Abstract – Thirty-one species of myxomycetes from the protected area Sierra de Alamos - Rio Cuchujaqui were studied. Fifteen taxa are new records for the Mexican state of Sonora: Cribraria fragilis, Diachea bulbillosa, D. leucopodia, Diderma effusum, D. hemisphaericum, Fuligo megaspora, Licea castanea, Oligonema schweinitzii, Physarella oblonga, Physarum aurispalium, P. bogoriense, P. cinereum, P. viride, Stemonaria longa and Stemonitis mussooriensis. Including these new records, eighty-one taxa have now been described for the Sonoran myxobiota. The species studied are discussed and photomicrographs of their macro- and microscopic characters are provided for some of them.

Key words – myxomycota, chorology, taxonomy, SEM

Introduction

The Sierra de Alamos – Rio Cuchujaqui region was decreed as a wildlife protection area in 1996 and a Biosphere Reserve by UNESCO on September 18, 2007. This protected region, which is located at 27°12’–26°53’ N and 109°03’–108°29’ W, comprises an area of 92,889 ha in southeastern Sonora in the municipality of Alamos. The climate is subhumid, with rain in summer, and the vegetation is mainly microphyllous desert scrub, tropical deciduous forest, oak forest, and pine-oak forest. Tropical dry forest covers 64.5% of the total area of Alamos.
This forest is characterized by high-elevation vegetation with mostly mesophilic and hydromorphic species, along with some spinose shrubs and succulent plants. An outstanding adaptive characteristic of the plants that comprise this type of vegetation is the nutrient reservoir contained in their root system. This makes it possible for the plant to quickly respond to rainfall in summer and also allows plants to survive and grow during drought. The latter phenomenon is documented for trees such as Bursera laxiflora S. Watson, B. stenophylla Sprague & L. Riley, Ceiba acuminata (S. Watson) Rose, Ficus trigonata L., Haematoxylum brasiletto H. Karst., Lysiloma watsonii Rose and Taxodium mucronatum Ten., which are found along the Cuchujaqui River. Other plants that are representative of this tropical forest include Acacia cochliacantha Willd., Ambrosia ambrosioides (Cav.) W.W. Payne, Croton flavescens Greenm., Ipomoea arborescens (Willd.) G. Don, Pachycereus pecten-aboriginum (Engelm.) Britton & Rose, Pithecellobium sonorae S. Watson, Prosopis glandulosa Torr. and Vitex mollis Humb. et al. Some macromycetes have been reported in association with these tropical deciduous forest plants in the Alamos Mountains (Esqueda et al. 1999).

There are 81 taxa of myxomycetes known for Sonora, including the fifteen new records for the Sierra de Alamos – Rio Cuchujaqui region. The distribution of the taxa in Mexico follows Moreno et al. (2007).

**Materials and methods**

The collections studied were gathered mainly in the field, but some were cultivated in moist chambers. Samples for light microscopy were mounted in Hoyer’s medium and PVA following Schnittler & Novozhilov (1996) and Koske & Tessier (1983). Spores were measured, to include surface structures such as spines or warts, with an oil immersion lens. For ultramicroscopic studies, the material to be examined was rehydrated in concentrated ammonium hydroxide (28–30%) for 30 minutes, dehydrated in aqueous ethanol (70%) for 30 minutes, fixed for 2 hours in pure ethylene glycol dimethyl ether (= 1,2-dimethoxymethane) and finally immersed in pure acetone for at least 2 hours. This was followed by critical point drying and sputtering with gold-palladium. The micrographs were taken at the University of Alcalá using a Zeiss DSM–950. This technique uses very little material (one sporocarp, a part of it or only a small portion of spores). Terminology used to describe spore ornamentation follows that of Rammeloo (1975a,b). For each species, the locality is included (see details in Table 1); collectors are abbreviated as follows: S. Chacón (SC), J. Cifuentes (JC), M. Esqueda (ME), S. Gómez (SG), M. Lizárraga (ML), E. Pérez-Silva (EPS), M. Rivera (MR), A. Sánchez (AS) and R. Valenzuela (RV); date and herbarium are also given. First records for the Sonoran myxobiota are indicated by an asterisk.
Table 1. Sampling localities in the Sierra de Alamos - Rio Cuchujaqui protected area.

<table>
<thead>
<tr>
<th>Localities</th>
<th>N</th>
<th>W</th>
<th>Elevation</th>
<th>Vegetation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. La Cañita</td>
<td>26° 59' 31”</td>
<td>108° 38' 59”</td>
<td>643 m</td>
<td>TDF, OF</td>
</tr>
<tr>
<td>2. El Aguaje</td>
<td>26° 56' 49”</td>
<td>108° 41’ 41”</td>
<td>491 m</td>
<td>TDSF, GF</td>
</tr>
<tr>
<td>3. El Cuzalito</td>
<td>26° 58' 33”</td>
<td>108° 39’ 33”</td>
<td>713 m</td>
<td>OF</td>
</tr>
<tr>
<td>4. El Platanar</td>
<td>26° 59’ 27”</td>
<td>108° 40’ 40”</td>
<td>635 m</td>
<td>TDSF</td>
</tr>
<tr>
<td>5. Huerta Vieja</td>
<td>27° 02’ 05”</td>
<td>109° 02’ 54”</td>
<td>563 m</td>
<td>TDF</td>
</tr>
<tr>
<td>6. Mesa del Trigo</td>
<td>26° 58’ 13”</td>
<td>108° 41’ 19”</td>
<td>583 m</td>
<td>TDSF/SVSH</td>
</tr>
<tr>
<td>7. Palo Injerto</td>
<td>27° 03’ 04”</td>
<td>108° 43’ 52”</td>
<td>399 m</td>
<td>TDF/SVS</td>
</tr>
<tr>
<td>8. Promontorios</td>
<td>27° 00’ 53”</td>
<td>109° 02’ 11”</td>
<td>536 m</td>
<td>TDF</td>
</tr>
<tr>
<td>9. San Pedro</td>
<td>27° 03’ 53”</td>
<td>108° 43’ 44”</td>
<td>444 m</td>
<td>TDF</td>
</tr>
</tbody>
</table>

TDF: Tropical deciduous forest; OF: Oak forest; TDSF: Tropical deciduous and subdeciduous forest; GF: Gallery forest; SVS: Secondary vegetation of shrubs; SVSH: Secondary vegetation of shrubs and herbs.

Species List


Observations: This species has been cited for the Mexican states of Chiapas, Chihuahua, Jalisco, Morelos, Nuevo Leon, Puebla, Quintana Roo, Sonora, Tabasco, Tamaulipas, Veracruz and Yucatan and is commonly distributed in the tropical and subtropical regions of Mexico.

Comatricha elegans (Racib.) G. Lister, Guide Brit. Mycetozoa, ed. 3: 31 (1909)


Observations: Comatricha elegans was recently described for Chihuahua by Lizárraga et al. (2005b). The authors published photomicrographs of sporocarps by transmitted light and spore ornamentation under SEM. In Mexico, its known distribution is Chihuahua, Jalisco, Sonora, Tabasco and Veracruz.


**Observations:** *Comatricha tenerrima* is characterized by sporocarps attenuating at the apex and spores 7-8 µm diam., ornamented as baculate under SEM with a stelliform to coralloid apex (Lizárraga et al. 1999a, 2005b, 2007). This taxon has been reported for Baja California, Chihuahua, Guerrero, Jalisco, Quintana Roo, Sonora, Tlaxcala, Veracruz and Yucatan.

*Cribraria fragilis* Lado & Estrada, in Estrada et al., Mycologia 93(4): 744 (2001)  
Figs. 1–5  
specimens studied: Locality 8, leg. ML, ME, SC, RV & JC, 12.IX.2006, on decayed cactus, AH 31918.  
Observations: The characteristic features of this species are the small sporocarps with violet hues, ca. 0.2-0.3 mm in total height, conspicuous calyculus, absence of peridial net at maturity; spores 8-9 µm diam., subglobose, with conspicuous longitudinal bands which form depression-like valleys where prominent and scattered warts are located visible under SEM; and its succulenticolous habitat. It can be distinguished from *Cribraria violacea* Rex by the globose and warted spores of the latter species; and from *Cribraria zonatispora* Lado et al., by the ellipsoidal shape and inconspicuous verrucose spores of the latter species. *C. zonatispora* also has succulenticolous habitat. It was described as a new species for the Mexican state of Morelos by Estrada et al. (2001).

*Diachea bulbillosa* (Berk. & Broome) Lister, in Penzig, Myxomyc. Fl. Buitenzorg: 45 (1898)  
Figs. 6–7  
Observations: The distinctive characters of this species are its stalked sporocarps; globose sporotheca; calcareous stalk, whitish to ochraceous-white, rigid and fragile; spores 9-11 µm diam., globose, conspicuously spinose; capillitium with dark purple filaments, (2-)3-4 µm diam., tapering with discoloration at the apex. Mexican collections showed spore ornamentation strongly spinose under SEM as was recently described for Cuban collections by Camino et al. (2005). It was previously recorded for the Mexican states of Jalisco, Quintana Roo and Veracruz.

*Diachea leucopodia* (Bull.) Rostaf., Sluzowce Monogr.: 190 (1874)  
specimens studied: Locality 2, leg. ML, ME, SC, RV & JC, 14.IX.2006, on dried *Quercus* sp. leaves, CESUES 7299.  
Observations: This cosmopolitan species was reported for Baja California, Chihuahua, Estado de Mexico, Jalisco, Morelos, Nuevo Leon, Sinaloa, Tlaxcala and Veracruz.
Figs. 1–5 *Cribraria fragilis* AH 31918: 1. Detail of inner side of calyculus. 2. Detail of outer side of calyculus and stalk. 3. Detail of outer side of calyculus ornamentation. 4. Spores. 5 Spore with longitudinal bands and scattered warts. Figs. 6–7 *Diachea bulbillosa* CESUES 7300: 6. Spore. 7. Detail of spore ornamentation. Scale bars. 1 = 500 µm. 2 = 20 µm. 3-6 = 2 µm. 7 = 1 µm.
*Diderma effusum* (Schwein.) Morgan, J. Cincinnati Soc. Nat. Hist. 16: 155 (1894)

Specimens studied: Locality 3, leg. ML, ME, SC, RV & JC, 15.IX.2006, on Quercus sp. leaves, CESUES 7307.

Observations: The distinctive characters of this taxon are the sessile and flattened sporocarps; globose to subglobose spores, 8–10 µm diam., verruculose with faint clusters of larger warts. *Diderma cubense* Berk. & M.A. Curtis is a synonym that was recently confirmed by Camino et al. (2005). These authors studied the type specimens. Although this is a cosmopolitan species (Martin & Alexopoulos 1969), there are few records for Mexico: Chiapas, Chihuahua, Jalisco, Quintana Roo, Veracruz and Yucatan.

*Diderma hemisphaericum* (Bull.) Hornem., Fl. Dan. 33: 13 (1829)

Specimens studied: Locality 8, leg. ML, ME, SC, RV & JC, 12.IX.2006, on Quercus sp. leaves, CESUES 7289.

Observations: This cosmopolitan species is commonly reported for Mexico: Baja California, Chiapas, Chihuahua, Nuevo Leon, Quintana Roo, Tabasco, Tlaxcala, Veracruz and Yucatan.

*Diderma spumarioides* (Fr.) Fr., Syst. Mycol. 3: 104 (1829)

Specimens studied: Locality 4, leg. ML, ME, SC, RV & JC, on dried Quercus sp. leaves, AH 31920.

Observations: The studied material is characterized by its densely clustered fructifications but with individual sporocarps amongst them, subglobose, whitish, embedded in a hypothallus; peridium thin, calcareous. Spore-mass black, globose, violet hues by transmitted light, 11–12 µm diam., ornamented with verrucae that are regularly distributed on the surface. The features observed in the collections agree with descriptions of Lizárraga et al. (2007). It has been cited for the Estado de Mexico, Jalisco, Quintana Roo, Sonora, and Yucatan.


Specimens studied: Locality 1, leg. ML, ME, AS & MR, 23.XI.2005, on Prosopis sp. wood, AH 31916. It was cultivated in a moist chamber (01.XII.2005), fruiting on 15.XII.2005.

Observations: Previously reported in Mexico for Baja California Sur, Chihuahua, Sonora, and Tlaxcala.


Observations: This taxon is easily recognized by its whitish aethalia and typically large, dark spores, 15-20 µm diam., ornamented by strong crests, which
are sometimes subreticulate. Under SEM, the spore ornamentation comprises irregular crests, which are occasionally anastomosed with the apex denticulate-verrucose. It has previously been recorded for some Mexican states: Colima, Jalisco, Nuevo Leon, Quintana Roo, Tlaxcala, and Yucatan.

**Fuligo septica** (L.) F.H. Wigg., *Prim. Fl. Holsat.*: 112 (1780)  
**specimens studied:** Locality 1, leg. ML, AS, ME & MR, growing on *Pseudotsuga menziesi* wood at 1.2 m high, CESUES 7280.  
**Observations:** A cosmopolitan taxon (Martin & Alexopoulos 1969) that has been widely cited for Mexico (Moreno et al. 2007).

**Observations:** This species is regularly reported from Mexico: Baja California, Baja California Sur, Chiapas, Chihuahua, Guerrero, Hidalgo, Jalisco, Morelos, Nuevo Leon, Oaxaca, Quintana Roo, Sinaloa, Sonora, Tabasco, Tamaulipas, Veracruz, and Yucatan. This taxon is common in tropical zones.

**Hemitrichia parviverrucospora** (Lizárraga, G. Moreno & Illana) G. Moreno & Illana, in Pérez-Silva et al., *Mycotaxon* 77: 187 (2001)  
**Observations:** This species is recognized by its capillitium with very spiny ornamentation with spines frequently 4–7 µm long, spores reticulate with small warts within the meshes, visible only under SEM (Lizárraga et al. 1999b, Pérez-Silva et al. 2001). This species has been reported only for Central Africa and Mexico (Baja California Sur, Guerrero, Sinaloa and Sonora).

**Licea castanea** G. Lister, *J. Bot.* 49: 61 (1911)  
**specimens studied:** Locality 9, leg. ML, ME, AS & MR, 24.XI.2005, on *Pseudotsuga menziesii* wood, AH 31915. It was cultivated in a moist chamber (24.II.2006), fruiting on 02.III.2006.  
**Observations:** This species is characterized by its minute fructifications, ca. 0.1–0.3 mm in total height, yellowish brown to chestnut brown, dehiscence by polygonal plates; peridium overlaid with abundant granular material, inferior inner surface exhibiting numerous papillae. Spores globose, pale yellow in transmitted light, smooth, thick-walled, and with a conspicuous pale area. It is cited for Chihuahua, Tlaxcala, and Yucatan.

*Fig. 10–12*


**Observations:** *Lycogala flavofuscum* is characterized by its pale to colourless pseudocapillitium comprising irregular tubes, 10–35 µm diam., ornamented by small warts or spines and its globose and transparent spores of 4–6 µm in diam, with an incomplete reticulum that is barely perceptible. With the SEM, one can observe that the reticulum is formed of several meshes of different widths, with a mesh-free zone and smooth reticulate walls. Reported for Baja California, Chiapas, Distrito Federal, Guanajuato, Jalisco, Michoacan, Sonora, Tamaulipas, and Tlaxcala.


**Observations:** *Macbrideola decapillata* has been reported previously from the Mexican states of Chihuahua, Puebla, and Sonora. This rare species was described and photographed during recent research in Chihuahua (Lizárraga et al. 2003), Puebla (Keller & Braun 1977), and Sonora (Moreno et al. 2006).


**Observations:** A detailed description of this species and its comparison to *Metatrichia vesparium* (Batsch) Nann.-Bremek. ex G.W. Martin & Alexop., was given by Moreno et al. (1997), based on collections from Baja California Sur. Reported for Baja California Sur, Guerrero, Quintana Roo, Sinaloa, Sonora, Veracruz and Yucatan.


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Fig. 8 *Echinostelium apitectum* AH 31916: Fructification and spores. Fig. 9 *Fuligo megaspora* AH 31904: Spore. Figs. 10–12 *Lycogala flavofuscum* AH 31910: 10. Detail of capillitium. 11. Spore. 12. Detail of spore ornamentation. Fig. 13 *Oligonema schweinitzii* AH 31908: Capillitium.

Scale bars. 8 = 10 µm. 9 = 2 µm. 10 = 5 µm. 11 = 1 µm. 12 = 0.5 µm.
Observations: *Oligonema schweinitzii* is characterized by its densely clustered, sessile, and subglobose sporocarps sometimes cylindrical to obconical in shape, over 1 mm in length and 0.5-0.9 mm in diam.; peridium is membranous, thin, and shiny, with the inner surface ornamented by dense warts visible with SEM but barely perceptible in transmitted light. Spore-mass yellow, light yellow by OM, globose to subglobose, 10-12 μm in diam, reticulate, with the reticule formed by several wide meshes somewhat irregular in shape. Under SEM, reticule formed of smooth walls, the upper portions of which are composed of smaller meshes of irregular widths. Capillitium is formed by yellow elaters, 3-4 μm in diam., and bearing warts that are conspicuous under the SEM.

The Mexican collection is characterized by its subglobose densely clustered sporocarps; verrucose inner peridium; narrow and wart-bearing capillitium and reticulate spores with meshes conspicuously wide and sometimes fragmented. It differs from the descriptions indicated for this species by authors such as Martin & Alexopoulos (1969), Rammeloo (1984), Neubert et al. (1993), and de Haan (2003) owing to the verrucose capillitium and the lack of smooth elaters that bear fine and smooth dextrose spirals.

A closely related species is *Oligonema flavidum* (Peck) Peck, which also has reticulated spores but with meshes that are closer; thus, the spore morphology is very different compared with Mexican collection, as we can see in the plates by Rammeloo (1984). For this reason we decided to identify it as *O. schweinitzii*. There was only one previous report of the genus *Oligonema* in Mexico: *O. schweinitzii*, which was reported by MacBride (1899) without specifying the locality. Thus, it has been considered as a dubious record in the catalogue of the myxomycetes of Mexico.


**Specimens studied:** Locality 2, leg. ML, ME, AS & MR, 22.XI.2005, on the decaying wood of *Quercus* sp., CESUES 7275.

**Observations:** Cited for Baja California, Baja California Sur, Chihuahua, Morelos, Puebla, Quintana Roo, Sinaloa, Sonora, Tlaxcala, Veracruz, and Yucatan. A cosmopolitan species that is easily recognized by its sporocarps, which are flat and bear a lateral dehiscence line that runs around them.

*Physarella oblonga* (Berk. & M.A. Curtis) Morgan,


**Specimens studied:** Locality 8, leg. ML, ME, SC, RV & JC, 12.IX.2006, on the decayed bark of *Quercus* sp., CESUES 7288, CESUES 7287.


Scale bars. 14, 16, 19-20 = 2 μm. 15, 17-18 = 5 μm.
**Observation:** *Physarella oblonga* was cited previously for Chiapas, Quintana Roo, Sinaloa, Veracruz, and Yucatan. This species has a rare tropical distribution in Europe.


**Specimens studied:** Locality 2, leg. ML, ME, SC, RV & JC, 14.IX.2006, on the fallen leaves of *Quercus* sp., AH 31921.

**Observations:** This taxon is recognized by its sessile sporocarps, varying from subglobose to short plasmodiocarps; peridium orange; capillitium physaroid with whitish nodules. Spores 8-9 μm diam., globose, ornamented with spines and small groups of spines. Under SEM, spore ornamentation consists of tight rods in a semi-regular arrangement. It has been cited only for Baja California (Moreno et al. 2007).

*Physarum bogoriense* Racib., Hedwigia 37: 52 (1898)

**Specimens studied:** Locality 8, leg. ML, ME, SC, RV & JC, 12.IX.2006, on a fallen branch of *Quercus* sp., AH 31922.

**Observations:** *Physarum bogoriense* is characterized by its sporocarps with a double peridium: the external peridium is calcareous, yellow, and dehiscent by patches, while the internal peridium is membranous with an iridescent greyish colour. Spores 7-8 μm in diam., with conspicuous spiky ornamentation and compact groups of thicker spines. Under SEM, the ornamentation is shown as tightly packed rods. Cited from Guerrero, Nuevo Leon, Quintana Roo, Tlaxcala, Veracruz, and Yucatan.

*Physarum cinereum* (Batsch) Pers., Neues Mag. Bot. 1: 89 (1794)

**Specimens studied:** Locality 7, leg. ML, ME, SC, RV & JC, 13.IX.2006, on bark of *Quercus* sp., AH 31914.

**Observations:** This species has fructifications that vary from globose sporocarps to short plasmodiocarps, whitish, with abundant pale nodules at the capillitium that are more or less subglobose in shape. Spores 9-10 μm in diam., violet in mass and light violet by transmitted light with groups of larger and darker warts. Cited from Baja California, Chihuahua, Guerrero, Jalisco, Nuevo Leon, Quintana Roo, Tlaxcala, Veracruz, and Yucatan. It is a cosmopolitan species (Martin & Alexopoulos 1969).
Sonoran Myxomycetes 4 (Mexico)
Physarum compressum Alb. & Schwein., Consp. Fung. Lusat.: 97 (1805)


Observations: This cosmopolitan species has been reported for Baja California Sur, Chiapas, Jalisco, Morelos, Nuevo Leon, Quintana Roo, Sinaloa, Sonora, and Veracruz.

Physarum globuliferum (Bull.) Pers., Syn. Meth. Fung.: 175 (1801)


Observations: Physarum globuliferum is characterized by its stalked sporocarps; globose, whitish, sporotheca, with columella; calcareous whitish stalk; spores 7–8 µm diam., verrucose, with groups of more conspicuous and thicker warts on its surface. P. tenerum is a closely related species that differs from the former by its columella in a globose sporotheca, a calcareous stalk that is brownish-yellow and larger spores, which are 8–11 µm in diam. Previously reported from Chiapas, Quintana Roo, Sonora, Veracruz, and Yucatan.


specimens studied: Locality 6, leg. ML, ME, SC, RV & JC, 14.IX.2006, on the rotten wood of Quercus sp., CESUES 7306.

Observations: This cosmopolitan species is cited for Chihuahua, Estado de Mexico, Guerrero, Nuevo Leon, Quintana Roo, Tlaxcala, Veracruz, and Yucatan.

≡ Comatricha longa Peck, Annual Rep. New York State Mus. 43:70 (1890)


Observations: This species is characterized by its quite long, pendulous sporocarps (more than 10 mm long), and by its open capillitium, with free branches and dichotomous terminations; spores 8–10 µm in diam., globose, which appear verrucose and reticulated by transmitted light. Under SEM, the reticulum is clearly observed, plus abundant meshes and pierced walls. This species has been cited for Chiapas, Jalisco, Quintana Roo, Veracruz, and Yucatan.
Fig. 27–31 Stemonitis mussooriensis AH 31923: 27. Sporotheca. 28. Detail of sporocarp apex. 29. Detail of capillitium. 30. Spore. 31. Detail of spore ornamentation.

Scale bars: 27 = 200 µm, 28 = 50 µm, 29 = 20 µm, 30 = 2 µm, 31 = 1 µm.
Stemonitis fusca  
Roth, Bot. Mag. (Römer & Usteri) 1(2): 26 (1787)

**Specimens Studied:** Locality 5, on wood remains of Quercus sp., leg. ML, ME, EPS, AS & MR, 21.XI.2005, CESUES 7260.

**Observations:** Previously reported for Baja California, Baja California Sur, Chiapas, Chihuahua, Jalisco, Nuevo Leon, Puebla, Quintana Roo, Sonora, Tabasco, Tamaulipas, Tlaxcala, Veracruz, and Yucatan. This cosmopolitan species is frequently found in Mexico.

*Stemonitis mussooriensis* G.W. Martin, K.S. Thind & Sohi,  
Mycologia 49(1): 128 (1957)  
**Figs. 27–31**

**Specimens Studied:** Locality 5, leg. ML, ME, SC, RV & JC, 12.IX.2006, on cortex of a liana, AH 31923.

**Observations:** This apparently rather rare species is characterized by its stalked fructifications 1.5–2.2 mm in total height, fruiting in small groups. Sporotheca 1.1–1.6 x 0.3–0.4 mm, cylindrical, dark brown. Peridium evanescent. Stalk short, about one third the total height of the sporocarp. Membranous hypothallus. Capillitium violet-brown which forms an inner and loose net with few free terminations; it may break towards the apex, and bears a more or less abundant number of spines. Central columella tapering towards the apex. Spore mass brownish-black, dark violet by transmitted light, 10–12 µm in diam., globose, conspicuously spiny ornamented, occasionally bearing a pale coloured area. Under SEM, spore ornamentation appears to be composed of long rods with irregular apexes and slightly denticulate.

This collection has been compared to the type material of *S. mussooriensis*, with which it coincides in all characters. There is only one report of *S. mussooriensis* cf., belonging to Veracruz (Lado et al. 2003), which reported smaller spores that did not exceed 10 µm in diam., with spines about 0.5 µm long.

Trichia affinis de Bary, in Fuckel,  

**Specimens Studied:** Locality 2, leg. ML, ME, SC, RV & JC, 14.IX.2006, on the woody remains of Quercus sp., CESUES 7301.

**Observations:** A SEM study in which the elaters and spore ornamentation can be appreciated for the Sonoran collections was done by Pérez-Silva et al. (2001). This species has been cited for Quintana Roo, Sonora, and Yucatan.
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Literature cited


