

## ***Virgariella ellipsospora* sp. nov. (Hyphomycetes, Anamorphic fungi) from Cuba**

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**Abstract** – *Virgariella ellipsospora* sp. nov., found on dead leaves petioles of *Calyptronoma plumeriana* in two different localities of central Cuba, is described and illustrated. It differs from previously described species by its broadly fusiform to ellipsoid, sometimes mitrate or ovoid, basally papillate conidia. The main diagnostic features of the accepted species of the genus are summarized in a table.

**Anamorphic fungi / Cuba / hyphomycetes / taxonomy.**

**Resumen** – *Virgariella ellipsospora* sp. nov., colectada sobre pecíolos de hojas muertas de *Calyptronoma plumeriana* en dos localidades diferentes de Cuba central, se describe e ilustra. Esta especie se diferencia de otras especies descritas en el género por sus conidios ampliamente fusiformes a elipsoidales, en ocasiones mitrados u ovoides y papilados. Los principales caracteres diagnósticos de las especies aceptadas en el género se resumen en una tabla.

**Hongos anamórficos / Cuba / hifomicetes / taxonomía.**

### **INTRODUCTION**

In continuing surveys of hyphomycetous anamorphs from natural protected areas in Cuba, an undescribed species of the genus *Virgariella* S. Hughes was abundantly collected growing on the same substrata in two different localities of the central part of the island. The new species has broadly fusiform to ellipsoid, sometimes mitrate or ovoid, basally papillate conidia. The type specimen and other specimens examined are deposited in HACM (Mycological Herbarium of the Ecology & Systematic Institute, La Habana) and IMI.

### **DESCRIPTION**

***Virgariella ellipsospora* G. Delgado & J. Mena, sp. nov.**

*Coloniae velutinae, olivae-brunneae. Mycelium partim superficiale, partim in substrato immersum, ex hyphis pallide brunneis, septatis, laevibus, 1.5-2.5 µm*

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*crassis compositum. Conidiophora macronemata, mononemata, simplicia, fasciculata, recta vel flexuosa, septata, atrobunnea, pallidiora versus apicem, laevia, usque ad 460 µm alta, 2.5-4.0 µm lata. Conidiorum initium holoblasticum murificationem per apicalem. Conidiorum maturatio ab initio synchrona. Conidiorum secessio schizolytica. Proliferatio holoblastica et sympodialis. Cellulae conidiogenae in conidiophoris incorporatae, polyblasticae, terminales, sympodiales, non cicatricatae. Conidia acropleurogena, solitaria, late fusiformia vel ellipsoidea, aseptata, brunnea, laevia, crassitunicata, papilata ad basem, (8.0-)9.5-11.0 x 4.0-5.0 µm.*

Holotypus: CUBA, Sancti Spiritus provincia, Topes de Collantes, via Finca Codina, in petiolo emortui folii *Calyptronomae plumerianae*, 18.V.1999, G. Delgado (HACM 9580).

*Colonies* velvety, olivaceous-brown. *Mycelium* partly superficial, partly immersed in the substratum, composed of pale brown, septate, smooth hyphae, 1.5-2.5 µm wide. *Conidiophores* macronematous, mononematous, unbranched, in loose to moderately dense fascicles, straight or flexuous, septate, smooth, dark brown, paler toward the apex, up to 460 µm long, 2.5-4.0 µm wide. *Conidial initiation* holoblastic with maturation by diffuse wall-building. *Conidial maturation* synchronous with conidial ontogeny. *Conidial secession* schizolytic. *Proliferation* holoblastic and sympodial. *Conidiogenous cells* polyblastic, integrated, terminal, sympodial, not cicatrised. *Conidia* acropleurogenous, solitary, broadly fusiform to ellipsoid, sometimes mitrate or ovoid, 0-septate, brown, smooth, thick-walled, papillate at the base, (8.0-)9.5-11.0 x 4.0-5.0 µm.

Specimens examined: CUBA, provincia Sancti Spiritus, National Park Topes de Collantes, in the way to Finca Codina, on dead leaf petiole of *Calyptronoma plumeriana*, 18 May 1999, G. Delgado (HOLOTYPE: HACM 9580; ISOTYPE: IMI 386353); CUBA, provincia Sancti Spiritus, Alturas de Banao, Ecological Reserve, Teta de Juana mountain, N-E side, on dead leaf petiole of *Calyptronoma plumeriana*, 12 May 2000, G. Delgado (HACM 9941).

Other specimens examined: *Virgariella fuscopurpurea* (Berk. & M.A. Curtis) S. Hughes: UNITED STATES, South Carolina, on *Quercus* twig, M.A.Curtis (HOLOTYPE IMI 249007); *Virgariella atra* S. Hughes: UNITED KINGDOM, Maltby, Yorkshire, 09 Apr.1948, S. J. Hughes (IMI 27613).

Table I. Conidial morphological features of accepted species of *Virgariella*.

<i>Species</i>	<i>Conidia</i>			
	<i>Shape</i>	<i>Ornamentation</i>	<i>Pigmentation</i>	<i>Size (mm)</i>
<i>V. atra</i>	Subglobose to oval	Smooth	Dark-brown	11-15 x 8-13
<i>V. caribensis</i>	Globose	Smooth	Dark-brown	(11.5-)12.5-16(-16.5)
<i>V. ellipsospora</i>	Broadly fusiform to ellipsoid	Smooth	Brown	(8.0) 9.5-11.0 x 4.0-5.0
<i>V. fuscopurpurea</i>	Broadly ellipsoid to obovoid	Smooth	Brown	5-7.5 x 4-5
<i>V. globigera</i>	Globose to subglobose	Smooth	Dark-brown	6.5 - 9.5
<i>V. ovoidea</i>	Ovoid	Smooth	Dark-brown	8-9.5 x 5-6
<i>V. verrucosa</i>	Spherical	Verrucose	Very dark- brown	7-10.5
<i>V. synanamorph of Nusia scheeleae</i>	Obovoid	Smooth	Hyaline to subhyaline	6-9 x 2-5

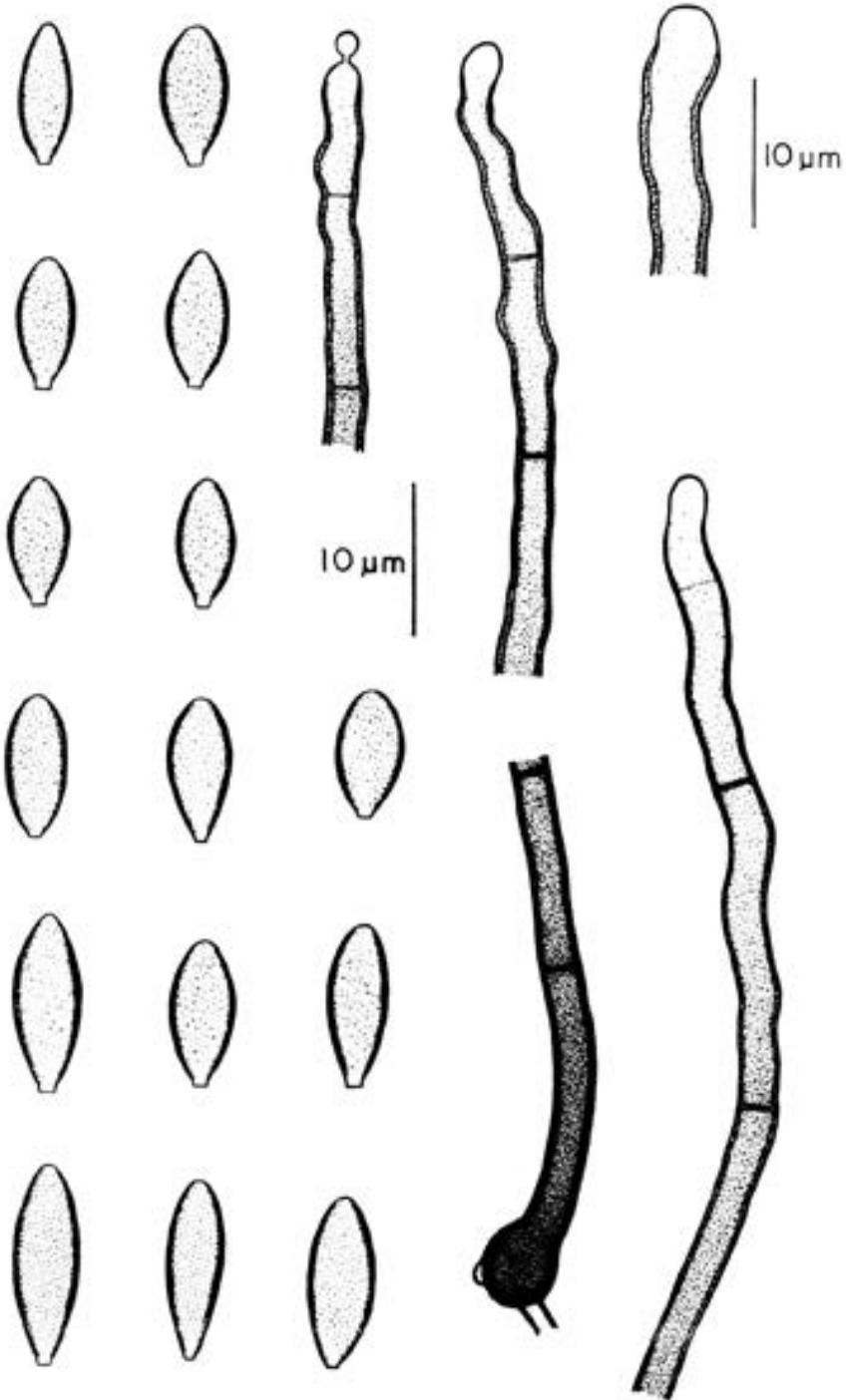


Fig. 1. *Virgariella ellipsospora*, HACM 9580. Conidia and Conidiophores.

## DISCUSSION

*Virgariella* was established by Hughes (1953) with *V. globigera* (Sacc. & Ellis) S. Hughes as the type species and two other species, *V. atra* S. Hughes and *V. fusca* (Cooke) S. Hughes, the latter considered as a synonym of *V. fuscopurpurea* (Berk. & M.A. Curtis) S. Hughes (Hughes, 1958). The genus was mainly defined by its unbranched conidiophores, non-septate, thick-walled, smooth, brown conidia born on terminal, polyblastic, sympodially proliferating conidiogenous cells. Conidia are born on small denticles which collapse after schizolytic conidial secession leaving an indistinct scar.

Later, some species or new taxa has been transferred or added to the genus: Matsushima (1975) described *V. oblonga* Matsush. and *V. sphaerica* Matsush., and de Hoog & Hermanides-Nijhof (1977) proposed *V. psilonoides* (Preuss) de Hoog and *V. hippotrichoides* (Corda) de Hoog. However, according to Kirk (1981), all these fungi seems to be incorrectly placed in *Virgariella* from which they differ in having different mode of conidial secession and the presence of persistent cylindrical denticles. Kirk (1981) then recognised only four species and described a new taxon, *V. ovoidea* P.M. Kirk, on dead wood from the U.K. Holubová-Jechová (1986) added *V. caribensis* Hol.-Jech., collected on unidentified dead branches from Cuba. Later, Sutton (1993) revised the generic concept of *Virgariella* and some related genera and, following the criteria defined by Kirk (1981), restricted the genus to six species and provided a key to accepted taxa. Sutton (1991) described also *V. verrucosa* B. Sutton from Turkey, but the placement of this fungus in *Virgariella* seems to be doubtful because the reticulate conidia apparently secede rhexolytically and unthickened, cylindrical, truncate, protuberant conidiogenous loci remain after conidial secession. A *Virgariella* synanamorph of *Nusia scheeleae* Subram. was described by Subramanian (1993), based on a collection on the rachis of *Scheelea insignis* from Singapore, but the hyaline to subhyaline conidia are not typical of the genus.

*Virgariella ellipsozona* is somewhat close to *V. fuscopurpurea* in conidial morphology but the latter differs in having broadly ellipsoid to obovoid, not papillate, smaller conidia at  $5.0\text{--}7.5 \times 4\text{--}5 \mu\text{m}$  (Ellis & Everhart, 1883; Kirk, 1981) and shorter conidiophores (up to  $125 \mu\text{m}$  long). *V. atra* forms mainly subglobose and larger conidia at  $11\text{--}15 \times 8\text{--}13 \mu\text{m}$ . The *Virgariella* synanamorph of *Nusia scheeleae* may be also compared with *V. ellipsozona* from which it differs in having shorter conidiophores ( $225 \mu\text{m}$ ) arising on compact sclerotia-like hyphal aggregates and obovoid, hyaline to subhyaline, thin-walled, shorter conidia ( $6\text{--}9 \times 2\text{--}5 \mu\text{m}$ ).

The new species was found twice, colonising petiole of dead leaves of *Calyptrogonia plumeriana*, a Cuban endemic palm, in two different conservation areas in central Cuba, apparently showing some affinities for this substratum.

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