

The genus *Camptosphaeria*¹⁾

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Abstract

Cercophora subg. *Camptosphaeria* is re-instated on the generic level. *Camptosphaeria venezuelensis* sp. nov. is described and illustrated on horse dung from Venezuela. The new combinations *C. citrinella* (*Cercophora citrinella* LUNDQ.) and *C. clavispora* (*Podospora clavispora* AHMED et MIRZA) are proposed. A key is presented separating the four known species.

Cercophora subg. *Camptosphaeria* wird wieder zur Gattung erhoben. Auf Pferdeäpfeln aus Venezuela wurde *Camptosphaeria venezuelensis* sp. nov. gefunden, beschrieben und illustriert. Ferner wird die neue Kombination *C. citrinella* (*Cercophora citrinella* LUNDQ.) und *C. clavispora* (*Podospora clavispora* AHMED et MIRZA) vorgeschlagen. Der Schlüssel, der die vier bekannten Arten trennt, wird präsentiert.

Introduction

FUCKEL (1870) erected *Camptosphaeria* based on the monotype, *C. sulphurea* Fuckel. From the original description and drawings, one might assume that the material was immature. However LUNDQVIST (1972), upon examining the type material, considers that the fungus is perfectly mature and ready for discharge at the hyaline stage.

LUNDQVIST (1972) has provided information concerning the essential features of the type species. He points out that there is no vermiform stage as in *Cercophora* Fuckel sensu stricto and that the pigmented stage is only rarely formed. In addition, there appears to be a reduction of the apical apparatus from that found in *Cercophora*. Accordingly, LUNDQVIST considers the taxon to occupy a transitional position between *Cercophora* and *Podospora* CESATI, and has reduced *Camptosphaeria* to a subgenus of *Cercophora*.

We feel that the features which LUNDQVIST has emphasized are significant enough that *Camptosphaeria* should be treated at the generic level. Therefore, we have provided a revised generic description and key to the species. The genus is placed along with *Bombardia* (Fr.)

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KARST., *Cercophora* FÜCKEL, *Lasiosphaeria* CES. et DE NOT., *Lasiosphaerella* SIVANESAN, *Mycomedusiospora* CARROLL et MUNK and *Tripterosporelea* SUBR. et LODHA in the Lasiosphaeriaceae.

In addition to the type species, LUNDQVIST (1972) described another species with the same kind of spore form, *Cercophora citrinella* LUNDQ. Earlier MIRZA and AHMED (1970) erected a species of *Podospora*, *P. clavispora* AHMED et MIRZA, with a similar type of spore. During a survey of the coprophilous flora of Venezuela, we obtained a fungus similar to *P. clavispora* in some respects but differing in the spore dimensions and the texture of the peridium. This organism is being described as a new species and the necessary combinations for the other taxa are proposed.

Taxonomy

Camptosphaeria FÜCKEL, Jahrbücher Nass. Ver. Naturk. **23**—**24**: 140. 1870.

≡ *Cercophora* FÜCKEL subg. 2 *Camptosphaeria* (Fückel) Lundq., Symbol. Bot. Upsal. **20** (1): 115. 1972.

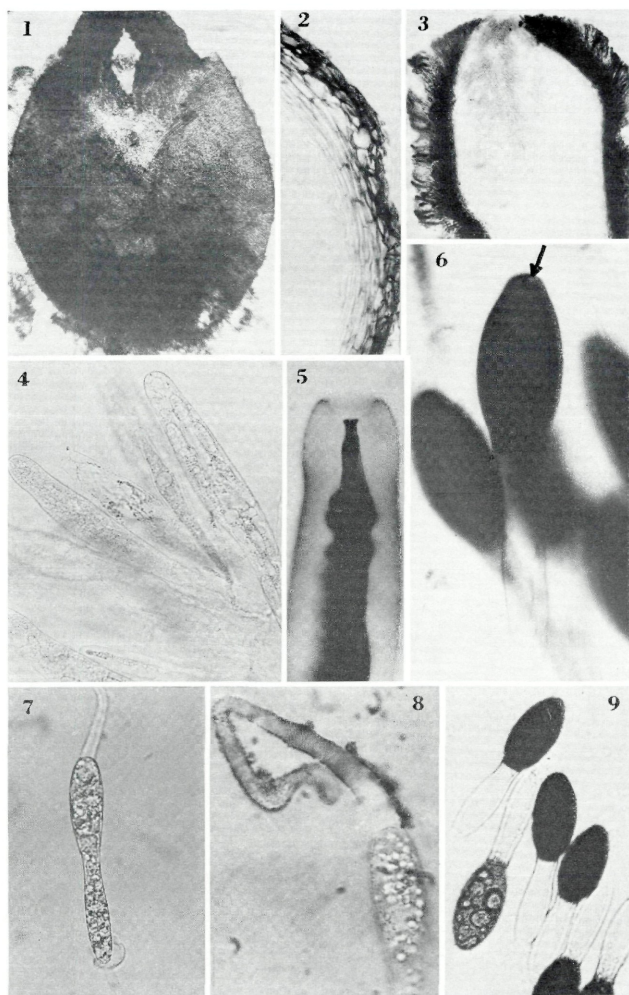
Perithecia saprophytic, scattered, superficial to semi-immersed, non stromatic, pyriform, smooth or hairy, ostiolate; peridium pseudoparenchymatous, membranaceous to semi-coriaceous, three-layered. *Asci* unitunicate, non-amyloid, cylindrical to clavate; apical ring small or lacking; subapical globulus mostly absent. *Paraphyses* filiform, hyaline. *Ascospores* one-celled, initially short-cylindrical to clavate, hyaline; hyaline mature stage cylindrical-clavate to clavate, smooth or minutely granulate to verruculose, occasionally transversely uniseptate, guttulate; pigmented stage occasionally developing; gelatinous appendages lash-like, attached at the ends of the spore.

Etymology: Greek, *kampto* (Καμπτω) = bend and *sphaira* (σφαῖρα) = ball, probably referring to the shape of the perithecium.

Typus Generis: *Camptosphaeria sulphurea* FÜCKEL.

Key to the Species

1. Perithecia with coloured tomentum and membranous peridium; apical ring present or absent; subapical globulus present or absent; ascospores verruculose, pigmented stage lacking 2
1. Perithecia lacking tomentum; apical ring present; subapical globulus absent; ascospores smooth, pigmented stage formed (usually at or after spore discharge) 3
2. Apical ring slightly thickened; subapical globulus lacking; ascospores $26-36 \times 6-10 \mu$; coprophilous *C. citrinella*
2. Apical ring lacking; subapical globulus verruculose; ascospores $27-30 \times 9.5-12 \mu$; culmicolous (known only from *Peucedanum officinale*) *C. sulphurea*
3. Peridium coriaceous; ascospores $65-90 \times 15-17 \mu$ *C. clavispora*
3. Peridium membranaceous; ascospores $75-87 \times 16-23 \mu$ *C. venezuelensis*



Figs. 1—9. *Camptosphaeria venezuelensis*. Fig. 1. Perithecium in squash mount. $\times 75$. Fig. 2. Longitudinal section of the peridium. $\times 400$. Fig. 3. Longitudinal section of the neck. $\times 400$. Fig. 4. Young asci. $\times 160$. Fig. 5. Ascus apex stained with cotton blue in lactophenol, showing the central depression. $\times 800$. Fig. 6. Mature ascospores in the pigmented stage with a germ pore (arrow). $\times 800$. Fig. 7. Ascospore in the hyaline mature stage with terminal gelatinous appendages. $\times 440$. Fig. 8. Apical gelatinous appendage stained in India ink, of ascospore in hyaline mature stage. $\times 800$. Fig. 9. Ascospores in the pigmented stage, one immature. $\times 380$.

Campatosphaeria venezuelensis KRUG & JENG sp. nov.

Figs. 1—9

Perithecia fimicola, dispersa, immersa, pyriformia, brunnea, 900—1300 × 600—640 μ magna, inferne in parte pilis paucis, septatis, pallide brunneis, interdum ramosis, flexuosis praedita; perithecii collum laeve, nigrum, papilliforme vel conicum, 350—450 × 320—350 μ magnum; peridium membranaceum, pseudoparenchymatosum, pallide brunneum vel brunneum, 30—40 μ crassum, e stratis duobus compositum. Asci iodo non caerulescentes, octospori, subclavati, 200—300 × 30—36 μ magni, in apice rotundati vel truncatiore, sine globulo subapicale, basin versus in stipitem 70—100 μ longum attenuati; anellum apicale indistinctum. Paraphyses filiformes, septatae, hyalinae. Ascospores unicellulares, irregulariter biseriales, hyalinae, guttulate, primum filiformes, appendicem gelatinosam in utroque apice gerentes, deinde summa in parte cylindratae et leviter dilatatae, maturitate confirmata subclavatae, laeves, aseptatae, in apice rotundatae vel truncatae, in basi rotundatae, 75—87 × 16—23 μ magnae; appendices gelatinosae terminales, flagelliformes, persistentes, 100—240 × 10—16 μ magnae. Status pigmentatus bicellularis, e cellula superiore atra et cellula inferiore hyalina sistens; cellula superior anguste ellipsoidea, in apice obtusi vel truncati, ad basin truncata, 40—48 × 18—26 μ , atribrunnea et opaca, laevis; cellula inferior cylindrata, persistens, 40—56 × 8—12 μ magna, in media parte leviter dilatata; foramen germinale subapicale, circa 1.5 μ diametro crassum. Conidia incognita.

Holotypus: In equorum fimo lectus est, in loco apud El Dorado oppidum, in Bolivar pago reipublicae Venezuelensis, 3 Sext. 1972, DUMONT, CAIN, SAMUELS et BLANCO VE-7062 y. In Torontoensis universitatis Cryptogamarum herbario.

Etymology: Latinized from the name *Venezuela*, referring to the region of the type locality.

Perithecia scattered, immersed, pyriform, brown by reflected light, light brown by transmitted light, 900—1300 × 600—640 μ , covered in the lower portion with a few septate, light brown, occasionally branched, flexuous hairs; neck glabrous, black, papilliform to conical, 350—450 × 320—350 μ ; ostiole apical, circular, lined with hyaline, filiform, septate paraphyses measuring 45—60 × 1.5—2.0 μ ; peridium membranaceous, pseudoparenchymatous in surface view, light brown to brown, 30—40 μ thick, two-layered in section, consisting of an outer peridial layer 3—5 cells wide, 15—20 μ thick, with angular, thick-walled, light brown cells and an inner peridial layer 4—7 cells wide, 15—24 μ thick, with flattened, somewhat elongated, thin-walled, hyaline cells. Asci non-amyloid, 8-spored, subclavate, 200—300 × 30—36 μ , rounded to somewhat truncate above, with a central apical depression visible when stained with cotton blue in lactophenol, gradually tapering below into a stipe measuring 70—100 μ long; apical ring indistinct; subapical globulus lacking. Paraphyses filiform, septate, hyaline. Ascospores one-celled, irregularly biseriate, hyaline, guttulate, with a gelatinous appendage at each end of the spore, initially filiform, becoming cylindrical and slightly swollen in the upper portion, finally at maturity subclavate, smooth, aseptate, rounded to truncate at the apex, rounded at the distal end, 75—87 × 16—23 μ ,

usually not forming septa or developing pigmentation before discharge; gelatinous appendages terminal, lash-like, stout, persistent, $100-240 \times 10-16 \mu$. Pigmented stage two-celled, consisting of a dark upper cell and a lower hyaline to slightly coloured cell; upper cell narrowly ellipsoidal, narrowed to truncate at the apex, truncate below, $40-48 \times 18-26 \mu$, dark brown and opaque, smooth, possessing a subapical germ pore measuring about 1.5μ diam.; lower cell cylindrical, slightly swollen in the median section, persistent, $40-56 \times 8-12 \mu$. Conidia unknown.

Habitat: on horse dung.

Specimen examined: Venezuela: Edo. Bolivar: vicinity of El Dorado, horse dung, 3 Aug. 1972, DUMONT, CAIN, SAMUELS and BLANCO VE-7062 y (TRTC).

The characteristic features of this taxon are the absence of a subapical globulus, size and smoothness of the ascospores, and the presence of a pigmented spore stage. *C. clavispora* is quite similar but possesses smaller ascospores and a coriaceous peridium. The other two species can be easily separated by the presence of a coloured tomentum, the much smaller verruculose ascospores, and the absence of a pigmented spore stage.

New Combinations

- Camptosphaeria citrinella* (LUNDQ.) KRUG & JENG comb. nov.
 = *Cercophora citrinella* LUNDQ., Symbol. Bot. Upsal. **20** (1): 116. 1972. (Basionym).
Camptosphaeria clavispora (AHMED & MIRZA) KRUG & JENG comb. nov.
 = *Podospora clavispora* AHMED & MIRZA in MIRZA & AHMED, Mycologia **62**: 1003. 1970. (Basionym).

Acknowledgement

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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 1976/1977

Band/Volume: [29](#)

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