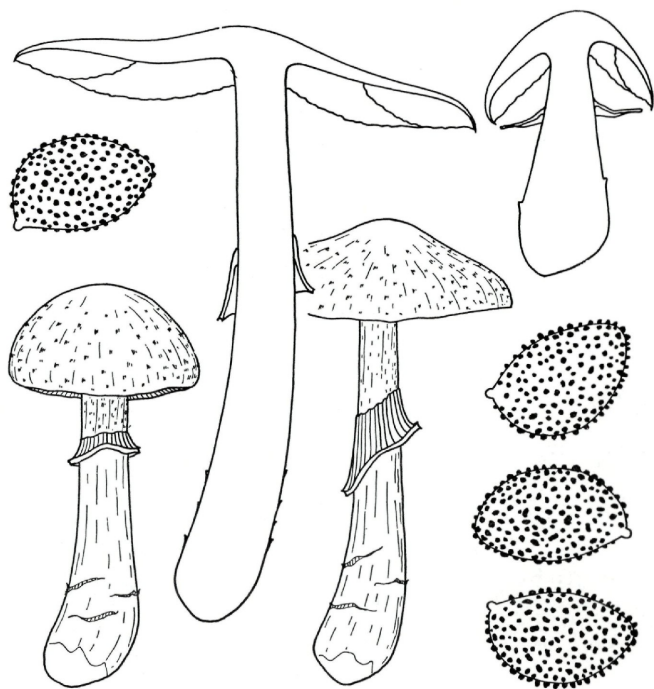


Fig. 3. *Rozites similis* HORÁK (type): carpophores, spores

4. *Rozites neocaledonica* HORÁK 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 μ m, 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

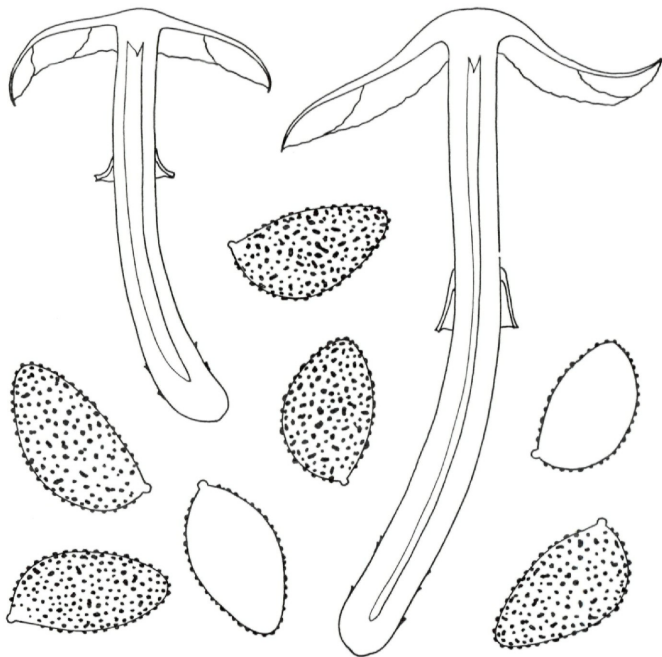


Fig. 4. *Rozites neocaledonica* HORÁK (type): carpophores, spores

aged carpophores. Lamellae crowded, adnate to emarginate; at first lilac to pale blue turning argillaceous or ferruginous; 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 $11-14.5 \times 7-8 \mu\text{m}$, amygdaliform (to elliptic), rust brown, verrucose, plage and perispore absent. Basidia $25-35 \times 10-12 \mu\text{m}$, 4-spored. Cheilocystidia $20-65 \times 4-10 \mu\text{m}$, fusoid with tapering neck, membrane hyaline, pigment absent, often scattered on edge. Pleurocystidia none. Cuticle a cutis of repent cylindrical hyphae ($2-8 \mu\text{m}$ 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.).

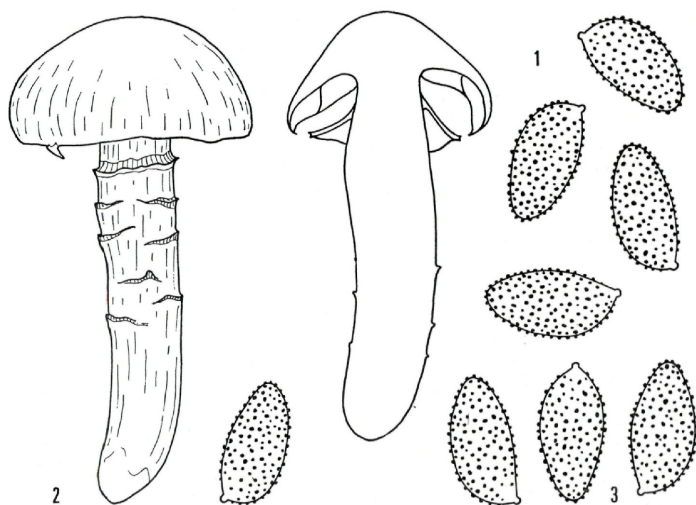


Fig. 5. *Rozites violacea* ap. MOSER & HORAK: 1. carpophore, spores (type). — 2. carpophore (ZT, 412). — 3. spores (type of *Rozites purpurea* MOSER)

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).

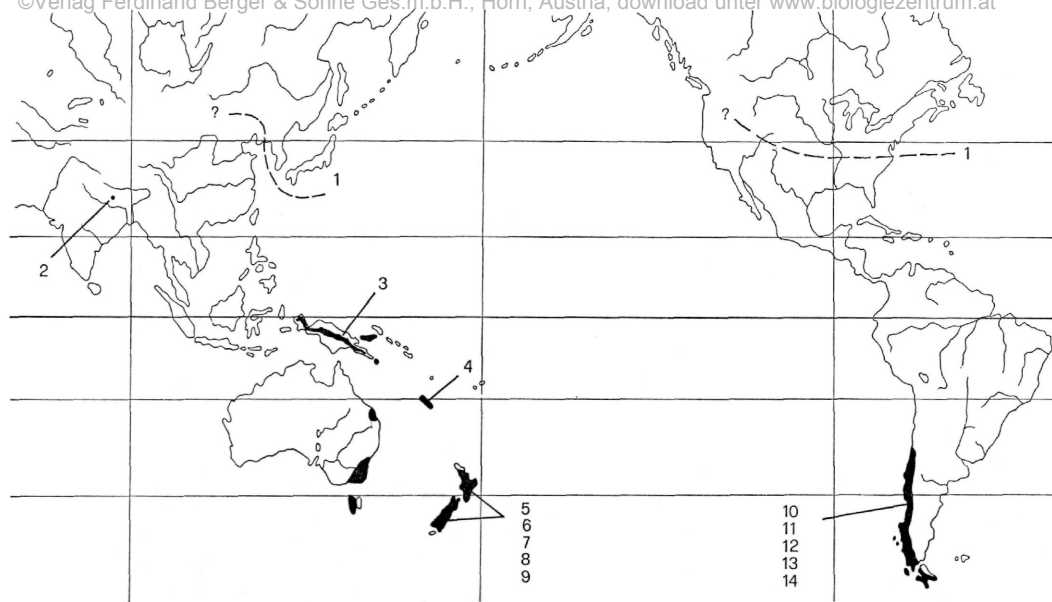


Fig. 6. Present distribution of *Nothofagus* spp. (black areas) and *Rozites* (numbers follow enumeration in text): 1. *R. caperata* (approx. southern limit on the northern hemisphere). — 2. *R. emodensis*. — 3. *R. similis*. — 4. *R. neocaledonica*. — 5. *R. meleagris*. — 6. *R. fusipes*. — 7. *R. rugosiceps*.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