

Several operculate Discomycetes from Greece and remarks on the genus *Scutellinia* (Cooke) Lamb. emend. Le Gal

Několik operkulátních diskomycetů z Řecka a poznámky k rodu *Scutellinia* (Cooke) Lamb. emend. Le Gal

Jiří Moravec

The author deals with five species of operculate *Discomycetes* he found in Greece (of these, two are described as new): *Peziza cerea* Bull. ex Mérat, *Tricharina cretea* (Cooke) J. Moravec comb. nov., *Scutellinia peloponnesiaca* J. Moravec spec. nov., *S. arenosa* (Velen.) Le Gal, and *S. parvispora* J. Moravec spec. nov. The author also expresses his view on the sections *Globisporae* and *Hirtulae* within the genus *Scutellinia* (Svrček 1971). He does not agree on the establishment of the section *Globisporae*, since it comprises species of different types of spore ornamentation. Two species of this section have the ornamentation of their ascospores composed of rounded warts; both are transferred from the section *Globisporae* to the section *Hirtulae* by the author. A new section *Armatosporae* J. Moravec with the type species *Scutellinia diaboli* (Velen.) Svr. (= *Scutellinia armatospora* Dennis) is proposed for the other species of the former section *Globisporae* and for all species of the genus *Scutellinia* with globose and ellipsoidal ascospores, the ornamentation of which consists of conical, angular warts to spines. Key for the identification of the species of the two sections, *Armatosporae* and *Hirtulae*, is enclosed.

Autor uvádí pět druhů operkulátních diskomycetů, které nalezl v Řecku: *Peziza cerea* Bull. ex Mérat, *Tricharina cretea* (Cooke) J. Moravec comb. nov., *Scutellinia peloponnesiaca* J. Moravec spec. nov., *S. arenosa* (Velen.) Le Gal a *S. parvispora* J. Moravec spec. nov. Dále publikuje svůj názor na pojedí sekci *Globisporae* a *Hirtulae* v rodu *Scutellinia* (Svrček 1971). S utvářením sekce *Globisporae* nesouhlasí, neboť tato sekce zahrnuje druhy s rozdílným typem ornamentiky askospor, proto dva druhy s ornamentikou tvořenou okrouhlými bradavkami přefadil do sekce *Hirtulae*. Pro všechny ostatní druhy r. *Scutellinia*, které mají ornamentiku z kuželovitých, hranatých bradavek nebo ostnů, bez ohledu na tvar askospor, vytvořil novou sekci *Armatosporae* s typickým druhem *S. diaboli* (Velen.) Svr. (= *S. armatospora* Dennis). Je připojen klíč k určení druhů obou sekcí.

In May 1971, I was for a fortnight in Greece. A trip enabled me to search for the mycological flora in the places I visited. In addition to two occasional findings of operculate Discomycetes during a short stop at Levadia, situated between Athens and Delphi, I performed a mycological research on the western coast of the Peloponnese in the vicinity of the village of Lapa, about 50 km from the Seaport of Patras. So I stayed for 10 days amidst a beautiful country, which was exotic enough for a middle-European. The dense stands consisting mostly of old pinetrees, *Pinus pinea*, *P. halepensis* etc. mixed with scattered oak-trees, reached as far as the coast of the Ionian Sea. Although a small river near "Kalogria Beach" forms stretches of boggy ground, operculate Discomycetes were only thinly scattered. Perhaps on account of the high content of salt in the river water near the estuary of the Sea and the nearby wet tract of land. I confined my search only to the humid places, since the land remote from the river was getting dry owing to the high temperature in May and the scorching heat of the sun. Nevertheless, the results proved to be interesting.

Peziza cerea Bull. ex Mérat

Graecia, Peloponnesus occ., "Kalogria beach" prope Lapa, cca 50 km a Patras, ad terram humidam fimo equino mixtam ad ripam rivi et maris Ionici, 23. V. 1971 leg. J. Moravec (apothecium unum).

Tricharina cretea (Cooke) J. Moravec comb. nov.

Basionym: *Peziza cretea* Cooke, Trans. bot. Soc. Edinburgh 13: 46, 1879.

Syn.: *Tricharia cretea* (Cooke) Boud.

Graecia, Levadia, ad terram humidam nudam calcaream vel inter muscos sub *Fico* ad ripam rivuli, 17. V. 1971 leg. J. Moravec.

Apothecia 2—5 mm across, forming shallow discs, on the thecium dirty white to whitish grey, only in older apothecia of beige tint, on the surface with short brownish hairs. The excipulum consists of globose to prismatic cells of „textura globulosa“ to „t. angularis“, 8—19—30 μm in across. Hairs 60—190—380 μm long, at the base 5—8—16 μm thick, in the center 5—7 μm , rounded to pointed, originating from cells of the excipulum, of a thin membrane, membrane 0.8—1.3 μm thick, septate. Ascii 130—160 \times 13.6—16.3 μm , cylindrical, at the top contracted and truncate, operculate, with 8 spores. Paraphyses filiforme, above 2.5 μm thick, slightly thickened to 3.5 μm , hyaline. Ascospores 13.6—16.3—17.5 \times 8.7—9.6—10.6 μm , broadly ellipsoid, smooth.

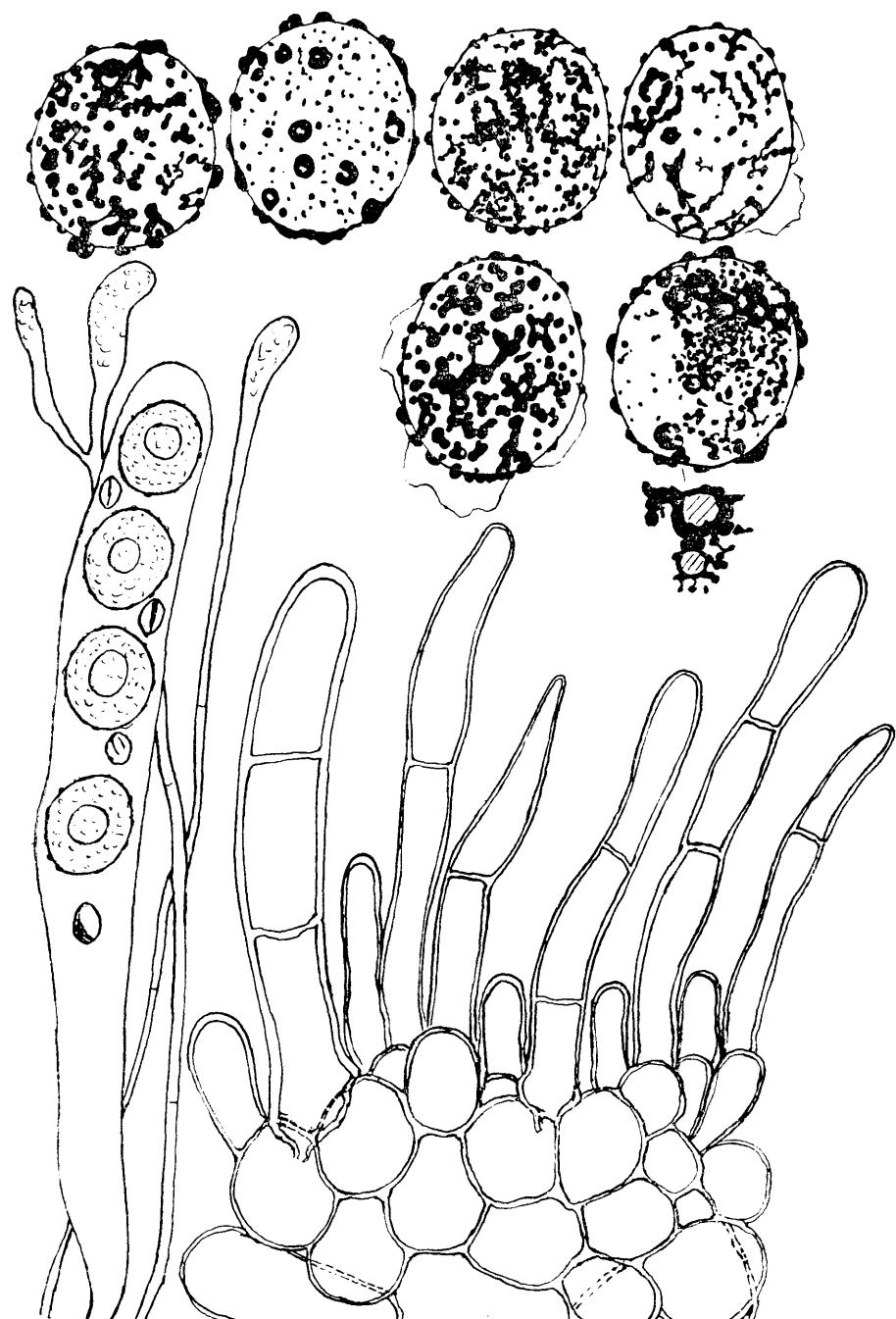
This species, primarily described as *Peziza cretea* Cooke according to the place of finding on the plaster of a demolished house at Edinburgh, differs from the frequent species *Tricharia gilva* (Boud.) Eckbl. and from the other species, in particular by the white colour of the apothecia. Cooke (1879) gives the size of the ascospores as 12—18 \times 8 μm , and so does Phillips (1887). On the other hand, Dennis (1868) reports the size of the ascospores to be 16—19 \times 9—12 μm ; so far as concerns the other diagnostic features, the described material from Greece agrees with the descriptions given by the above-mentioned authors. I also came across this species in Czechoslovakia (central Bohemia). In accord with Eckblad, who changed the name of the genus *Tricharia* Boud. to *Tricharina* Eckbl. (Eckblad 1968), this species should be assigned to the genus *Tricharina*. *Peziza fimбриata* Quél. is according to the description and illustration (Cooke 1897 Pl. 113 Fig. 405) closely allied to or perhaps even identical with *T. cretea* as was pointed out by Dennis (1968).

Scutellinia peloponnesiaca J. Moravec spec. nov.

Apothecia solitaria, minuta, 0.5—2.5 mm diam., patellaria dein explanata, extus pallide pilosa, pilis brevibus, saepe haud conspicuis obsita, thecio laete rubro. Excipulum e cellulis globosis vel prismaticis, 20—60 μm diam. instructum. Pili breves, 80—130 \times 12—25 μm , hyalini vel basi luteo-brunneoli, apice obtusi, septati, membranis 1.3—2.7 μm crassis. Ascii 220—250 \times 30 μm , crasse clavati cylindracei, supra obtusi, octospori, sed saepe solum tetrasporei. Paraphyses filiformes, 4 μm crassae, apice valde incrassatae (usque ad 11 μm), aurantiaceae. Sporae globosae, 17.6—19 μm diam., vel globoso-ellipsoideae, 15—16.3—20.4—21.7 \times 15—16.3—19—19.5 μm , (incl. verrucis), verrucosae; verrucae irregulares denseque irregulariter connexae, 0.4—1—1.4 μm altae et 0.4—2.2—2.8 μm crassae (sub microscopio cum immersione oleacea 1575 \times + Cotton bleu Geigy s. 123).

Habitat. Graecia, Peloponnesus occidentalis, non procul Lapa prope Patras, ad terram humidam nudam inter gramina, sed etiam ad herbas putridas in pineto (*Pinus pinea*) non procul a mare Ionici, 22. V. 1971 leg. J. Moravec (typus PR 724261; duplikatum in herb. privato J. Moraveci asservatur).

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1. *Scutellinia peloponnesiaca* J. Moravec. — Ascus, paraphyses, cells of excipulum with hairs and ascospores (CB + oil immers. $\times 1575$). J. Moravec del.

The species is notable particularly for its small apothecia, remembering rather of *Octospora* sp. by the pale hardly perceptible, short, rounded hairs, and the globosely ellipsoid ascospores with distinct ornamentation, which consists of irregular warts arranged irregularly and often joined into irregular clusters. *S. peloponnesiaca* is perhaps a distant relative of the species *Scutellinia kerguelensis* (Berk.) O. Kuntze from which it differs by the size of the ascospores, their width/length ratio, different ornamentation, and by the whole appearance of the smaller apothecia with hardly visible paler and shorter hairs. Some ascospores have a similar ornamentation as have those of the type material of *S. kerguelensis* (*Peziza kerguelensis*) from the Herbarium at Kew which was revised and illustrated by Le Gal (1953). However, the ascospores of the material from Kew have, according to Le Gal, much greater dimensions, namely (19)–20.5–26–(29) × 16–18(–21) μm . Also the material from Madagascar, which Le Gal identified as *S. kerguelensis*, differs in the ornamentation of the ascospores (Le Gal 1953, Fig. 60), having the following dimensions (20)–21–25(–27.5) × (13)–14–17(–18) μm . Also the type material of *Lachnea nympharum* Velenovský (1934), (PR 147268. *Salix* sp., Solopisky, X. 1924 leg. J. Velenovský) I revised, has the following dimensions of the ascospores: 19–24.5–25.5 × 15–16.3–17.6 μm and the ornamentation consists of warts 0.7–2.2 μm wide and 0.3–0.7 μm high, anastomosing up to irregular ridges. Although this type material of *L. nympharum* was identified by Le Gal as being identical with *S. kerguelensis*, yet in my opinion it differs from the type material *S. kerguelensis* by the ornamentation of the ascospores. The type material of *S. kerguelensis* rather reminds of that from Tasmania by its ornamentation as was reported by Rifai (1968, fig. 92). It is of interest that the material studied by Rifai has hairs as much as 650 μm long and was found on excrements. The ascospores according to Rifai measure 19–24.5 × 13.5–15.4 μm . In may case, *S. peloponnesiaca* differs from the type material of both *S. kerguelensis* and *L. nympharum*.

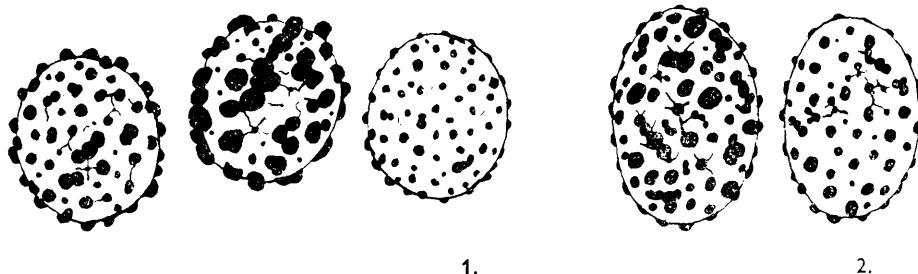
Scutellinia arenosa (Velen.) Le Gal

Graecia, Peloponnesus occ., „Kalogria beach“ non procul Lapa prope Patras, ad terram humidam humosamque inter gramina ad ripam rivi in pineto (*Pinus halepensis*) haud procul maris Ionici, 20. V. 1971 leg. J. Moravec.

Apothecia 4–6–8 mm across, forming shallow discs, on the thecium deep red, on the surface with short brown hairs. The excipulum consists of prismatic cells measuring 27–44–55 μm across. Hairs 160–550 × 16–32 μm , membrane 3–5 μm thick, pointed, straight or slightly curved, at the base root-shaped between the cells of the excipulum. Asci 200–230 × 19–30 μm , clubilly cylindrical, rounded above, with irregularly developing ascospores per 2–4 in the ascus. Paraphyses filiform, 4 μm thick, much thickened at the top to 7–13.6–16 μm , filled with orange pigment. Ascospores either almost perfectly globose, being 15–10–20 μm across or ellipsoid, 15.6–19–20 × 14–14.6–17.6–19 μm , of a wartlike sculpture which consists of globose warts 0.7–2–2.6 μm across and as much as 1.4 μm high (oil immersion 1575 × + Cotton blue Geigy s. 123).

The closely related species to *Scutellinia umbrarum* (Fr.) Lamb., notable for its short hairs (to 550 μm) and smaller but wider ascospores. The above-mentioned material from Greece agrees well with the material of Velenovský, according to

whom this species was described (Vel. 1934) with data given by Svrček (1948). Recently, Svrček (in his written report and personal communication) after a repeated revision of the type material of *Lachnea arenosa* Velen. (PR 151427) found that the dimensions of the ascospores are $18-20.5 \times 14-17 \mu\text{m}$, the hairs being $110-135 \times 15-26 \mu\text{m}$. These distinguishing features are in good accord with the described material. On the other hand, Le Gal (1966 b) reports greater dimensions of the ascospores. It is noteworthy that in the type material she also studied, Le Gal reports much larger ascospores. In addition to the material from Prolognan (Savoie) at an altitude of 2800 m above the sea-level, she gives much longer hairs ($800-1000 \mu\text{m}$). That is why *S. arenosa* sensu Le Gal (1966 b) is, in my opinion, different from the type material and hardly differs from *S. umbrarum* sensu Le Gal (1966 a).



2.--1. *Scutellinia arenosa* (Vel.) Le Gal — Ascospores (CB + oil immers. $\times 1575$). —
2. *Scutellinia parvispora* J. Moravec. — Ascospores (CB + oil immers. $\times 1575$).
J. Moravec del.

***Scutellinia parvispora* J. Moravec spec. nov.**

Apothecia 3–5 mm diam., patellaria, sessilia, extus pilis brevibus, fuscis obsita, thecio laete rubro. Excipulum e cellulis prismaticis $20-55 \mu\text{m}$ diam. instructum. Pili $100-320-410 \times 13-22-30 \mu\text{m}$, septati, recti vel flexuosi, apice acuti, membranis $2.7-4 \mu\text{m}$ crassis. Asci $200-230 \times 16-19 \mu\text{m}$, cylindracei, basi attenuati, supra obtusi, octospori. Paraphyses filiformes, $4 \mu\text{m}$ crassae, apice dilatatae ($6-9.5 \mu\text{m}$), plasma rubro-aurantiaca impletiae. Sporae $16.3-17.7-19-19.6 \times 11-12.2-13.6-14.1 \mu\text{m}$ (incl. verrucis), verrucosae; sculptura sporarum e verrucis rotundatis, isolatis vel connectis constat; verrucae $0.4-1.8-2.2 \mu\text{m}$ diam. et $0.3-1-1.4 \mu\text{m}$ altae (sub microscopio cum immersione oleacea $1575 \times$ + "Cotton bleu" Geigy s. 123).

Habitat. Graecia, Levadia, ad terram humidam nudam sub *Fico* ad ripam rivuli, 17. V. 1971 leg. J. Moravec (typus PR 724262; duplicatum in herbario privato J. Moravceci asservatur).

Scutellinia parvispora is a closely related species to *S. umbrarum* (Fr.) Lamb. and *S. pseudoumbrarum* J. Mor. (J. Moravec 1971) from which it differs by the dimensions of the ascospores, which are still smaller than in *S. pseudoumbrarum*. I think that *S. umbrarum* is a complex of several species, which erroneously are connected with *S. umbrarum*. *S. umbrarum* is de facto an imperfectly described and consequently a doubtful species, the type of which was not preserved. According to the original diagnosis (*Peziza umbrosa* Fries 1823, p. 85 = *Peziza umbrorum* Fries 1823, p. 612, with the epitheton "umbrorum" instead of "umbrarum"), it is impossible to decide which of the species is dealt with. Nevertheless, I for the time being agree with Le Gal, who for the neotype of *S. umbrarum* assigned the material from Boudier's Herbarium, at present in Paris (Montmorency, julio 1883, No 369) (Le Gal 1966 a). *S. umbrarum*, in this conception, has broadly ellipsoidal ascospores

attaining a width of $20.5 \mu\text{m}$ and dimensions of $17-26 \times 13-20.5 \mu\text{m}$ (Le Gal 1966 a). *S. pseudoumbrarum* has more ellipsoid ascospores, the width of which does not surpass $17 \mu\text{m}$, and has the following dimensions: $19-24.5 \times 12-16.3 \mu\text{m}$ (J. Moravec 1971). *S. parvispora* has still smaller ascospores, the width of which does not surpass $14 \mu\text{m}$, the dimensions being $(16.3)-17.7-19(-19.6) \times (10.5)-12.2-13.6-(-14.1) \mu\text{m}$. Similar dimensions of the ascospores has also *S. subhirtella* Svr. (Svrček 1971), but its ornamentation of the ascospores is finer being composed of smaller warts. I studied the type material of *S. subhirtella* Svr. (PR 616842) and my observations agree with those of Svrček (1971). *S. subhirtella* is a well-founded, independent species, which differs by its ornamentation from *S. parvispora*.

The Czechoslovak species of the genus *Scutellinia* were divided into 8 sections by Svrček (1971). This is a good solution. However I think that the section of the species, the ascospores of which are composed of globose warts, assigned to the section *Globisporae* by Svrček should be placed in the section *Hirtulae*. In my opinion, it is not possible to place species with an entirely different ornamentation of the ascospores in one section. On account of this, I transfer the species *Scutellinia trechispora* (Berk. et Br.) Lamb. and *Scutellinia paludicola* (Boud.) Le Gal to the section *Hirtulae*, since the ornamentation of the ascospores of these species is identical with the ornamentation of the species of the section *Hirtulae*. The other species, placed by M. Svrček (1971) in the section *Globisporae* the ascospores of which have a spiny sculpture (the ornamentation consisting of sort, angular or conical truncate warts to spines) and all the species of the genus *Scutellinia* including the species with ellipsoid- al ascospores with a spiny ornamentation belong to one section. The ascospores are often both globular and ellipsoidal in one and same species. For the above mentioned reasons, I consider the section of *Globisporae* Svr. as unsubstantial and propose for the species with a spiny ornamentation of the ascospores a new section, namely *Armatosporae* J. Moravec, with the type species *Scutellinia diaboli* (Velen.) Le Gal = *Scutellinia armatospora* Denison (1959). In addition to the type species, I assign to this section *Scutellinia minor* (Velen.) Le Gal, *S. texensis* (Berk. et Kurt.) Le Gal, and *S. heimii* Le Gal (1966 a). The following key is enclosed for the identification of the species of the section *Armatosporae* and *Hirtulae*.

Diagnosis latina sectionis *Armatosporae*:

Scutellinia sectio **Armatosporae** J. Moravec sect. nov. Sporae globosae vel ellipsoideae, spinis brevibus, truncatis vel longis acutisque ornatae.

Typus: *Scutellinia diaboli* (Velen.) Le Gal.

**Clavis analytica specierum sectionis Armatosporae J. Mor. et sectionis Hirtulae
Svr. generis Scutellinia (Cooke) Lamb. emend. Le Gal**

- I. Sporis globosis vel ellipsoideis, spinis brevibus, truncatis vel longis acutisque ornatis Sectio 1. **Armatosporae** J. Moravec [typus: *Scutellinia diaboli* (Velen.) Le Gal]
 - A. Sporis globosis vel late ellipsoideis, spinis brevibus, crassis, truncatis vel verrucis quadratis, rare obtusis ornatis 1
 - 1a. Sporis globosis vel subglobosis, $16.3-17.7-19 \times 14.8-16.3 \mu\text{m}$, spinis $1-1.4(-2) \mu\text{m}$ altis *S. minor* (Velen.) Le Gal
 - 1b. Sporis late ellipsoideis vel ellipsoideis, $17-25 \times 11-20 \mu\text{m}$, spinis $0.5-1.5-2.5(-3) \mu\text{m}$ altis *S. texensis* (Berk. et Gurt.) Le Gal
 - B. Sporis perfecte globosis, spinis longis, truncatis vel acutis, $1-2-3(-3.5) \mu\text{m}$ altis *S. diaboli* (Velen.) Le Gal

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- C. Sporis ellipsoideis, 20.5–26.5×14–19 µm, spinis longis, acutis et saepe curvatis, usque ad 3 µm altis *S. heimii* Le Gal 1966
- II. Sporis globosis vel ellipsoideis. Sculptura sporarum e verrucis globosis, saepe connexis constat Sectio 2 **Hirtulae** Svrček
 - [typus: *Scutellinia umbrarum* (Fr.) Lamb. sensu Le Gal 1966]
 - A. Sporis perfecte globosis 1
 - 1a. Verrucis 1–3.5 µm altis, sporis 25–32 µm diam. *S. paludicola* (Boud.) Le Gal
 - 1b. Verrucis 0.3–1 µm altis, sporis 19–24 µm diam. *S. trechispora* (Berk. et Br.) Lamb.
 - B. Sporis subglobosis (rare in asco pro parte globosis) vel globoso-ellipsoideis, verrucis 0.3–1.7(–2.7) µm diam. et 0.3–1.7 µm altis 2
 - 2a. Sporis subglobosis, 15.6–17–20.5(–23) × 14–17.6 µm, vel rare pro parte globosis et 16–20 µm diam. *S. arenosa* (Velen.) Le Gal typus PR 151427, non sensu Le Gal
 - 2b. Sporis globoso-ellipsoideis vel late ellipsoideis, 17–26–27 × 13–20.5 µm *S. umbrarum* (Fr.) Lamb. sensu Le Gal (neotypus in Mus. Nat. Hist. Paris PC 369, teste Le Gal 1966a).
 - C. Sporis late ellipsoideis vel ellipsoideis 3
 - 3a. Sporis 19–24.5 × 12–16.3 µm, verrucis 0.5–2.2(–2.7) µm altis *S. pseudoumbrarum* J. Mor.
 - 3b. Sporis (16.3)–17.7–19(–19.6) × (10.5)–12.2–13.6(–14.1) µm verrucis 0.4–1.8(–2.2) µm diam. et 0.3–1(–1.4) µm altis *S. parvispora* J. Mor.
 - 3c. Sporis 18–22 × 12–14(–15) µm verrucis minoribus, 02–1 µm (usque ad 1.5 µm) diam. et 0.3–1(–1.2) µm altis *S. subhirtella* Svr.
 - D. Sporis elongato-ellipsoideis vel fusoideis 4
 - 4a. Sporis elongato-ellipsoideis, 22–28 × 11–14 µm *S. cejpiae* (Velen.) Svr.
 - 4b. Sporis fusoideis, 26–32 × 10–14 µm *S. macrospora* (Svr.) Le Gal

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Address of the author: Jiří Moravec, Sadová 21/5 čp. 336, 679 04 Adamov u Brna