

A Review of Neotropical Myxomycetes (1828-2008)

by

Carlos Lado & Diana Wrigley de Basanta

Real Jardín Botánico, CSIC, Plaza de Murillo 2, 28014 Madrid, Spain. lado@rjb.csic.es

Abstract

Lado, C. & Wrigley de Basanta, D. 2008. A Review of Neotropical Myxomycetes (1828-2008). *Anales Jard. Bot. Madrid* 65(2): 211-254.

A synthesis of the accumulated knowledge on myxomycetes recorded from the Neotropical region is presented in this paper. The biodiversity of these microorganisms in the Neotropics has been underestimated, and this paper shows that half the known species in the world have been recorded from the region. The monograph by M.L. Farr, for the series Flora Neotropica, published in 1976, has been taken as a baseline. The records produced after this date, some older obscure records, and data from recently published catalogues, monographs and other papers have been incorporated. The information is presented in a table format by species and countries. Species names are listed with synonyms that have been used in Neotropical literature and nomenclature has been updated. A comprehensive list of references by country has been included. A characteristic assemblage of myxomycetes from the Neotropics has been identified. The richness of myxobiota in different countries has been evaluated, and gaps in current information and unexplored areas have become evident from the results. Use of the compiled information to direct conservation plans, and to serve as a starting point to establish and develop future strategies for the study of myxomycetes in this area of the world, is discussed. The importance of prioritizing this research on microorganismal biodiversity, in view of accelerated habitat destruction, is stressed.

Keywords: biodiversity, microorganisms, protists, Mycetozoa, tropics, geographical distribution, catalogue, Central America, Caribbean, South America.

Introduction

The biodiversity of microorganisms is a topic that is becoming increasingly important since they are the very basis of ecosystems. Myxomycetes are eukaryotic microorganisms, with unicellular and coenocytic

Resumen

Lado, C. & Wrigley de Basanta, D. 2008. Revisión de los Myxomycetes del Neotrópico (1828-2008). *Anales Jard. Bot. Madrid* 65(2): 211-254 (en inglés).

Se realiza una síntesis sobre el conocimiento actual de los Myxomycetes en el Neotrópico. La biodiversidad de estos microorganismos en la región neotropical ha sido subestimada, pero este trabajo demuestra que la mitad de las especies conocidas en el mundo se han citado de esta región. La monografía que M.L. Farr publicó en 1976, para la serie Flora Neotrópica, se ha tomado como punto de partida para la realización de este trabajo. A ella se han incorporado las citas publicadas después de esta fecha, algunas más antiguas pero raras, y datos de catálogos, monografías y otros trabajos recientes. La información se presenta en una tabla de doble entrada, por orden alfabético de especies y por países. La nomenclatura de las especies se ha actualizado y se han añadido los sinónimos con los que han sido citadas en la bibliografía neotropical. También se incluye una lista de referencias bibliográficas por países. Se ha podido identificar un conjunto de especies de Myxomycetes que, por su abundancia de citas en los países neotropicales, parecen características de la región. Se evalúa, por países, la riqueza de su mixobiota y se ponen de manifiesto la falta de información y los escasos estudios que se han llevado a cabo en determinados territorios de esta región biogeográfica. Se discute y comenta el uso que se puede dar a esta información recopilada, como punto de partida para establecer y desarrollar estrategias de estudio sobre los Myxomycetes en esta parte del mundo. Por último, se llama la atención sobre la importancia y prioridad que se debe dar a la investigación sobre biodiversidad de microorganismos, a la hora de valorar la acelerada destrucción de hábitat.

Palabras clave: biodiversidad, microorganismos, protistas, Mycetozoa, trópicos, distribución geográfica, catálogo, América Central, Caribe, América del Sur.

phagotrophic phases. They inhabit all terrestrial ecosystems, feeding on bacteria and other microorganisms, in and on plant parts and plant remains. Some are known to be associated with specific ecosystems, while others are more cosmopolitan, and research into their diversity and their specific relation-

ships within certain ecosystems is an emerging focus of recent research. This is especially critical in areas like the Neotropics, where rapid habitat loss endangers all components of the various biomes. The Neotropical region is one of the biogeographical regions with the highest biodiversity in the world. Estimates by Davis & al. (1997), show that more than 70.000 endemic plant species exist in the Neotropics, and the Tropical Andean region alone, contains about a sixth of all plant life in less than 1% of the world's land area. More than a third of the centres of plant diversity and endemisms recognized by Davis & al. (1997) and eight of the designated biodiversity "hot spots", where "exceptional concentrations of endemic species are undergoing exceptional loss of habitat" (Myers & al., 2000), are located in this area (Mittermeier & al., 2004). In contrast, the knowledge of myxomycetes of the Neotropics is far from complete. The first record of myxomycetes in the Neotropics was in 1828, from Chile (Bertero, 1828). In the 19th Century there were various publications from the region. Farr (1976), included these in a monograph published in the series *Flora Neotropica*, in which she compiled all the information available up to the year 1975. In this monograph, 250 of the almost 900 myxomycete species known in the world (Lado, 2008), were reported for this region. This is about the same as in single, possibly less diverse, but well studied countries, like the United Kingdom, the Netherlands, Ireland, France or Spain, which have 250-350 species recorded (Nanenga-Bremekamp, 1991; Lado, 1994; Ing, 1999).

Several research projects on Neotropical myxomycetes, supported by science foundations or research institutions from different countries such as Spain, USA, Brazil or Mexico, have been developed over the last decade and some are currently in progress. The objectives and outcomes of these projects are different but complementary. Some are devoted to the study of pristine tropical forest (Novozhilov & al., 2000; Schnittler & al., 2002; Lado & al., 2003; Stephenson & al., 2003), others to special microhabitats (Schnittler, 2001; Schnittler & Stephenson, 2002a; Maimoni-Rodella & Cavalcanti, 2006; Wrigley de Basanta & al., 2008), others to the knowledge of the myxobiota of specific environments (Mosquera & al., 2000b; Lado & al., 2007b; Estrada-Torres & al., in press), and others make inventories of regions (Hochgesand & Gottsberger, 1996; Pando, 1997; Lizárraga & al., 1997; Estrada-Torres & al., 2001; Putzke, 2002; Cavalcanti, 2002; Maimoni-Rodella, 2002). Additionally, some recent checklists and catalogues of Myxomycetes, from regions or countries such as Colombia (Uribe-Meléndez, 1995), French Guayana (Courtecuisse & al., 1996), Brazil (Putzke, 1996), Mexico (Ogata & al., 1994; Illana & al., 2000; Moreno & al., 2007), the Caribbean (Minter

& al., 2001) or Argentina (Crespo & Lugo, 2003), have been published, and new species or genera have been described from the region (Hochgesand & Gottsberger, 1989; Lado & al., 1999a, 2007b; Mosquera & al., 2003; Estrada-Torres & al., 2001, 2003). All these projects, and their resulting publications have provided, in a short time, an important and valuable body of information, on the myxobiota of this bioregion, but much of the data is dispersed and, in some cases, is difficult to obtain.

The objective of this paper is to compile and synthesize all the accumulated information on the presence of Myxomycetes, in this part of the world. Apart from providing an up to date view of the knowledge of myxomycetes from the Neotropics, it can be used to show gaps of information, and areas currently unexplored. In addition, it can be used to evaluate the richness of the myxobiota in different countries, and so provide information for future conservation and protection plans, and also serve as a starting point to establish and develop future strategies for the study of myxomycetes in this area of the world.

Geographic area covered

The geographic area covered by this review includes all of the American territories between the Tropic of Cancer and the Tropic of Capricorn, and encompasses all the Mesoamerica and Caribbean bioregions as well as South America. We consider whole countries in a political sense, even when the limits of all the territory of the country are not included between the limits of the Neotropical region in a strict sense, as is the case of Mexico, Argentina and Chile. Uruguay, the only country out of the limits of the tropics, but with subtropical features, is also included. With these criteria the paper includes all of the territories between Mexico (Fig. 1), as the northern limit, and Tierra del Fuego (Fig. 2), as the southern limit.

The area has been divided, for practical reasons, into thirty regions, which largely conform to political circumscriptions. But the designations of geographical entities do not imply the expression of any opinion whatsoever concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. The countries are designated with the three-letter code of Botanical Countries established by Brummitt (2001) in the World Geographical Scheme for Recording Plant Distributions. Some exceptions were made, to enable an easier interpretation of the data, and so a single code is used for all the continental territory of Mexico (MEX) as well as its Pacific and Caribbean Islands, and for all of the territories of Brazil (BZI). Those of Argentina (AGA) and Chile (CLI), include each country's area of Tierra del



Fig. 1. Central America and the Caribbean.

Fuego. Tiny enclaves of one country in another have been ignored, and geographical disjunctions such as major or remote islands have been included in their countries of political dependence. According to these criteria, the Desventurados Islands and Juan Fernandez Islands are also included in Chile (CLI), the Galapagos Islands are included in Ecuador (ECU), and the Fernando de Noronha and Trindade Islands in Brazil (BZI).

Due to the large number of islands and to avoid too much division of the territory, the Leeward Islands of the Caribbean bioregion, such as Anguilla, Antigua-Barbuda, Guadalupe, Montserrat or the American Virgin Islands, have been considered as one territory (LEE). The same criteria have been applied to the Bahama Islands (BAH) and the Windward Islands (WIN), that include Barbados, Dominica, Grenada, St. Lucia, Martinique and St. Vincent. The little islands making up the Central American Pacific Islands such as Cocos, Coiba and Malpelo, are included in the countries of political dependence (Costa Rica, Panama or Colombia), as have the Southwest Caribbean Islands of Colombian, Honduran and Nicaraguan Islands. The Dutch territories of Aruba, Bonaire and Curaçao Islands, are included in Venezuela as well as the Venezuelan Antilles. The Turks and Caicos Islands have been included with the Bahamas, and the

Cayman Islands jointly with Cuba. Abbreviations used herein are listed and shown on figs. 1-2.

Central America

- MEX** Mexico (Guadalupe Island, Rocas Alijos Islands and Revillagigedo Islands included)
- BLZ** Belize
- GUA** Guatemala
- HON** Honduras (Honduran Caribbean Islands included)
- ELS** El Salvador
- NIC** Nicaragua (Nicaraguan Caribbean Islands included)
- COS** Costa Rica (Cocos Island included)
- PAN** Panama (Coiba Island included)

Caribbean

- BAH** Bahamas (Turks and Caicos Islands included)
- CUB** Cuba (Cayman Islands included)
- JAM** Jamaica
- HAI** Haiti (Navassa Island included)
- DOM** Dominican Republic
- PUE** Puerto Rico
- LEE** Leeward Islands (Antigua-Barbuda, Anguilla, Aves Island, British Virgin Islands, Guadeloupe, Montserrat, Netherlands Leeward Islands, St. Kitts-Nevis, St. Martin-St. Barthélemy and Virgin Islands)
- WIN** Windward Islands (Barbados, Dominica, Grenada, Martinique, St. Lucia, St. Vincent)
- TRT** Trinidad and Tobago



Fig. 2. South America.

South America

CLM Colombia (Colombian Caribbean Islands and Malpelo Island included)

VEN Venezuela [Venezuelan Antilles and Netherlands Antilles (Curaçao and Bonaire), the island of Aruba included]

GUY Guyana

SUR Suriname

FRG French Guiana

ECU Ecuador (Galápagos Islands included)

PER Peru

BOL Bolivia

BZI Brazil (Fernando de Noronha and Trindade Island included)

PAR Paraguay

URU Uruguay

AGA Argentina (Tierra del Fuego and other islands included)

CLI Chile (Desventurados Islands, Juan Fernández Islands, Tierra del Fuego and other islands included)

Other criteria followed

To present the data, the same basic format employed by Lado (1994) in the checklist of Myxomycetes of the Mediterranean countries, has been followed. The review is similar to a checklist, basically a species listing (Table 1), including synonyms, of myxomycetes from the Neotropics cited in the literature, with species distribution by countries. With regard to nomenclature used, the generic and species treatment are those accepted by Lado (2001, 2008) and Hernández-Crespo & Lado (2005), the generic names *Amaurochaete*, *Ceratiomyxa* (traditionally considered a myxomycete until recently) and *Hemitrichia* are conserved according to Lado & al. (2005) (see also, Gams, 2005). Intraspecific taxa have not been considered, due to the inconsistency of distinctive characters in many of the cases, and are treated under their respective species. All the species names utilised in the consulted sources have been verified. Spelling variations and transcriptional errors have been corrected. The accepted names appear in bold, and the synonyms (homo or heterotypic synonyms), which have been used for species in the literature from the Neotropics, appear in italics. Records cited herein are compiled from the literature and no attempt has been made, for this paper, to examine or authenticate material.

The taxa, in the Table 1, are arranged alphabetically by genera and species. A query after a species under a certain country, means doubts as to its presence in that country, which is usually due to imprecision by the author of the paper, or the collector of the specimen. The countries or geographical units have been arranged more-or-less in order from the North to the South, in three major bioregions, starting with Central America, continuing with the Caribbean Islands and ending with South America. The totals for the number of species by countries and countries for each species have been given at the end and the side of the table. Doubtful excluded or species have been listed in a separate table (Table 2).

Sources of information

The monograph by Farr (1976) for the series *Flora Neotropica*, has been taken as a baseline for this review, and the reference has been included in all the countries for which she gave citations. This may lead to some duplication in the numbers of references for a country, but this has not caused duplication in the records of Myxomycetes, which have been listed only once. All the literature references of Farr's monograph have been incorporated into the list of references below, except those general works that re-

compile records or references, such as Lister (1911, 1925), Hagelstein (1944) or Macbride (1899, 1922). Some pre-1975 papers, omitted by Farr (1976), are also included. In addition, checklists, inventories, catalogues as well as more obscure papers with valuable information, published after 1975, have been perused for myxomycete records, and used as sources of information for this review. All the sources of information used for the myxomycete records listed in Table 1 are given below, arranged by countries and date. Compilation of this data by country should assist future researchers, and be useful as a guideline for future government initiatives. The sources are:

Argentina (AGA): Spegazzini (1880a, 1880b, 1880c, 1881, 1882, 1886, 1887b, 1889, 1896a, 1896b, 1899a, 1899b, 1909a, 1909b, 1912, 1913, 1919a, 1926, 1927), Berlese (1888), Masee (1889), Saccardo (1892), Saccardo & Sydow (1899, 1902), Fries (1903), Torrend (1908), Saccardo & Trotter (1913), Sturgis (1916), Digilio (1946, 1950), Farr (1971, 1973, 1974, 1976), Arambarri (1972, 1973, 1975), Deschamps (1972, 1974, 1975, 1976a, 1976b), Castillo & al. (1996), Crespo & Lugo (2003), Wrigley de Basanta & Stephenson (2005), Wright & Albertó (2006).

Bahamas (BAH): Britton & Millspaugh (1920).

Belize (BLZ): Ing & Haynes (1999).

Bolivia (BOL): Fries (1903), Saccardo & Saccardo (1906), Torrend (1908), Stevenson & Cardenas (1949), Farr (1976).

Brazil (BZI): Montagne (1837), Berkeley & Cooke (1876), Spegazzini (1881, 1888, 1889, 1919b, 1926), Berlese (1888), Masee (1889), Saccardo (1892, 1895), Hennings (1896, 1902a), Bresadola (1896), Pazschke (1896), Saccardo & Sydow (1899), Jahn (1902, 1904), Saccardo & Saccardo (1906), Höhnell (1907), Sydow & Sydow (1907), Torrend (1908, 1915, 1916), Batista (1949), Hashimoto (1953), Hertel (1954a, 1954b, 1955), Farr & Martin (1958), Farr (1959, 1960, 1968, 1973, 1974, 1976, 1985), Fidalgo & al. (1965), Ing (1967), Gottsberger (1968, 1971), Mariz (1968), Cavalcanti (1970, 1974a, 1974b, 1976, 1977, 1985, 1996a, 1996b, 2002), Dennis (1970), Gottsberger & Nannenga-Bremekamp (1971), Mariz & Cavalcanti (1970), Maimoni-Rodella & Gottsberger (1980), Bononi & al. (1981), Cavalcanti & al. (1982, 1985, 1993, 1999, 2005, 2006), Pôrto & Cavalcanti (1984, 1986), Pôrto & al. (1982), Cavalcanti & Araújo (1985), Cavalcanti & Dias Filha (1985), Cavalcanti & Marinho (1985), Cavalcanti & Oliveira (1985), Cavalcanti & Porto (1985), Cavalcanti & Silva (1985), Rodrigues (1985), Santos & al. (1986), Muchovej & Muchovej (1987), Capelari & Mazeiro (1988), Silva & Cavalcanti (1988), Santos & Cavalcanti (1988, 1991a, 1991b, 1995), Hochgesand & Gottsberger (1989, 1996), Hochgesand & al. (1989), Cavalcanti & Brito (1990), Mendes & Guerrero (1990), Rodrigues & Guerreiro (1990), Rogerson & al. (1990), Cavalcanti & Santos (1991), Gottsberger & al. (1992), Cavalcanti & Fortes (1994, 1995), Góes Neto (1996), Barbosa (1996), Putzke (1996, 2002), Alves & Cavalcanti (1996), Cavalcanti & Putzke (1998), Mobin & Cavalcanti (1998, 1999a, 1999b, 2000, 2001), Yamamoto & al. (2000), Cavalcanti & Mobin (2001, 2002, 2004), Góes Neto & Cavalcanti (2002), Maimoni-Rodella (2002), Matsumoto (2002), Chiappetta & al. (2003), Ponte & al. (2003), Maimoni-Rodella & Cavalcanti (2006), Bezerra & al. (2007), Rufino & Cavalcanti (2007).

Chile (CLD): Bertero (1828), Montagne (1837, 1852a, 1852b),

Berlese (1888), Masee (1889), Saccardo (1892), Johov (1896), Saccardo & Sydow (1899), Torrend (1908), Sturgis (1916), Spegazzini (1887b, 1917, 1921), Fries (1920), Mújica & Vergara (1945), Lazo (1966), Farr (1976), Lado & al. (2007a).

Colombia (CLM): Leveille (1863), Masee (1889), Saccardo (1892), Torrend (1908), Chardon (1928), Muenschler (1930), Martin (1932, 1938a), Dennis (1970), Farr (1976), Guzmán & Varela (1978), Uribe-Meléndez (1995).

Costa Rica (COS): Hennings (1902b), Spegazzini (1919b), Welden (1954), Alexopoulos (1967), Alexopoulos & Sáenz (1975), Farr (1976), Edmunds & Stephenson (1996), Schnittler & Stephenson (2000, 2002a, 2002b), Schnittler (2001), Moore & Stephenson (2003), Stephenson & al. (2004b), Wrigley de Basanta & Lado (2005), Rojas & Stephenson (2007, 2008).

Cuba (CUB): Montagne (1837, 1838), Berkeley (1868), Berlese (1888), Masee (1889), Torrend (1908), Saccardo & Trotter (1913), Farr (1976), Camino (1991, 1996, 1998a, 1998b), Camino & Pérez (2000, 2001), Pérez & Camino (2000), Minter & al. (2001), Camino & Eliasson (2002), Camino & Moreno (2002), Camino & Rodríguez (2002), Krivomaz (2003), Wrigley de Basanta & al. (2003), Camino & al. (2005, 2007, in press), Wrigley de Basanta & Lado (2005).

Dominican Republic (DOM): Ciferri & González-Fragoso (1926), Toro (1926), Gonzalez-Fragoso & Ciferri (1927, 1928), Ciferri (1929, 1961), Farr (1976), Minter & al. (2001).

Ecuador (ECU): Patouillard & Lagerheim (1891, 1892, 1893, 1895a, 1895b), Saccardo (1895), Saccardo & Sydow (1899), Torrend (1908), Bonar (1939), Martin (1948), Harling (1967), Dennis (1970), Eliasson (1971, 2000), Farr (1974, 1976), Farr & al. (1979), Reid & al. (1981), Schinner (1981), Eliasson & Nannenga-Bremekamp (1983), Nannenga-Bremekamp (1989), Stephenson & Mitchell (1994), Schnittler (2001), Estrada & al. (2002c), Lado & al. (2002b), Schnittler & al. (2002), Schnittler & Stephenson (2002a, 2002b), Stephenson & al. (2004a, 2004b), McHugh (2005).

French Guiana (FRG): Farr (1976), Courtecuisse & al. (1996).

Guatemala (GUA): Farr (1976), Estrada-Torres & al. (2000).

Guyana (GUY): Montagne (1855), Cooke (1877), Berlese (1888), Torrend (1908), Gilbert (1928), Farr (1976), Rogerson & al. (1990).

Haiti (HAD): Benjamín & Slott (1969), Farr (1976), Minter & al. (2001).

Honduras (HON): Davis & Butterfield (1967), Alexopoulos (1970), Clark & Collins (1973), Farr (1976).

Jamaica (JAM): Saccardo (1895), Torrend (1908), Alexopoulos & Beneke (1954a, 1954b), Farr (1957, 1974, 1976), Alexopoulos (1967, 1970), Minter & al. (2001).

Leeward Islands (LEE): Lister (1898a, 1898b), Saccardo & Sydow (1902), Duss (1903, 1904), Seaver & Chardon (1926), Raunkiaer (1928), Hagelstein (1932), Alexopoulos (1970), Stevenson (1975), Farr (1976), Minter & al. (2001).

Mexico (MEX): Saccardo & Sydow (1902), Torrend (1908), Emoto (1933), Welden & Lemke (1961), Alexopoulos & Blackwell (1968), Martínez-Murillo & Ochotorena (1970), Guzmán (1972, 1983), Farr (1976), Braun & Keller (1976, 1986), Keller & Brooks (1976), Keller & Braun (1977), Welden & Guzmán (1978), Welden & al. (1979), Guzmán & Varela (1979), López & al. (1979, 1981a, 1981b, 1981c, 1982), Pérez-Silva (1979), Gómez-Sánchez & Castillo (1981), Dávalos & Guzmán (1981), Guzmán & Guzmán-Dávalos (1981), Mapes & al. (1981), López & Sosa (1982), Martínez-Alfaro & al. (1983), Villarreal (1983, 1985, 1990), Chacón & Guzmán (1984), Gómez-Pompa & al. (1984),

Guzmán & Villarreal (1984), Pérez-Silva & Aguirre-Acosta (1985), Trujillo-Flores & al. (1986), Trujillo-Flores (1988), Pérez-Moreno & Villarreal (1988), Heredia (1989), Capello-García & Hernández-Trejo (1990), Hernández-Cuevas & al. (1991), Galindo-Flores (1992), Galindo-Flores & Estrada-Torres (1993), Galindo-Flores & al. (1993), Ogata & al. (1994, 1996), Estrada-Torres (1996), Illana (1996), Lizárraga & al. (1996, 1997, 1998, 1999a, 1999b, 1999c, 2003a, 2003b, 2004a, 2004b, 2005a, 2005b, 2006, 2007, 2008), López & García (1996a, 1996b, 1996c, 1996d, 1996e, 1996f, 1996g, 1996h, 1996i, 1996j, 2001a, 2001b, 2001c, 2001d, 2002a, 2002b, 2002c, 2002d, 2002e, 2002f, 2002g, 2005a, 2005b), Ogata & Andrade-Torres (1996), Rodríguez-Palma & Estrada-Torres (1996a, 1996b), Hernández-Cuevas & Estrada-Torres (1993a, 1993b, 1997), Rodríguez-Palma & al. (1996, 2002, 2005), Moreno & al. (1997a, 1997b, 1997c, 2000, 2001, 2004, 2006a, 2006b, 2007), Andrade-Torres (1998), Rodríguez-Palma (1998), Illana & al. (1999, 2000), Lado & al. (1999a, 1999b, 2002a, 2003, 2007b), Pérez-Silva & Bárcenas (1999), Mosquera & al. (2000a, 2000b, 2003), Yamamoto (2000), Estrada-Torres & al. (2001, 2002a, 2002b, 2002c, 2002d, 2003, 2005, in press), Pérez-Silva & al. (2001), Andrade-Torres & al. (2002a, 2002b), Lizárraga (2002), Stephenson & al. (2003, 2004a, 2004b), Wrigley de Basanta & al. (2002, 2003, 2008, in press), Wrigley de Basanta & Lado (2005).

Nicaragua (NIC): Macbride (1893), Saccardo (1895), Macbride & Smith (1896), Torrend (1908), Farr (1976).

Panama (PAN): Standley (1927, 1933), Weston (1933), Martin (1936, 1938b, 1957), Welden (1954), Davis & Butterfield (1967), Dennis (1970), Ling & Collins (1970), Farr (1974, 1976), Wheeler (1980), Pando (1997).

Paraguay (PAR): Hennings (1896), Saccardo & Trotter (1913), Spegazzini (1886, 1888, 1919b, 1923, 1926), Farr (1973, 1976).

Peru (PER): Rudolphi (1829), Farr (1976), Stephenson & Mitchell (1994), Wrigley de Basanta & Lado (2005), Wrigley de Basanta & al. (2008).

Puerto Rico (PUE): Klotzsch (1852), Seaver & Chardon (1926), Hagelstein (1927, 1932), Alexopoulos (1970), Stevenson (1975), Farr (1976), Stephenson & al. (1999, 2004b), Novozhilov & al. (2000), Minter & al. (2001), Schnittler (2001), Nieves-Rivera & Darrah (2002a, 2002b), Schnittler & Stephenson (2002a, 2002b), Nieves-Rivera (2003), Wrigley de Basanta & Lado (2005), Wrigley de Basanta & al. (2008).

Surinam (SUR): Gilbert (1928), Nannenga-Bremekamp (1961), Farr (1976), Rogerson & al. (1990).

Trinidad and Tobago (TRT): Rorer (1911), Baker & Dale (1951), Barnes (1963), Alexopoulos (1970), Dennis (1970), Farr (1976), Minter & al. (2001).

Uruguay (URU): Spegazzini (1881, 1926), Herter (1907, 1933, 1939), Farr (1976), García-Zorrón (1967, 1977).

Venezuela (VEN): Berlese (1888), Patouillard & Gaillard (1888), Masee (1889), Saccardo (1892, 1895), Torrend (1908), Saccardo & Trotter (1913), Heim (1928), Muenschler (1934), Rodríguez (1955, 1957), Dennis (1960, 1970), Farr & Kowalski (1974), Farr (1974, 1976), Buyck (1984), Verde de Millán & Jaimes (1987), Rogerson & al. (1990).

Windward Islands (WIN): Cooke (1889), Lister (1898a), Duss (1903, 1904), Chardon (1926), Hagelstein (1932), Alexopoulos (1967, 1970), Farr (1969, 1976), Dennis (1970), Minter & al. (2001).

Table 1. List of species by countries.

	MEX	BIZ	GUA	HON	ELS	NIC	COS	PAN	BAH	CUB	JAM	HAI	DOM	PUE	LEE	WIN	TRT	CLM	VEN	GUY	SUR	FRG	BZI	ECU	PER	BOL	PAR	URU	CLI	AGA	Argentina	Total	
<i>Arcyria affinis</i> Rostaf.	MEX																						ECU								2		
<i>Arcyria afroalpina</i> Rammeloo = <i>A. afroalpina</i> var. <i>mexicana</i> Lizárraga, G. Moreno & Illana	MEX		CUB			COS							PUE										ECU									5	
<i>Arcyria cinerea</i> (Bull.) Pers. = <i>A. digitata</i> Schwein. = <i>A. cinerea</i> var. <i>digitata</i> (Schwein.) G. Lister = <i>A. albidia</i> Pers. = <i>A. cookei</i> Massee = <i>A. cinerea</i> f. <i>rubella</i> Y. Yamam.	MEX	BIZ	GUA	HON	ELS	NIC	COS	PAN	BAH	CUB	JAM	HAI	DOM	PUE	LEE	WIN	TRT	CLM	VEN	GUY	SUR	FRG	BZI	ECU	PER	BOL	URU	CLI	AGA		28		
<i>Arcyria corymbosa</i> M.L. Farr & G.W. Martin																														AGA	2		
<i>Arcyria denudata</i> (L.) Wettst. = <i>A. punicea</i> Pers.	MEX	BIZ		HON		NIC	COS	PAN	BAH	CUB	JAM		DOM	PUE	LEE	WIN	TRT	CLM	VEN	GUY	SUR	FRG	BZI	ECU	PER	BOL	URU	CLI	AGA		26		
<i>Arcyria ferruginea</i> Sauter	MEX																						BZI				PAR	URU	AGA		5		
<i>Arcyria fuegiana</i> Aramb.																														AGA	1		
<i>Arcyria glauca</i> Lister																														AGA	1		
<i>Arcyria globosa</i> Schwein.	MEX									CUB				PUE				CLM					BZI	ECU							6		
<i>Arcyria incarnata</i> (Pers. ex J.F. Gmel.) Pers.	MEX					COS				CUB	JAM	HAI		PUE	LEE	WIN	TRT	CLM	VEN				BZI	ECU			PAR	CLI	AGA		16		
<i>Arcyria insignis</i> Kalchbr. & Cooke	MEX					COS	PAN			CUB	JAM			PUE	LEE		TRT	CLM	VEN			FRG	BZI	?		BOL	URU	CLI	AGA		16		
<i>Arcyria magna</i> Rex = <i>A. magna</i> var. <i>rosea</i> Rex	MEX						COS	PAN		CUB						WIN																6	
<i>Arcyria major</i> (G. Lister) Ing																																2	
<i>Arcyria minuta</i> Buchet = <i>A. carneae</i> (G. Lister) G. Lister	MEX						COS	PAN																						AGA		5	
<i>Arcyria nigella</i> Emoto	MEX																															1	
<i>Arcyria obvelata</i> (Oeder) Onsberg = <i>A. nutans</i> (Bull.) Grev. = <i>A. flava</i> Pers.	MEX						COS	PAN		CUB	JAM				LEE		TRT		VEN					BZI	ECU		PAR			AGA		12	

Table 1. (Continuation).

<i>Barbeyella minutissima</i> Meyl.	MEX																				1																
<i>Brefeldia maxima</i> (Fr.) Rostaf.		PAN																			2	AGA															
<i>Calomyxa metallica</i> (Berk.) Nieuwl. = <i>Margarita metallica</i> (Berk.) Lister	MEX					JAM									BZI	ECU					6	AGA															
<i>Calomyxa synspora</i> M.L. Farr & Kowalski											VEN										1																
<i>Calonema foliicola</i> Estrada, J.M. Ramírez & Lado = <i>Henitrichia foliicola</i> (Estrada, J.M. Ramírez & Lado) Lizárraga, G. Moreno & Illana	MEX																				1																
<i>Ceratiomyxa fruticulosa</i> (O.F. Müll.) T. Macbr. = <i>C. mucida</i> (Pers.) Schröt. = <i>C. arbuscula</i> (Berk. & Broome) Pat. = <i>C. fruticulosa</i> f. <i>aurea</i> (Link) Y. Yamam. = <i>C. fruticulosa</i> var. <i>flexuosa</i> Lister = <i>Cerarium aureum</i> Link = <i>Cerarium hydroideum</i> (Jacq.) Alb. & Schwein.	MEX			HON	NIC	COS	PAN					CUB	JAM		HAI	DOM	PUE	LEE	WIN	TRT	CLM	VEN	GUY	FRG	BZI	ECU	PER	BOL	PAR	URU	CLI	AGA	25				
<i>Ceratiomyxa morchella</i> A.L. Weiden	MEX						COS	PAN				JAM					PUE					VEN		SUR										10			
<i>Ceratiomyxa sphaerosperma</i> Boedijn	MEX						COS	PAN				CUB	JAM			WIN						CLM	VEN	GUY	FRG	BZI	ECU							12			
<i>Clastoderma debayanum</i> A. Blytt = <i>C. debayanum</i> var. <i>imperatorium</i> Emoto	MEX						COS	PAN				CUB	JAM			WIN	PUE	LEE	WIN	TRT	CLM	VEN						BZI	ECU			CLI		14			
<i>Clastoderma pachypus</i> Nann.-Bremek.	MEX						COS																					BZI						3			
<i>Collaria arcyronema</i> (Rosta.) Nann.-Bremek. ex Lado = <i>Lamproderma arcyronema</i> Rostaf. = <i>Comatricha shimékiana</i> T. Macbr.	MEX						NIC	COS	PAN			CUB	JAM		HAI	DOM	PUE	LEE	WIN									BZI	ECU			AGA	16				
<i>Collaria lurida</i> (Lister) Nann.-Bremek. = <i>Comatricha lurida</i> Lister	MEX						COS					CUB				PUE					CLM								?					5			
<i>Collaria rubens</i> (Lister) Nann.-Bremek. = <i>Comatricha rubens</i> Lister	MEX						COS																							ECU			AGA	4			
<i>Collooderma oculatum</i> (C. Lippert) G. Lister																														ECU					2		
<i>Collooderma robustum</i> Meyl.	MEX																																		1		
<i>Comatricha afroalpina</i> Rammeloo								PAN																												1	
<i>Comatricha aggregata</i> M.L. Farr												JAM																								1	
<i>Comatricha anomala</i> Rammeloo	MEX																																			1	

Table 1. (Continuation).

<i>Comatricha argentineae</i> J.R. Deschamps																				AGA	1	
<i>Comatricha elegans</i> (Racib.) G. Lister	MEX		COS																	CLI	AGA	14
<i>Comatricha elae</i> Härk.	MEX																					1
<i>Comatricha laxa</i> Rostaf.	MEX	GUA	COS	PAN	CUB															CLI	AGA	11
<i>Comatricha longipila</i> Nann.-Bremek.	MEX																					1
<i>Comatricha meandrispora</i> A. Castillo, G. Moreno & Illana																						1
<i>Comatricha nigra</i> (Pers. ex J.F. Gmel.) J. Schröt. = <i>C. friesiana</i> Rostaf. = <i>Stemonitis ovata</i> Pers. = <i>C. obtusata</i> (Fr.) Preuss	MEX		COS	PAN	CUB	JAM	LEE								FRG	BZI	ECU	BOL		CLI	AGA	12
<i>Comatricha pulchella</i> (C. Bab.) Rostaf.	MEX		COS	PAN			PUE										BZI	ECU			AGA	10
<i>Comatricha reticulospora</i> Ing & Holland	MEX																					1
<i>Comatricha tenerrima</i> (M.A. Curtis) G. Lister	MEX	BLZ	COS		CUB	JAM	PUE	LEE									BZI	ECU	PER		AGA	12
<i>Craterium aurum</i> (Schumach.) Rostaf.	MEX		COS			JAM	DOM	PUE	WIN								BZI	ECU	PER		AGA	12
<i>Craterium concinnum</i> Rex			COS		CUB	JAM				CLM												5
<i>Craterium leucocephalum</i> (Pers. ex J.F. Gmel.) Ditmar = <i>C. leucocephalum</i> var. <i>scyphoides</i> (Cooke & Balf. f.) G. Lister = <i>C. scyphoides</i> (Cooke & Balf. f.) Lizárraga, Illana & G. Moreno = <i>Cribraria perpusilla</i> Speg.	MEX	GUA	COS	PAN	CUB	JAM	PUE	LEE	WIN	TRT	CLM	VEN			FRG	BZI	ECU	BOL			AGA	17
<i>Craterium minutum</i> (Leers) Rostaf.	MEX				CUB						CLM						BZI					4
<i>Craterium obovatum</i> Peck = <i>Badhamia obovata</i> (Peck) S.J. Sm. = <i>C. obovatum</i> var. <i>dictyosporum</i> (Rostaf.) Moreno & Illana	MEX																			URU	AGA	3
<i>Craterium paraguayense</i> (Speg.) G. Lister = <i>locoterium rubescens</i> (Rex) E. Jahn = <i>Didymium paraguayense</i> Speg. = <i>D. guarapiense</i> Speg.	MEX			PAN							CLM	VEN			FRG	BZI	ECU	PAR			AGA	9
<i>Cribraria argillacea</i> (Pers. ex J.F. Gmel.) Pers.	MEX			PAN																	AGA	4
<i>Cribraria atrofusca</i> G. W. Martin & Lovejoy	MEX																					1
<i>Cribraria aurantiaca</i> Schrad.	MEX			PAN		JAM					VEN						BZI			CLI	AGA	7

Table 1. (Continuation).

<i>Physarum gyrosom</i> Rostaf. = <i>Fuligo gyrosa</i> (Rostaf.) E. Jahn	MEX																	URU				4	
<i>Physarum hongkongense</i> Chao H. Chung	MEX																						1
<i>Physarum javanicum</i> Racib.	MEX				COS		CUB	JAM		PUE						TRT	CLM	VEN		FRG	BZI	ECU	11
<i>Physarum lakhanpalii</i> Nann.-Bremek. & Y. Yamam.																						ECU	1
<i>Physarum lateritium</i> (Berk. & Ravenel) Morgan = <i>Ph. inaequale</i> Peck	MEX									LEE	WIN										BZI		5
<i>Physarum leucophaeum</i> Fr.	MEX						CUB	JAM		DOM	LEE	WIN									BZI	ECU	10
<i>Physarum leucopus</i> Link = <i>Didymium squamulosum</i> var. <i>leucopus</i> (Link) Rostaf. = <i>Didymium leucopus</i> (Link) Fr.	MEX											WIN					CLM						10
<i>Physarum licheniforme</i> (Schwein.) Lado = <i>Ph. lividum</i> Rostaf. = <i>Ph. didermoides</i> var. <i>lividum</i> (Rostaf.) Lister	MEX						CUB																2
<i>Physarum luteolum</i> Peck	MEX																						1
<i>Physarum megalosporum</i> T. Macbr.	MEX																				BZI		3
<i>Physarum melleum</i> (Berk. & Broome) Massee = <i>Ph. rubropunctatum</i> Pat.	MEX																						17
<i>Physarum mernegae</i> Nann.-Bremek.																							2
<i>Physarum murinum</i> Lister	MEX																						2
<i>Physarum mutabile</i> (Rostaf.) G. Lister	MEX																						4
<i>Physarum newtonii</i> T. Macbr.	MEX																						1
<i>Physarum nicaragiense</i> T. Macbr.	MEX	BLZ																					9
<i>Physarum nitens</i> (Lister) Ing = <i>Ph. virescens</i> var. <i>nitens</i> Lister																							1
<i>Physarum notabile</i> T. Macbr. = <i>Ph. connatum</i> Peck	MEX																						7
<i>Physarum nucleatum</i> Rex	MEX																				FRG	BZI	14
<i>Physarum nudum</i> T. Macbr.																							1
<i>Physarum oblatum</i> T. Macbr.	MEX	BLZ																					9
<i>Physarum ovisporum</i> G. Lister	?																						4

Table 2. Doubtful and Excluded species.

Doubtful species
<i>Arcyodes incarnata</i> (Alb. & Schwein.) O.F. Cook [= <i>Lachnobolus incarnatus</i> Alb. & Schwein.] — cited by Spegazzini (1921) from Chile but Farr (1976: 280) doubted the identification. Also recorded by Lazo (1966) but probably based on Spegazzini's record.
<i>Arcyria carletae</i> Hertel — described from Brazil (Hertel, 1954). No material available for examination (Farr, 1976: 80).
<i>Arcyria fonsecae</i> Hertel — described by Hertel (1954) from Brazil. No material available for examination (Farr, 1976: 81).
<i>Arcyria occidentalis</i> (T. Macbr.) G. Lister — reported from Brazil by Teixeira (1971), probably based on the uncertain listing by Martin & Alexopoulos (1969), fide Farr (1976: 82).
<i>Arcyria ramulosa</i> (F. Rudolphi) Wigand [= <i>Trichia ramulosa</i> F. Rudolphi] — described by Rudolphi (1829) from Peru. According to Martin & Alexopoulos (1969) could represent a new genus.
<i>Arcyria stellfeldii</i> Hertel — described by Hertel (1954) from Brazil. No material available for examination (Farr, 1974: 82).
<i>Arcyria versicolor</i> W. Phillips — cited by Torrend (1915) from Brazil and Spegazzini (1909) and Digilio (1946) from Argentina. Highly improbable, fide Farr (1976: 83).
<i>Chondrioderma frustulosum</i> Pat. & Lagerh. — cited by Patouillard & Lagerheim (1895a) from Ecuador, probably a synonym of <i>Diderma globosum</i> , fide Farr (1976: 205).
<i>Comatricha fluminensis</i> (Speg.) & Torrend [= <i>Stemonitis fluminensis</i> Speg.] — described by Spegazzini (1881) from Brazil. Identity uncertain, fide Farr (1976: 279).
<i>Comatricha suksdorfii</i> Ellis & Everh. — cited by Torrend (1915) from Brazil. Identity uncertain, fide Farr (1976: 266).
<i>Comatricha typhoides</i> var. <i>cinerea</i> Hertel — described by Hertel (1955) from Brazil. No material available for examination (Farr, 1976: 267).
<i>Cribraria colosseae</i> Speg. — described by Spegazzini (1909) from Argentina, probably a synonym of <i>C. tenella</i> Schrad., fide Farr (1976: 54).
<i>Cribraria staminiformis</i> Speg. — described by Spegazzini (1880) from Argentina. Identity uncertain, fide Farr (1976: 56).
<i>Didymium discoideum</i> Torrend — described from Brazil by Torrend (1915). No material available for study, fide Farr (1976: 235).
<i>Didymium ossicola</i> Pat. & Gaillard — described by Patouillard & Gaillard (1888) from Venezuela. Identity uncertain, fide Farr (1976: 236).
<i>Didymium platense</i> Speg. — described by Spegazzini (1899) from Argentina. Identity uncertain.
<i>Didymium pruinosum</i> Berk. & M.A. Curtis — described in Berkeley (1868) from Cuba. Identity uncertain, fide Farr (1976: 236)
<i>Enteridium antarcticum</i> Speg. — described from Chile by Spegazzini (1887b) and cited from Argentina (Spegazzini, 1912), probably a synonym of <i>Reticularia olivacea</i> , fide Farr (1976: 40).
<i>Hemitrichia insignis</i> Torrend — described by Torrend (1916) from Brazil. Identity uncertain.
<i>Hemitrichia pusilla</i> Speg. [= <i>Hemiarcyria pusilla</i> (Speg.) Berl. = <i>Arcyria pusilla</i> (Speg.) Masee] — described by Spegazzini (1881a) from Argentina. Identity uncertain, fide Farr (1976: 101).
<i>Lamproderma inconspicuum</i> J. Schröt. — reported from Brazil by Hennings (1896). Identity uncertain, fide Farr (1976: 253).
<i>Lamproderma sauteri</i> Rostaf. — reported from Brazil by Farr (1960, 1968). Identity uncertain, moldy material, fide Farr (1976: 253).
<i>Licea floriformis</i> T.N. Lakh. & R.K. Chopra [= <i>Licea floriformis</i> var. <i>aureospora</i> M.T.M. Willemsse & Nann.-Bremek. = <i>L. longa</i> Flatau] — reported from Ecuador by McHugh (2005). Identity uncertain.
<i>Licea schoenleinii</i> Johow — described by Johow (1896) from Chile. Identity uncertain, fide Farr (1976:28).
<i>Lycogala platense</i> Speg. — described from Argentina by Spegazzini (1899a) but identity uncertain, fide Farr (1976: 36).
<i>Paradiacheopsis erythropodia</i> Ing; reported from Mexico by Estrada-Torres & al., (in press). Identity uncertain.
<i>Physarum albescens</i> Ellis ex T. Macbr. — reported from Brazil by Cavalcanti (2002). Identity uncertain.
<i>Physarum chlorinum</i> Cooke — cited by Cooke (1877) from Guyana. Identity uncertain, fide Farr (1976: 173).
<i>Physarum conglomeratum</i> (Fr.) Rostaf. — cited by Lister (1898a) from Antigua and Torrend (1908) from "Antilles". Identity uncertain, fide Farr (1976: 173).
<i>Physarum anomalum</i> (Masee) Torrend [= <i>Tilmadoche anomala</i> Masee] — cited by Masee (1889) from Venezuela. Identity uncertain.
<i>Physarum crustiforme</i> Speg. — described by Spegazzini (1899b) from Argentina. Identity uncertain, fide Farr (1976: 281).
<i>Stemonitis confluens</i> var. " <i>minuta</i> ?" Batista — described by Batista (1949) from Brazil. Identity uncertain, fide Farr (1976: 279).
<i>Stemonitis curitbensis</i> Hertel — described by Hertel (1955) from Brazil. Identity uncertain, fide Farr (1976: 279).
<i>Stemonitis fluminensis</i> Speg. — described by Spegazzini (1881a) from Brazil. Identity uncertain fide Farr (1976: 279).
<i>Trichia turbinata</i> (Bolton) Whit. [= <i>T. chrysosperma</i> var. <i>turbinata</i> "Hds."] — cited by Berkeley (1868) from Cuba, by Spegazzini (1886) from Paraguay and by Montagne (1852a, 1852b) from Chile. Identity uncertain.
Excluded species
<i>Chondrioderma andinum</i> Speg. — an unpublished species, fide Farr (1976: 280), cited from Argentina.
<i>Colloderma pustulatum</i> G.W. Martin — the name apparently has remained unpublished, fide Farr (1976: 246), cited from Mexico.
<i>Comatricha platensis</i> Speg. — apparently an unpublished name, fide Farr (1976: 266), cited from Argentina.
<i>Cornuvia minutula</i> Speg. — described from Brazil. Identity uncertain fide Farr (1976: 280).
<i>Licea berteriana</i> Mont. — described from Chile. Not a myxomycete, fide Martin & Alexopoulos (1969).
<i>Licea guaranitica</i> Speg. — described from Paraguay. Not a myxomycete, fide Farr (1976: 28).
<i>Tubulina guaranitica</i> (Speg.) Speg. — based on <i>Licea guaranitica</i> Speg. See comments under this species
<i>Reticularia affinis</i> Berk. & M.A. Curtis — described from Cuba. Not a myxomycete, fide Martin & Alexopoulos (1969).
<i>Reticularia atrorufa</i> Berk. & M.A. Curtis — described from Cuba. Not a myxomycete, fide Farr (1976: 41).
<i>Reticularia pyrrosopora</i> Berk. — described from Cuba, not a myxomycete, fide Farr (1976: 41).
<i>Reticularia venulosa</i> Berk. & M.A. Curtis — described from Cuba. Not a myxomycete, fide Martin & Alexopoulos (1969).
<i>Rostafinskia australis</i> Speg. — described from Argentina. Not a myxomycete, fide Farr (1976: 281).
<i>Physarum areolatum</i> Bertero — apparently an unpublished name, fide Farr (1976: 173), cited from Chile.
<i>Physarum argentinense</i> Speg. — apparently and unpublished name, fide Farr (1976: 173), cited from Argentina.

Discussion

This review includes 431 myxomycete taxa from 51 genera reported from countries of the Neotropics. This is almost half of the total number of species known in the world (Lado, 2008), and in four decades of research, nearly double the number previously published from the region by Farr (1976). It includes 86% of known genera, most (71%) represented by more than one species. Of the thirty countries included in Table 1, Mexico, with 323 species, has by far the largest number of myxomycete species registered, and El Salvador has the least, since no myxomycetes have yet been published from this country. Although eleven countries have over 100 species published, twelve of the countries have recorded fewer than 10% of the total (Table 1). Very few species can be considered pan-neotropical as only 22 of the species (5%) were found in 20 countries or more, whereas 144 species (33%) have been reported from only one country in the Neotropics. Some of the latter have only been found in a single country worldwide, such as *Arcyriatella congregata*, *Calomyxa synspora*, *Diderma robustum*, or *Physarum bubalinum*, but others have been reported from other countries in different parts of the world, and still others have been recently described, and may well be found to be more widely distributed in the future.

Arcyria cinerea has been reported from 28 of the 30 countries. This species, and many of the others that make up the 5%, such as *Arcyria denudata*, *Cribraria cancellata*, *Didymium nigripes*, *D. squamulosum*, *Fuligo septica*, *Hemitrichia calyculata*, *H. serpula*, *Lycogala epidendrum*, *Perichaena chryso sperma*, *Physarum album*, *Ph. viride*, *Stemonitis fusca* or *Trichia favoginea*, are the most common species in many environments, and considered to be generalists, with the ability to exploit the conditions in both temperate and tropical habitats. In addition, there seem to be ecotypes or varieties of some species in the tropics which future work may show are species complexes, but they are all included at present under the same name. The assemblage of myxomycetes which does appear to be characteristically Neotropical, in that they have been recorded from many of the strictly tropical countries, includes *Ceratiomyxa morchella*, *C. sphaerosperma*, *Comatricha tenerrima*, *Craterium paraguayense*, *Cribraria microcarpa*, *C. tenella*, *Diachea bulbilosa*, *Diderma chondrioderma*, *Didymium intermedium*, *Lycogala conicum*, *L. exiguum*, *Physarella oblonga*, *Physarum aeneum*, *Ph. crateriforme*, *Ph. fulgens*, *Ph. javanicum*, *Ph. nicaraguense*, *Ph. nucleatum*, *Ph. oblatum*, *Ph. roseum*, *Ph. stellatum*, *Ph. superbum*, *Stemonaria longa*, *Stemonitis herbatica*, *S. pallida*, *Tubifera bombardata* and *T. microsperma*.

The list also includes 13 new species that have been described in the last decade from material from the Neotropics, which are *Calonema foliicola* Estrada, J.M. Ramirez & Lado, *Cribraria fragilis* Lado & Estrada, *C. zonatispora* Lado, Mosquera & Beltrán-Tej., *Diderma acanthosporum* Estrada & Lado, *D. yucatanensis* Estrada, Lado & S.L. Stephenson, *Didymium tehuacanense* Estrada, D. Wrigley & Lado, *D. umbilicatum* D. Wrigley, Lado & Estrada, *D. wildpretii* Mosquera, Estrada, Beltrán-Tej., D. Wrigley & Lado, *Licea succulenticola* Mosquera, Lado, Estrada & Beltrán-Tej., *Macbrideola herrerae* Lizárraga, G. Moreno & Illana, *M. lamprodermoides* G. Moreno, Lizárraga & Illana, *Perichaena stipitata* Lado, Estrada & D. Wrigley, and *Trichia agaves* (G. Moreno, Lizárraga & Illana) Mosquera, Lado, Estrada & Beltrán-Tej. (described as *Hemitrichia agaves*).

The most representative order from the Neotropics was the Physarales, which is also the order with the greatest number of species. However, if the size of each order is looked at as a percentage of the total number of myxomycete species (Fig. 3) and compared to the percentage of each order found in the Neotropics, it can be seen that the Physarales are indeed more prevalent and more diverse in this area. Among these were 75 species of *Physarum* and 42 species of *Didymium*, the most representative genera. Almost 50% of the species in arid areas of Chile or Mexico (Lado & al, 2007, Estrada & al, in press) and over 40% in a cloud forest in Ecuador (Schnittler & al., 2002) were also from this order. Not all tropical areas are the same, however, since very few species of these genera were found in the high elevation forests of Costa Rica (Rojas & Stephenson, 2007). The orders Trichiales and Echinosteliales also seem to be better represented in the Neotropics than are the Stemonitales or Liceales (Fig. 3).

Myxomycetes have been found to date in all major biomes (Ing, 1994), living on decaying remains of all types of vegetation. Information on vegetation, and particularly vascular plants, as the habitats and substrates for all myxomycetes, is therefore fundamental to understanding their distribution. In the Neotropical region, even specific parts of plants have been shown to be new microhabitats for myxomycetes, such as the inflorescences of tropical plants (Schnittler & Stephenson, 2002a, 2002b), living and dead lianas (Wrigley de Basanta & al., 2008), or the interior of succulent plants (Estrada-Torres & al., in press). Other potential microhabitats probably exist too in poorly studied vegetation, such as the mangrove swamps or the grasslands of the pampa. In addition to information on the vegetation, other factors must be taken into consideration when analyzing the data compiled above in Table 1. The geographical exten-

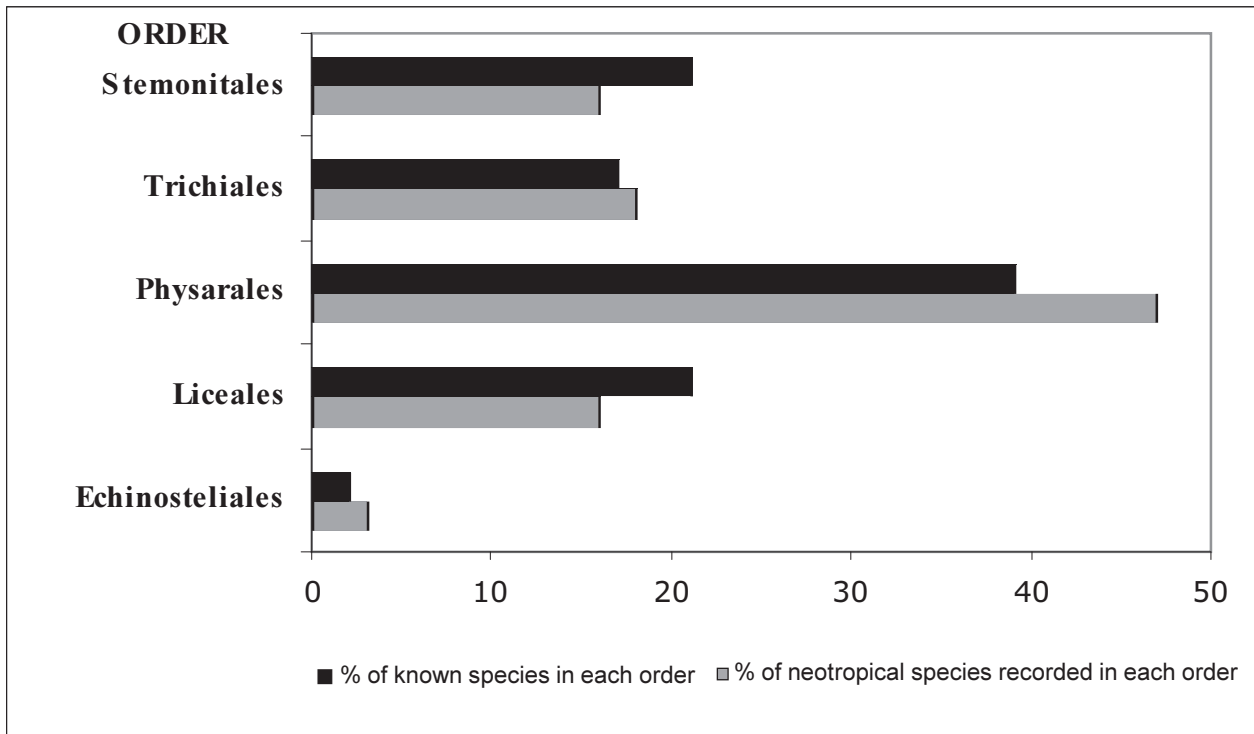


Fig. 3. Percentage of known Myxomycetes in different Orders compared to the percentage of species from the Neotropics in each order.

sion of each country obviously affects the potential number of myxomycetes to be found, and also the extent to which the country has been studied. The problem with any biogeographical analyses, as mentioned by Morawetz & Raedig (2007), is the difficulty in measuring the sampling effort. As the authors note, there can be insufficient sampling in places which are difficult to access, and intense sampling in easily accessible places. In order to enable a more realistic evaluation of the data in Table 1 to be made, a comparison of some of this information is given in Table 3.

Mexico, with the greatest number of myxomycetes, including all thirteen of the new species described from the region in the last decade, has been surveyed in a number of recent projects. Records appear in 138 papers, of which almost 100 are since 1990 (Table 3), but its myxomycete richness is also because it is so geographically diverse. It is the area where Boreal, Neotropical and Caribbean vegetation overlap. Some of these areas do not strictly belong to the Neotropics, as mentioned earlier, but for the purposes of this paper the records from all parts of the countries like Mexico and Argentina have been included, since records of some surveys did not include specific locations. Some parts of Mexico are in Central America, but others pertain to North America. For this reason we treat it alone. Mexico is also a

country of varied relief with the trans-Mexican volcanic belt perpendicular to the two north-south mountain chains. This creates a profusion of different microclimates and vegetation islands in the valleys and consequently many varied habitats for myxomycetes. Its diversity of vegetation according to Davis & al. (1997) is comparable only to India and Peru. Rzedowski (1991) also highlights the high level of plant endemism particularly in arid or semi-arid areas and subhumid montane highlands. Recent surveys have been done in arid areas of the country, such as the Tehuacán-Cuicatlán Valley in Puebla and Oaxaca (Estrada-Torres & al., in press) or Sonora (Lizárraga & al., 2007, 2008), in tropical moist forests such as El Eden in Quintana Roo, and Los Tuxtlas in Veracruz (Lado & al., 2003) or in a dry forest in Chamela, Jalisco (Lado & al., 1999), among others. Many areas of interest remain to be studied in Mexico, however, including the Lacandona region (Chiapas), the Upper Mezquital River region (Durango), or the Sierra de Juárez (Oaxaca).

Central America is of particular interest as it is the land bridge between North and South America, literally closing the circulation between the Pacific and the Atlantic oceans during its formation, and permitting the exchange of organisms between the two land masses. The region has a very varied topography, with

Table 3. Neotropical countries included in this paper: A comparison of land area, vascular plant species richness, myxomycete species richness and number of publications; *na* = information not available. Sources: Gentry (1982, 1992); Davis & al. (1997).

Country	Area (km ²)	Vascular plants (approx.)	Myxomycete species	Publications
Mexico	1,972,546	30,000	323	138
Central America				
Belize	22,800	4,400	41	1
Costa Rica	51,060	10,500	143	16
El Salvador	20,720	2,500	0	0
Guatemala	108,430	8,000	26	2
Honduras	111,890	6,000	12	4
Nicaragua	118,750	7,000	33	5
Panama	75,990	9,000	106	14
Caribbean				
Bahamas	14,260	1,300	10	1
Cuba	108,722	7,000	101	25
Dominican Republic	48,441	5,500	39	8
Haiti	27,749	with Dominican Republic	20	3
Jamaica	11,425	3,700	119	10
Leeward Islands	na	na	83	12
Puerto Rico	8,897	2,900	93	19
Trinidad and Tobago	4,838	2,600	62	7
Windward Islands	na	na	106	12
South America				
Argentina	2,736,690	9,370	160	46
Bolivia	1,084,380	17,350	42	5
Brazil	8,456,510	56,000	206	114
Chile	748,800	5,200	102	19
Colombia	1,038,700	45,000	96	12
Ecuador	276,840	21,000	136	31
French Guiana	90,976	4,000	37	2
Guyana	196,850	6,400	12	7
Paraguay	397,300	8,000	20	9
Peru	1,280,000	19,000	31	5
Surinam	156,000	5,000	9	4
Uruguay	174,810	2,270	52	8
Venezuela	882,050	21,070	111	19

mountains, valleys and high plateaus, which affects the climate and vegetation types. Although it is made up of small countries, it contains up to 8% of the world's plant species (Davis & al., 1997) many of which are endemic (Gentry, 1992). Some of the Central American countries have been sampled in several surveys recently, most notably Costa Rica (Schnittler & Stephenson, 2000) and Panama (Pando, 1997) which have more than 100 species of myxomycete recorded, but others such as El Salvador have not

been studied at all. The three largest countries Guatemala, Honduras and Nicaragua are only cited in a total of 11 publications and have fewer than 50 myxomycete species recorded between them of the 195 different species recorded from Central America, apart from Mexico (Table 3). Even in well studied countries there are vegetation types or specific areas which have received little or no attention. For instance in Costa Rica (16 publications), a recent study (Rojas & Stephenson, 2007) in high elevation oak for-

est apported 11 new species to the country record, as previously there had been very little work done in that type of forest. Of the great variety of vegetation in Central America from lowland rain forest and swamps to arid areas full of cacti, the Petén region of Guatemala or the Darién Province of Panama are unexplored endangered areas and of great interest for future work.

The Caribbean Islands are a group of islands with different origins, and some are remains of continents, others of recent volcanoes. Each major tropical island cluster has independently evolved its own native flora, influenced by the fact that some of the islands, such as Hispaniola, have been formed from several territories, which separated and rejoined various times in their geologic history (Davis & al., 1997). Myxomycetes from the Caribbean have been relatively well studied (Table 3) and cited in 98 publications, 26% of them from Cuba, the largest island with the greatest number of vascular plant species. In addition, other islands, such as Jamaica or the Windwards which have been the site of intensive surveys, have as many or more myxomycetes, although reported in fewer papers. A total of 174 different myxomycete species have been recorded from these islands. Some areas of high plant diversity as yet understudied for myxomycetes in these islands, are the Oriente in Cuba, the Morne Trois Pitons National Park in Dominica, the Central Highlands and Sierra de Neiba in the Dominican Republic, the Pic Macaya or the Morne La Visite in Haiti, the Blue and John Crow Mountains, or the Cockpit Country in Jamaica and the Aripo Savannas Scientific Reserve in Trinidad.

The continent of South America has about one-eighth of the Earth's land surface. It has been an island continent during most of the period of angiosperm evolution, and it has been joined to North America by the Isthmus of Panama, and then separated, more than once in its geologic history. The topography of South America is varied and ranges from the Brazilian lowland with its tropical rain forest to the snow-covered Andes. The Andes is the longest mountain range in the world, and stretches for over 7,000 km forming the backbone of the continent from Colombia to Tierra del Fuego. It has the highest mountain in the Western Hemisphere, the Aconcagua. Most of the continent of South America is in the tropics, but the elevation of the Andes and the presence of cold ocean currents, like the Humboldt stream, cause cool temperatures even at the equator. The combined effect of these environmental factors accounts for the variety of vegetation in this area, which in turn provides multiple substrates, and distinct macro and microhabitats for myxomycetes. In South America, Brazil with the

largest land area (Table 3) has by far the largest number of vascular plants. It has also been intensively studied for myxomycetes (114 publications), but mainly in the northeastern area of the country. Vast areas of the Amazon have never been surveyed, and geographic areas of special scientific interest such as the Pantepui region, the Gran Chaco, the Transverse Dry Belt, have not been sampled. Some areas of distinct vegetation are also of great interest such as the Atlantic moist forest, the Tabuleiro forest, the Caatinga of north-eastern Brazil, or the Cerrado of central Brazil.

Argentina has the second largest land mass and the third number of myxomycete species of the region to date. It was initially studied for these organisms over a hundred years ago, but until recently little intensive work has been done since (only 46 publications). A recent research project, Myxotropic, was undertaken to study the Myxomycetes that develop on endemic succulent plants (Cactacea and sclerophyllous shrubs) of the Neotropical region. The first phase of the project was directed towards the study of this group of organisms from arid regions of Mexico (Estrada Torres & al., in press). The second phase of the Project, involves the unexplored arid areas of Argentina and the North of Chile, specifically the desert areas of El Monte and Atacama, which are among the most arid of the planet (Lado & al., 2007a). This study extends and complements a current International project "Global Biodiversity of Eumycetozoa" supported by the National Science Foundation (NSF) of the United States, developed to investigate unexplored regions of the world (Stephenson & al., 2005). To date the Myxotropic project has provided more than 1200 myxomycete collections from Argentina which are currently under study.

The number of different myxomycete species recorded from all of South America is 328. It is evident from the list that several countries are totally undersurveyed. For example, considering their land-mass and richness in vascular plants, Peru, Colombia, and Bolivia have relatively few myxomycete records. Some of the specific areas of interest in these countries would be the Iquitos region, or the eastern slopes of the Andes in Peru, the Chocó or the Chiribiquete-Araracuara-Cahuinarí region in Colombia, and the Gran Chaco or the Madidi-Apolo region of Bolivia. There are a number of ecosystems and types of vegetation, that span several countries on the continent, and which would provide interesting data and analyses on the role of specific microhabitats or plant species in the distribution of myxomycetes. Some of these are mangrove swamps, dry forest, the cerrado and caatinga, open grass savanna, the Patagonian steppe, and the Valdivian forest.

If the number of publications is taken as an indication of the amount of research done in a country, the suggestion that apparent distribution of myxomycetes follows the distribution pattern of research efforts (Stephenson & Stempen, 1994) is supported by these data. The research intensity, however, is not always related to the number of papers since some papers listed may have only a few records while others, such as the Bahamas or Belize, may have the total for the country in one paper. Myxomycete records have appeared in fewer than ten publications from over half (16) of the 30 countries listed (Table 3), which gives an idea of the enormous amount of research still to be done.

This paper indicates that almost half the known species of myxomycetes have been recorded from the Neotropics. It also indicates that there are many areas that remain under studied, or not investigated at all. This can be seen graphically on the map (Fig. 4), generated by the GBIF (Global Biodiversity Information Facility) network, from their database of geo-referenced records of myxomycetes in major herbaria, which shows sparse points in many of the areas of the Neotropics and none in vast areas of the South American continent. The biodiversity occurrence data for the area mapped from this database, is provided by: University of Arkansas (2008), Staatliche Naturwissenschaftliche Sammlungen Bayerns (2008), GBIF-Sweden, Gothenburg Herbarium (2008), Real Jardín Botánico, Madrid (2008), Utah State University (2008).

The importance and urgency attached to the completion of more biodiversity surveys for these microorganisms in the Neotropics lies in the fact that this area contains some of the most threatened environments on earth. Habitat loss and destruction of the vegetation, to which the myxomycetes are so intimately linked, is on the increase. As Mittermeier & al., (2004) have pointed out, the tropical Andes is the richest and most diverse biodiversity hotspot on earth, and yet only 25% of the original primary vegetation of the tropical Andes remained when Myers & al., (2000) went to press. Approximately 100 Neotropical plant narrowendemics per year are now being lost due to forest conversion (Morawetz & Raedig, 2007). The importance of the conservation of these habitats is not limited to the larger flora or fauna of major conservation efforts. Microorganisms, such as the myxomycetes, with unknown ecological importance and unsuspected species richness are subject to the same, or greater, risks. Protection of their gene pools, and investigation into their ecological importance, before their threatened habitats shrink further, should give high priority to biodiversity research on myxomycetes in the Neotropics.

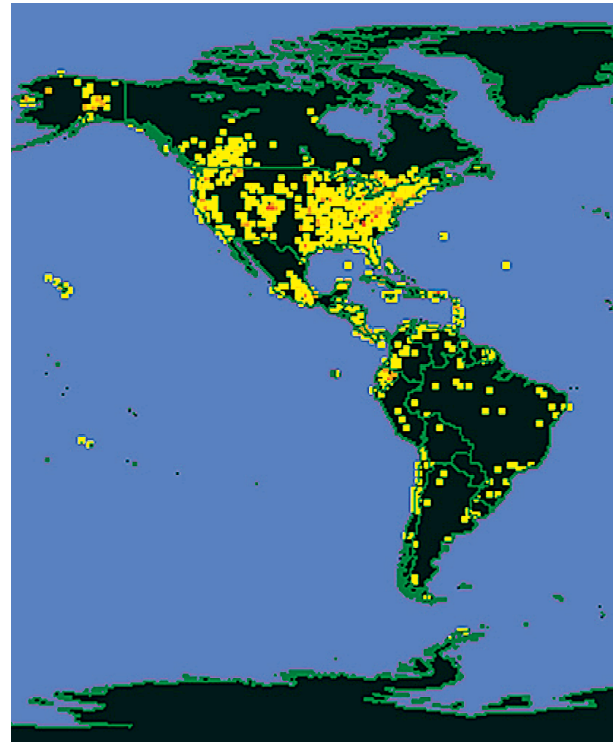


Fig. 4. Myxomycete biodiversity occurrence data from North and South America. This map only shows records with coordinates from the GBIF network and may not properly represent the total distribution of Myxomycetes.

Acknowledgements

This research has been supported by the Ministry of Education and Science of Spain [grant CGL2005-00320/BOS]. The authors thank María Aguilar, Eva García and Juan Carlos Hernández for their valuable assistance in the bibliographic search. We would also like to thank Steven L. Stephenson and the two US National Science Foundation projects [grants DEB-9705464 and DEB-0316284], which facilitated some of the research in the Neotropics.

References

- Alexopoulos, C.J. 1967. Taxonomic studies in the Myxomycetes I. The genus *Macbrideola*. *Mycologia* 59(1): 103-115.
- Alexopoulos, C.J. 1970. Rainforest Myxomycetes. In: Odum, H.T. (ed.), *A Tropical Rain Forest*. U. S. *Atomic Energy Commission* 3: 21-23.
- Alexopoulos, C.J. & Beneke, E.S. 1954a. A new species of *Comatricha* from Jamaica. *Mycologia* 46: 245-247.
- Alexopoulos, C.J. & Beneke, E.S. 1954b. Myxomycetes from Jamaica. *Transactions British Mycological Society* 37(3): 306-313.
- Alexopoulos, C.J. & Blackwell, M. 1968. Taxonomic studies in the Myxomycetes II. Physarina. *Journal Elisha Mitchell Science Society* 84: 48-51.
- Alexopoulos, C.J. & Sáenz, J.R. 1975. The Myxomycetes of Costa Rica. *Mycotaxon* 2: 223-271.
- Alves, M.H & Cavalcanti, L.H. 1996. Myxomycetes em palmeiras (Arecaceae). *Acta Botanica Brasílica* 10: 1-7.

- Andrade-Torres, A. 1998. Riqueza, abundancia y diversidad de myxomycetes sobre hojarasca, troncos caídos y cortezas de árboles tropicales vivos. *www.uv.mx/CITRO/el_edén/research/papers/andrade_torres/*
- Andrade-Torres, A., Meza-Hernández, E.A. & Cuevas-Suárez, C. 2002a. Los Myxomycetes del estado de Quintana Roo, México. In: Guzmán, G. & Mata, G. (eds.), Estudios sobre los hongos latinoamericanos. *Resumen IV Congreso Latinoamericano de Micología*: 252.
- Andrade-Torres, A., Meza-Hernández, E.A. & Cuevas-Suárez, C. 2002b. Los Myxomycetes del parque ecológico El Haya, Xalapa, Veracruz, México. In: Guzmán, G. & Mata, G. (eds.), Estudios sobre los hongos latinoamericanos. *Resumen IV Congreso Latinoamericano de Micología*: 253.
- Arambarri, A.M. 1972. Una nueva especie de Myxomycetes de Tierra del Fuego (Argentina). *Boletín de la Sociedad Argentina de Botánica* 14: 154-156.
- Arambarri, A.M. 1973. Myxomycetes de Tierra del Fuego I. Especies nuevas y críticas del género *Diderma* (Didymiaceae). *Boletín de la Sociedad Argentina de Botánica* 15: 175-182.
- Arambarri, A.M. 1975. División Myxophyta, Clase Myxomycetes. In: Guarrera & al. (eds.), *Flora criptogámica de Tierra del Fuego*. Vol. 2. Fundación para la Educación, la Ciencia y la Cultura. Buenos Aires.
- Baker, R.E.D. & Dale, W.T. 1951. Fungi of Trinidad and Tobago. *Commonwealth Mycological Institute Miscellaneous Publication* 33: 1-123.
- Barbosa, M.R.V. 1996. *Pesquisa Botânica Nordestina: progresso e perspectivas*. Recife. Sociedade Botânica do Brasil, pp. 37-45.
- Barnes, R.F. 1963. Myxomycetes from Trinidad. *Transactions British Mycological Society* 46(3): 453-458.
- Batista, A.C. 1949. Três mixomicetes comuns em Pernambuco. *Boletim Secretaria de Agricultura Indústria Comércio Estado de Pernambuco* 16: 166-167.
- Benjamin, C.R. & Slott, A. 1969. Fungi of Haiti. *Sydowia, Anaes Mycologici Ser. II* 23: 125-163.
- Berkeley, M.J. 1868. On a Collection of Fungi from Cuba. Part. II., including those belonging to the Families Gasteromycetes, Coniomycetes, Hyphomycetes, Physomycetes, and Ascomycetes. *Journal Linnean Society, Botany* 10: 341-392.
- Berkeley, M.J. & Cooke, M.C. 1876. The fungi of Brasil. *Journal Linnean Society, Botany* 15(86): 363-398.
- Berlese, A.N. 1888. Myxomyceteae Wallr. In: Saccardo, P.A., *Sylloge fungorum*. Ed. Sumptibus auctoris typis Seminarii 7: 323-453.
- Bertero, C. 1828. Variedades Ciencias Naturales. *El Mercurio Chileno* 4: 194-195.
- Bezerra, M.F.A., Lado, C. & Cavalcanti, L.H. 2007. Mixobiota do Parque Nacional Serra de Itabaiana, SE, Brasil: Liceales. *Acta Botanica Brasílica* 21(1): 107-118.
- Biodiversity occurrence data provided by: *National Botanic Garden Belgium. National Museum of Nature and Science, Japan. Botanische Staatssammlung München. V. L. Komarov Botanical Institute, St. Petersburg. The University of Arkansas, USA, and The Royal Botanic Garden, Madrid.* (Accessed through GBIF Data Portal, www.gbif.net, 2008-05-20).
- Bonar, L. 1939. Fungi from the Galapagos and other Pacific coastal islands. IV. *Proceeding California Academy Science* 22: 195-206.
- Bononi, V.L.R., Trufem, S.F.B. & Grandi, R.A.P. 1981. Fungos macroscópicos do Parque Estadual das Fontes do Ipiranga, Sao Paulo, Brasil, depositados no herbario do Instituto de Botânica. *Rickia* 9: 37-53.
- Braun, K.L. & Keller, H.W. 1976. Myxomycetes of Mexico I. *Mycotaxon* 3: 297-317.
- Braun, K.L. & Keller, H.W. 1986. Myxomycetes of Mexico III. *Revista Mexicana de Micología* 2: 25-39.
- Bresadola, J. 1896. Fungi brasiliensis lecti a cl. Dr. Alfredo Möller. *Hedwigia* 35(5): 276-302.
- Britton, N.L. & Millspaugh, C.F. 1920. *The Bahama flora*. New York.
- Brummitt, R.K. 2001. *World Geographical Scheme for Recording Plant Distributions*. 2nd ed. TDWG. Hunt Institute for Botanical Documentation. Carnegie Mellon University, Pittsburgh.
- Buyck, B. 1984. *Diderma maculatum* Buyck, a new Myxomycete species from Venezuela. *Bulletin Jardin Botanique National Belgique* 54: 131-136.
- Camino, M. 1991. Myxomycetes de Cuba. I. *Revista Jardín Botánico Nacional* 12: 127-131.
- Camino, M. 1996. Contribución al estudio de los Myxomycetes en Cuba. In: Lado, C. & Hernández, J.C. (eds.), *Abstract Volume. Second International Congress on the Systematics and Ecology of Myxomycetes*: 129.
- Camino, M. 1998a. Myxomycetes de Cuba. II. Orden Stemonitales. *Revista Jardín Botánico Nacional* 19: 147-152.
- Camino, M. 1998b. Los Myxomycetes del Hoyo de Bonet, Sierra de Cubitas, Camagüey. *Revista Jardín Botánico Nacional* 19: 161-162.
- Camino, M. & Eliasson, U. 2002. Biodiversity of Myxomycetes in the Ecological Reserve "Alturas de Banao", Sancti Spiritus, Cuba. *Scripta Botanica Belgica* 22: 10.
- Camino, M. & Moreno, G. 2002. The family Stemonitaceae in Cuba: current state of studies. *Scripta Botanica Belgica* 22: 11.
- Camino, M. & Pérez, J.M. 2000. El género *Arcyria* Wiggers (Trichiales, Myxomycetes) en Cuba. *Revista Jardín Botánico Nacional* 21: 115-126.
- Camino, M. & Pérez, J.M. 2001. Los Myxomycetes de la Reserva Ecológica "Alturas de Banao" (El Naranjal), Sancti Spiritus. *Revista Jardín Botánico Nacional* 22: 109-117.
- Camino, C. & Rodríguez, M. 2002. Nuevos registros de la familia Stemonitaceae (Myxomycetes) para Cuba: *Lamproderma scintillans* & *Stemonitis smithii*. In: Guzmán, G. & Mata, G. (eds.), Estudios sobre los hongos latinoamericanos. *Resumen IV Congreso Latinoamericano de Micología*: 251.
- Camino, M., Moreno, G. & Castillo, A. 2005. Taxonomic revision of the myxomycetes from Cuba deposited in the Farlow Herbarium (USA). *Mycotaxon* 93: 379-400.
- Camino, M., Moreno, G. & Castillo, A. 2007. Taxonomic revision of the myxomycetes from Cuba deposited in three reference collections: U.S. National Fungus Collections (BPI-USA), British Museum (BM-UK) and Kew (K-UK). *Mycotaxon* 100: 349-356.
- Camino, M., Stephenson, S.L., Krivomaz, T., Wrigley de Basanta, D., Lado, C. & Estrada-Torres, A. (in press). Biodiversity survey for myxomycetes in the mountains of central Cuba. *Revista Mexicana de Micología*.
- Capelari, M. & Mazeiro, R. 1988. Fungos macroscópicos do Estado de Rondônia, região dos rios Jaru e Ji-Paraná. *Hoenea* 15: 28-36.
- Capello-García, S. & Hernández-Trejo, H. 1990. Lista preliminar de los hongos (Macromicetos) y Myxomycetes de Tabasco, México. *Universidad y Ciencia* 7(13): 15-21.
- Castillo, A., Illana, C. & Moreno, G. 1996. *Badhamia melanospora* Speg. A species wrongly interpreted. *Mycotaxon* 57: 163-170.
- Cavalcanti, L.H. 1970. Coleção de Mixomicetos do Museo Paraense Emílio Goeldi. *Boletim Museo Paraense Historia Natural* 35: 1-5.

- Cavalcanti, L.H. 1974a. O gênero *Perichaena* Fries em Pernambuco. *Rickia* 6: 98-117.
- Cavalcanti, L.H. 1974b. Mixomicetos novos para Pernambuco. *Memorias Instituto de Biociências Universidade Federal de Pernambuco* 1: 315-327.
- Cavalcanti, L.H. 1976. Mixomicetos novos para Pernambuco II. *Memorias Instituto de Biociências Universidade Federal de Pernambuco, Botânica* 4: 1-19.
- Cavalcanti, L.H. 1977. Mixomicetos do Cerrado II – Análise comparativa das espécies encontradas no Cerrado protegido e no queimado anualmente. *Anais XXIII Congresso Nacional de Botânica, Belo Horizonte*, 1977, pp. 129-140.
- Cavalcanti, L.H. 1985. Mixomicetos do Cerrado III – Revisão da literatura. *Anais XXXIII Congresso Nacional de Botânica, Maceió*, 1982, pp. 173-179.
- Cavalcanti, L.H. 1996a. Myxomycetes. In: Sampaio, E.V.S.B., Mayo, S.J. & Barbosa, M.R. (eds.), *Pesquisa Botânica no Brasil – Progressos e perspectivas*. pp. 35-47.
- Cavalcanti, L.H. 1996b. Conocimiento actual de Myxomycetes en Brasil. *Abstracts Second International Congress on the Systematics and Ecology of Myxomycetes. Madrid*, pp. 82.
- Cavalcanti, L.H. 2002. Biodiversidade e distribuição de mixomicetos em ambientes naturais e antropogênicos no Brasil: espécies ocorrentes nas Regiões Norte e Nordeste. In: Araújo, E.L., Moura, A.N., Sampaio, E.V.S.B., Gestinari, L.M.S. & Carneiro, J.M.T. (eds.), *Biodiversidade, conservação e uso sustentável da flora do Brasil*, pp. 209-216. Universidade Federal Rural de Pernambuco, Sociedade Botânica do Brasil, Recife.
- Cavalcanti, L.H. & Araújo, V.L.F. 1985. Myxomycetes da Paraíba II. Liceales. *Anais VIII Reunião Nordestina de Botânica, 1984*, pp. 193-198.
- Cavalcanti, L.H. & Brito Jr., S.C. 1990. Enteridiaceae do Brasil. *Biologia Brasileira* 2(2): 115-134.
- Cavalcanti, L.H. & Dias Filha, M.C.C. 1985. Myxomycetes sobre briófitas. *Anais VIII Reunião Nordestina de Botânica, 1984*, pp. 223-228.
- Cavalcanti, L.H. & Fortes, S.T. 1994. Myxomycetes de Florianópolis (Santa Catarina – Brasil). *Acta Botanica Brasílica* 8(1): 65-75.
- Cavalcanti, L.H. & Fortes, S.T. 1995. Myxomycetes do Estado de Santa Catarina, Brasil. *Boletim Sociedade Broteriana, Sér. 2*, 67: 23-35.
- Cavalcanti, L.H. & Marinho, M.G.V. 1985. Myxomycetes da Paraíba I Trichiales. *Anais VIII Reunião Nordestina de Botânica, 1984*. Recife, pp. 185-191.
- Cavalcanti, L.H. & Mobin, M. 2001. *Hemitrichia serpula* var. *piuiensis* (Trichiaceae-Myxomycetes) A new variety from Brazil. *Acta Botanica Brasílica* 15: 133-137.
- Cavalcanti, L.H. & Mobin, M. 2002. Myxomycetes associated with palm trees in the Sete Cidades National Park, Pauí, Brazil. *Scripta Botanica Belgica* 22: 19.
- Cavalcanti, L.H. & Mobin, M. 2004. Myxomycetes associated with palm trees at the Sete Cidades National Park, Piauí State, Brazil. *Systematics and Geography of Plants* 74: 109-127.
- Cavalcanti L.H. & Oliveira, F.C. 1985. Myxomycetes da Paraíba IV. Stemonitales. *Anais VIII Reunião Nordestina de Botânica, 1984*. Recife, pp. 207-214.
- Cavalcanti, L.H. & Pôrto, K.C. 1985. Trichiaceae (Myxomycetes) da floresta pluvial tropical. I. *Arcyria Wiggers*. *Anais XXXVI Congresso Nacional de Botânica*. Curitiba: 271.
- Cavalcanti, L.H. & Putzke, J. 1998. Myxomycetes da Chapada do Araripe (Crato - Ce, Brasil). *Acta Botanica Brasílica* 12(3): 253-261.
- Cavalcanti, L.H. & Santos, E.J. 1991. Ocorrência de Myxomycetes em folhas senescentes de cana-de-açúcar (*Saccharum* spp.). *Biologia Brasílica* 3(1): 45-56.
- Cavalcanti, L.H. & Silva, J.V.B. 1985. Myxomycetes da Paraíba III. Physarales. *Anais VIII Reunião Nordestina de Botânica, 1984*. Recife, pp. 199-205.
- Cavalcanti, L.H., Correia, A.M.S. & Pôrto, K.C. 1982. O Herbário de Myxomycetes (Gymnomycota) da UFPE. *Anais XXXIII Congresso Nacional de Botânica, Maceió*, 1982, pp. 189-200.
- Cavalcanti, L. H., Okada, K. & Costa, S.P.S.E. 1993. Incidência de Myxomycetes na necromassa da mata do Curado (Recife-Pe, Brasil). *Revista Nordestina Biologia* 8(1): 39-44.
- Cavalcanti, L.H., Ponte, M.P.M.P. & Mobin, M. 2006. Myxomycetes, State of Piauí, Northeast Brazil. *Check Lis.* 2(2): 70-74.
- Cavalcanti, L.H., Santos, E.J. & Gomes, N.A. 1999. Myxomycetes do estado de Roraima, com especial referência para a estação Ecológica de Maracá (Amajari – RR, Brasil). *Acta Amazônica* 29: 195-200.
- Cavalcanti, L.H., Santos, E.J., Silva, M.I.L. & Pinto, I.M.A. 1985. Myxomycetes em cana-de-açúcar (*Saccharum officinarum* L.). *Anais VIII Reunião Nordestina de Botânica, 1984*. Recife, pp. 215-221.
- Cavalcanti, L.H., Tavares, H.F.M., Nunes, A.T. & Silva, C.F. 2005. Mixomicetos. In: Pôrto, K.C., Almeida Cortez, J.S. & Tabarelli, M. (Orgs.), *Diversidade biológica e conservação da Floresta Atlântica ao norte do rio São Francisco*, pp. 53-74. Coll. Biodiversidade 14. Ministerio do Meio Ambiente. Brasília.
- Chacón, S. & Guzmán, G. 1984. Nuevas observaciones sobre los hongos, líquenes y mixomicetos de Chiapas. *Boletín de la Sociedad Mexicana de Micología* 19: 245-252.
- Chardon, C.E. 1926. Scientific survey of Porto Rico and the Virgen Islands. *New York Academy of Sciences*, vol. Part. 3(1).
- Chardon, C.E. 1928. Contribución al estudio de la Flora micológica de Colombia. *Boletín de la Sociedad Española de Historia Natural* 28: 111-124.
- Chiappeta, A.A., Sena, K.X.R. & Cavalcanti, L.H. 2003. Environmental Factors Affecting Sporulation of *Fuligo septica* (Myxomycetes) on Sugar Cane Bagasse. *Brazil Archivo de Biología e Tecnología* 46(1): 7-12.
- Ciferri, R. 1929. Micoflora domingensis. Lista de hongos hasta la fecha indicados en Santo Domingo. *Estación Agronómica de Moca, ser. B. Botánica* 14: 1-260.
- Ciferri, R. 1961. Mycoflora domingensis integrata. *Quaderno Instituto Botanico Laboratorio Crittogamico Pavia* 19: 1-539.
- Ciferri, R. & González-Fragoso, R. 1926. Hongos parásitos y saprófitos de la República Dominicana. 7ª Serie. *Boletín de la Sociedad Española de Historia Natural* 26: 470-480.
- Clark, J.D. & Collins, O.R. 1973. Further studies on the genetics of plasmidial incompatibility in a Honduran isolate of *Didymium iridis*. *Mycologia* 65: 507-519.
- Cooke, M.C. 1877. Cocoa-palm fungi. *Grevillea* 5: 101-103.
- Cooke, M.C. 1889. Some exotic fungi. *Grevillea* 17(83): 59-60.
- Courtecuisse, R., Samuels, G.J., Hoff, M., Rossmann, A.Y., Cremers, G., Huhndorf, S.M. & Stephenson, S.L. 1996. Check-list of fungi from French Guiana. *Mycotaxon* 57: 1-85.
- Crespo, E.M. & Lugo, M. 2003. Catalogue of Myxomycetes from Argentina. *Mycotaxon* 87: 91-102.
- Dávalos, L. & Guzmán, G. 1981. La colección de hongos del herbario de la escuela nacional de Ciencias Biológicas del I.P.N.. *Boletín de la Sociedad Mexicana de Micología* 16: 105-107.
- Davis, E.E. & Butterfield, W. 1967. Myxomycetes cultured from the peel of banana fruit. *Mycologia* 59(5): 935-937.

- Davis, S.D., Heywood, V.H., Herrera-MacBryde, O., Villa-Lobos, J. & Hamilton, A.C. (eds.). 1997. *Centres of Plant Diversity*, vol. 3. Information Press, Oxford.
- Dennis, R.W.G. 1960. Fungi venezuelani: III. *Kew Bulletin* 14(3): 418-458.
- Dennis, R.W.G. 1970. Fungus flora of Venezuela and adjacent countries. *Kew Bulletin* Add. Ser. 3. Royal Botanic Gardens, Kew.
- Deschamps, J.R. 1972. El género *Stemonitis* (Myxomycetidae) en Argentina. *Boletín de la Sociedad Argentina de Botánica* 14(3): 139-153.
- Deschamps, J.R. 1974. Una nueva especie de *Comatricha* (Stemonitaceae-Myxomycetidae). *Boletín de la Sociedad Argentina de Botánica* 15(4): 340-342.
- Deschamps, J.R. 1975. Los Myxomycetes de la Argentina. Catálogo crítico, distribución y clave de las especies. *Physis (Buenos Aires)* 34: 159-178.
- Deschamps, J.R. 1976a. Los Myxomycetes de la Argentina. Catálogo crítico, distribución y clave de las especies. (Continuación). *Physis (Buenos Aires)* 35: 147-171.
- Deschamps, J.R. 1976b. Los Myxomycetes de la Argentina. Catálogo crítico, distribución y clave de las especies. (Conclusión). *Physis (Buenos Aires)* 35: 319-339.
- Digilio, A.P.L. 1946. Contribución al catálogo de los "Myxomycetes" argentinos. I. *Lilloa* 12: 177-203
- Digilio, A.P.L. 1950. Myxomycetes de Tucuman. *Lilloa* 23(4): 365-414.
- Duss, A. 1903. *Énumération méthodique des champignons recueillis à la Guadeloupe & à la Martinique*. Impr. et lithographie L. Duclume, Lons-le-Saunier.
- Duss, A. 1904. *Flore cryptogamique des Antilles françaises, Champignons*. Impr. et lithographie L. Duclume, Lons-le-Saunier.
- Edmunds, A. & Stephenson, S.L. 1996. Myxomycetes associated with the litter microhabitat in tropical forests of Costa Rica. *Proceedings of the West Virginia Academy of Sciences* 68: 23-24.
- Eliasson, U.H. 1971. A Collection of Myxomycetes from the Galápagos Islands. *Svensk Botanisk Tidskrift* 65: 105-111.
- Eliasson, U.H. 2000. Myxomyceten auf lebenden Blättern im tropischen Regenwald Ecuadors; eine Untersuchung basierend auf dem Herbarmaterial höherer Pflanzen. *Stappia* 73: 81-84.
- Eliasson, U.H. & Nannenga-Bremekamp, N.E. 1983. Myxomycetes of the Scalesia forest, Galápagos Islands. *Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen, Series C*, 86: 143-153.
- Emoto, Y. 1933. Myxomyceten aus Mexiko. *Botanical Magazine (Tokyo)* 47: 132-135.
- Estrada-Torres, A. 1996. Myxomycetes from tropical Mexico. In: Lado, C. & Hernández, J.C. (eds.), *Abstract Volume. Second International Congress on the Systematics and Ecology of Myxomycetes*: 124.
- Estrada-Torres, A., Gaither, T.W., Miller, D., Lado, C. & Keller, H.W. 2005. The myxomycete genus *Schenella*: morphological and DNA sequence evidence for synonymy with the gasteromycete genus *Pyrenogaster*. *Mycologia* 97(1): 139-149.
- Estrada-Torres, A., Hernández-Cuevas, L., Lado, C., Ramírez-Ortega, J.M. & Díaz-Ramírez, M. 2002a. Distribución y abundancia de Myxomycetes en selvas bajas de México. In: Guzmán, G. & Mata, G. (eds.), *Estudios sobre los hongos latinoamericanos. Resumen IV Congreso Latinoamericano de Micología*: 248.
- Estrada-Torres, A., Lado, C. & Flores, R. 2000. Myxomycetes de Guatemala. *Stappia* 73: 159-165.
- Estrada-Torres, A., Lado, C. & Rodríguez-Palma, M.M. 2001. Two new species of Myxomycetes from a tropical deciduous forest of Mexico. *Mycologia* 93: 744-750.
- Estrada-Torres, A., Lado, C., Stephenson, S.L., Ramírez-Ortega, M., Wrigley de Basanta, D. & Schnittler, M. 2002b. Plant diversity in the Mexican Neotropics: opportunities for studies of ecological specificity and speciation in myxomycetes. *Scripta Botanica Belgica* 22: 27-28.
- Estrada-Torres, A., Lado, C., Stephenson, S.L., Wrigley de Basanta, D. & Schnittler, M. 2002c. Myxomycetes de tres reservas biológicas neotropicales. Análisis de resultados. In: Guzmán, G. & Mata, G. (eds.), *Estudios sobre los hongos latinoamericanos. Resumen IV Congreso Latinoamericano de Micología*: 249.
- Estrada-Torres, A., Márquez, J., Esquivel, C., Ramírez, M. & Lado, C. 2002d. Morphogenesis of the sporocarps of *Cribraria fragilis*. *Scripta Botanica Belgica* 22: 29.
- Estrada-Torres, A., Ramírez-Ortega, J.M. & Lado, C. 2003. *Calonema foliicola* a new myxomycete from Mexico. *Mycologia* 95: 354-359.
- Estrada-Torres, A., Wrigley de Basanta, D., Conde, E. & Lado, C. (in press). Myxomycetes associated with dryland ecosystems of the Tehuacán-Cuicatlán Valley Biosphere Reserve, Mexico. *Fungal Diversity*.
- Farr, M.L. 1957. A Checklist of Jamaican Slime-Moulds (Myxomycetes). *Bulletin Institute Jamaica, Sciences Serie 7*: 1-67.
- Farr, M.L. 1958. Taxonomic studies in the Myxomycetes I. The *Trichia favoginea* complex. *Mycologia* 50(3): 357-369.
- Farr, M.L. 1959. *Stemonitis brasiliensis* and *Badhamia Iowensis*-A correction. *Mycologia* 51(4): 598.
- Farr, M.L. 1960. The Myxomycetes of the IMUR herbarium, with special reference to Brazilian species. *Instituto Micologia Universidade de Recife* 184: 1-54.
- Farr, M.L. 1967. Notes on Myxomycetes. *Mycopathologia et Mycologia Applicata* 31(3/4): 305-313.
- Farr, M.L. 1968. An illustrated key to the Myxomycetes of South America, with special reference to Brasil. *Rickia* 3: 45-88.
- Farr, M.L. 1969. Myxomycetes from Dominica. *Contributions U. S. National Herbarium* 37(6): 397-440.
- Farr, M.L. 1971. Two undescribed Myxomycetes from Argentina. *Mycologia* 63(3): 634-639.
- Farr, M.L. 1973. An annotated list of Spegazzini's fungus taxa. *Bibliotheca Mycologica* 35, 2 vols.
- Farr, M.L. 1974. Some new Myxomycete records for the Neotropics and some taxonomic problems in the Myxomycetes. *Proceedings of the Iowa Academy of Sciences* 81: 37-40.
- Farr, M.L. 1976. *Flora Neotropica Monograph No. 16 (Myxomycetes)*. New York Botanical Garden, New York.
- Farr, M.L. 1985. Notes on Myxomycetes. IV. Species collected in Brazil and Japan. *Nova Hedwigia* 41: 167-176.
- Farr, M.L. & Kowalski, D.T. 1974. A new species of *Calomyxa* from the Andes. *Mycologia* 66: 884-886.
- Farr, M.L. & Martin, G.W. 1958. Two new Myxomycetes from Brazil. *Brotéria* 27(4): 153-158.
- Farr, M.L., Eliasson, U. & Dumont, K.P. 1979. Myxomycetes from Ecuador. *Mycotaxon* 8: 127-134.
- Fidalgo, O., Fidalgo, M.E.K. & Furtado, J.S. 1965. Fungi of the "Cerrado" region of São Paulo. *Rickia* 2: 55-71.
- Fries, R.E. 1903. Myxomyceten von Argentinien und Bolivien. *Arkiv für Botanik* 1: 57-70
- Fries, R.E. 1920. Die Myxomyceten der Juan Fernandez Inseln. In: Skottsberg, C. (ed.), *The natural history of Juan Fernandez and Easter Islands*. Upsala 2(1): 55-58.

- Galindo-Flores, G.L. 1992. *Algunos hongos del Jardín Botánico Tizatlán, Tlaxcala*. Talleres gráficos del Estado de Tlaxcala. Tlaxcala.
- Galindo-Flores, G.L. & Estrada-Torres, A. 1993. Algunas consideraciones taxonómicas y biogeográficas del género *Arcyria* del Volcán La Malintzi, Tlaxcala. In: *XII Congreso de Botánica. Libro de resúmenes*: 100.
- Galindo-Flores, G.L., Hernández-Cuevas, L., Rodríguez-Palma, M. & Estrada-Torres, A. 1993. Contribución al conocimiento de los mixomicetos del parque nacional Lagunas de Zempoala. *Acta Botánica Mexicana* 21: 27-42.
- Gams, W. 2005. Report of the Committee for Fungi: 13. *Taxon* 54(3): 828-830.
- García-Zorrón, N. 1967. *Mixomicetos del Uruguay*. Fac. Humanidades y Ciencias Dep. Botánica Univ. República Montevideo.
- García-Zorrón, N. 1977. Mixomicetos coprófilos del Uruguay. *Revista de Biología Uruguaya* 5: 47-50.
- Gentry, A.H. 1982. Neotropical floristic diversity. *Annales Missouri Botanical Garden* 69: 557-593.
- Gentry, A.H. 1992. Tropical Forest Biodiversity. *Oikos* 63: 19-28.
- GBIF-Sweden, Gothenburg Herbarium - General (GBIF:IH:GB:Herbarium) (accessed through GBIF data portal, <http://data.gbif.org/datasets/resource/1765>, 2008-06-24).
- Gilbert, F.A. 1928. Myxomycetes from British Guiana and Surinam. *Mycologia* 20(1): 27-28.
- Góes Neto, A. 1996. Biodiversidade de mixomicetos e fungos macroscópicos da Reserva Biológica de Una e áreas adjacentes (Bahia, Brasil). *Sitientibus* 15: 91-107.
- Góes Neto, A. & Cavalcanti, L.H. 2002. Myxomycetes of the State of Bahia, Brazil: historical review and current situation. *Mycotaxon* 82: 335-342.
- Gómez-Pompa, A., Moreno, N.P., Gama, L. & Sosa, V. 1984. Flora of Veracruz: Progress and Prospects. In: Allkin, R. & Bisby, F.A. (eds.), *Databases in Systematics*. The Systematics Association Special Volume 26: 165-174.
- Gómez-Sánchez, A. & Castillo, J. 1981. Estudio sobre los myxomycetes del Estado de Nuevo León. *Boletín de la Sociedad Mexicana de Micología* 15: 193-223.
- González-Fragoso, R. & Ciferri, R. 1927. Hongos parásitos y saprofitos de la República Dominicana. Ser. 6-10. *Estación Agronómica de Moca, ser. B. Botánica* 8: 1-99.
- González-Fragoso, R. & Ciferri, R. 1928. Hongos parásitos y saprofitos de la República Dominicana. Ser. 16. *Boletín de la Sociedad Española de Historia Natural* 28: 377-388.
- Gottsberger, G. 1968. Myxomycetes aus Bahia und Goiás. *Nova Hedwigia* 15: 361-368.
- Gottsberger, G. 1971. Myxomyceten auf Bromeliaceen. *Nova Hedwigia* 22(1,2): 489-501.
- Gottsberger, G. & Nannenga-Bremekamp, N.E. 1971. A new species of *Didymium* from Brazil. *Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen, Series C* 74(3): 264-268.
- Gottsberger, G., Schmidt, I. & Meijer, A.R. 1992. Myxomycetes from the state of Paraná-Brasil 2. *Arquivos de Biologia e Tecnologia* 33: 631-633.
- Guzmán, G. 1972. Algunos macromicetos, líquenes y mixomicetos importantes de la zona del Volcán Popocatepetl. Guías Botánicas de excursiones en México. *Sociedad Botánica de México* pp. 17-44.
- Guzmán, G. 1983. Los hongos de la Península de Yucatán. II. Nuevas exploraciones y adiciones micológicas. *Biótica* 8: 71-100.
- Guzmán, G. & Guzmán Dávalos, L. 1981. Nuevos datos sobre el myxomycete *Physarum pusillum* en México. *Boletín de la Sociedad Mexicana de Micología* 16: 105-107.
- Guzmán, G. & Varela, L. 1978. Los hongos de Colombia. III. Observaciones sobre los hongos, líquenes y Mixomicetos de Colombia. *Caldasia* 12(58): 309-338.
- Guzmán, G. & Varela, A. 1979. Hongos del herbario de W.B. Cooke (E.U.A.) depositados en ENCB y discusiones sobre su distribución en México. *Boletín de la Sociedad Mexicana de Micología* 13: 63-73.
- Guzmán, G. & Villarreal, L. 1984. Estudio sobre los hongos, líquenes y mixomicetos del Cofre de Perote, Veracruz I. Introducción a la Micoflora de la región. *Boletín de la Sociedad Mexicana de Micología* 19: 107-124.
- Hagelstein, R. 1927. Mycetozoa from Porto Rico. *Mycologia* 19(1): 35-37.
- Hagelstein, R. 1932. Revision of the Myxomycetes. In Seaver & Chardon, Scientific survey of Porto Rico and the Virgin Islands. *New York Academy of Sciences Annual* 8(2): 241-248.
- Hagelstein, R. 1944. *The Mycetozoa of North America*. Hagelstein. Mineola, New York.
- Harling, G. 1967. Notes on Myxomycetes. II. Species collected in Ecuador 1958-59. *Svensk Botanisk Tidskrift* 61(1): 139-144.
- Hashimoto, G. 1953. Myxomycetes da Serra do Diabo. *Revista Ceres* 9(51): 194-201.
- Heim, R. 1928. Champignons recueillis par M Mayeul Grisot dans le haut Oréniq. *Annales de Cryptogamie Exotique* 1(3): 266-278.
- Hennings, P. 1896. Beiträge zur Pilzflora Südamerikas I. Myxomycetes, Phycomycetes, Ustilagineae und Uredinae. *Hedwigia* 35: 202-262.
- Hennings, P. 1902a. Fungi paraenses. (II). Beibl. *Hedwigia* 41(1): 15-18.
- Hennings, P. 1902b. Fungi costaricensis I. Beibl. *Hedwigia* 41(3): 101-105.
- Heredía, G. 1989. Estudio de los hongos de la reserva de la Biosfera El Cielo, Tamaulipas. Consideraciones sobre la distribución y ecología de algunas especies. *Acta Botánica Mexicana* 7: 1-18.
- Hernández-Crespo, J.C. & Lado, C. 2005. *An on-line nomenclatural information system of Eumycetozoa*. <http://www.nomen.eumycetozoa.com> (10-XI-2007).
- Hernández-Cuevas, L. & Estrada-Torres, A. 1993a. Distribución espacio-temporal de las especies del género *Physarum* en el Volcán La Malintzin, Tlaxcala. In: *XII Congreso Mexicano de Botánica. Libro de resúmenes*: 124.
- Hernández-Cuevas, L. & Estrada-Torres, A. 1993b. El género *Badhamia* en el estado de Tlaxcala. In: *XII Congreso Mexicano de Botánica. Libro de resúmenes*: 125.
- Hernández-Cuevas, L. & A. Estrada-Torres 1997. Mexican Didymiaceae (Myxomycetes, order Physarales): Three new records and comments on Mucilago crustacea. *Mycotaxon* 62: 319-335.
- Hernández-Cuevas, L., Rodríguez-Palma, M., Galindo-Flores, G. & Estrada-Torres, A. 1991. New records of myxomycetes from Mexico. *Mycotaxon* 62: 17-27.
- Hertel, R.J.G. 1954a. Myxomycetes do Brasil I. *Dusenía* 5(2): 117-124.
- Hertel, R.J.G. 1954b. Myxomycetes do Brasil II. *Paradiacheopsis curitibana* Hertel, n. gen. e n. sp. de Lamprodermaceae. *Dusenía* 5(3-4): 191-192.
- Hertel, R.J.G. 1955. Myxomycetes do Brasil III. Dois novos elementos de Stemonitaceae. *Dusenía* 6(1-2): 47-48.

- Herter, W.G. 1907. Hongos coleccionados en la República Oriental del Uruguay. *Revista Agronómica Universidad de Montevideo* 2: 144-152.
- Herter, W.G. 1933. Florula Uruguayensis. Plantae avasculares. *Ostenia*: 7-84.
- Herter, W.G. 1939. Plantae Uruguayensis novae vel criticae. Pars II. *Revista Sudamericana de Botánica* 6(3-4): 69-107.
- Hochgesand, E. & Gottsberger, G. 1989. Arcyriatella congregata, a new genus and species of the Trichiaceae (Myxomycetes). *Nova Hedwigia* 48: 485-489.
- Hochgesand, E. & Gottsberger, G. 1996. Myxomycetes from the State of São Paulo, Brazil. *Boletim Instituto de Botanica* 10: 1-46.
- Hochgesand, E., Gottsberger, G. & Nannenga-Bremekamp, N.E. 1989. A new species and a new variety of Didymium from São Paulo State, Brazil. *Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen, Series C* 92: 73-79.
- Höhnelt, F. von. 1907. Ergebnisse der botanischen Expedition der Kaiserlichen Akademie der Wissenschaften nach Südbrasilien 1901. Eumycetes et Myxomycetes. *Denkschriften der Kaiserlichen Akademie der Wissenschaften Mathematisch-naturwissenschaftliche Klasse* 83: 1-45
- Illana, C. 1996. Myxomycetes de Baja California. In: Lado, C. & Hernández, J.C. (eds.), *Abstract Volume. Second International Congress on the Systematics and Ecology of Myxomycetes*: 125.
- Illana, C., Moreno, G. & Lizárraga, M. 2000. Catálogo de Myxomycetes de México. *Stapfia* 73: 167-186.
- Illana, C., Moreno, G., Lizárraga, M. & Castillo, A. 1999. Hemitrichia pseudoleiocarpa, spec. nova, a species confused with Arcyria leiocarpa (Myxomycetes). *Österreichische Zeitschrift für Pilzkunde* 8: 63-70.
- Ing, B. 1967. Notes on Myxomycetes. II. *Transactions British Mycological Society* 50(4): 555-562.
- Ing, B. 1994. The phytosociology of Myxomycetes. *New Phytologist* 126: 175-201.
- Ing, B. 1999. *The Myxomycetes of Britain and Ireland. An identification handbook*. The Richmond Publishing Co. Ltd. Slough, England.
- Ing, B. & Haynes, C. 1999. Corticolous myxomycetes from Belize. *Kew Bulletin* 54: 723-730.
- Jahn, E. 1902. Myxomycetenstudien. 2. Arten aus Blumenau (Brasilien). *Berichte der Deutschen Botanischen Gesellschaft* 20: 268-280.
- Jahn, E. 1904. Myxomyceten aus Amazonas. Gesammelt von E. Ule. *Hedwigia* 43: 300-305.
- Johow, F.R.A. 1896. *Estudios sobre la flora de las Islas de Juan Fernández*. Imprenta Cervantes. Santiago de Chile.
- Keller, H.W. & Braun, K.L. 1977. Myxomycetes of Mexico II. *Boletín de la Sociedad Mexicana de Micología* 11: 167-180.
- Keller, H.W. & Brooks, T.E. 1976. Corticolous Myxomycetes V: Observations on the genus Echinostelium. *Mycologia* 68: 1204-1220.
- Klotzsch, J.F. 1852. Fungi Portoricenses quos Schwanecke, hortulanus, collegit et cl. Dr. Klotzsch examinavit. In: Schlechtendal, D.F.L. Beitrag zur Flora der Insel Portorico. Anlage No. 3. *Linnaea* 25(3): 364-366.
- Krivomaz, T.I. 2003. Addition to Cuban Myxomycetes from international collaboration. *XIV Congress of European Mycologist, abstracts*.
- Lado, C. 1994. A checklist of Myxomycetes of the Mediterranean countries. *Mycotaxon* 52: 117-185.
- Lado, C. 2001. NOMENMYX. A nomenclatural taxabase of Myxomycetes. *Cuadernos de Trabajo de Flora Micológica Ibérica* 16: 1-221.
- Lado, C. 2008. Eumycetozoa.com: nomenclatural Database of Eumycetozoa (Myxomycota) (Oct 2007 version). In *Species 2000 & ITIS Catalogue of Life: 2008 Annual Checklist* (Bisby FA, Roskov YR, Orrell TM, Nicolson D, Paglinawan LE, Bailly N, Kirk, PM, Bourgoin T van Hertum J, eds). CD-ROM; Species 2000: Reading, U.K.
- Lado, C., Eliasson, U., Stephenson, S.L., Estrada-Torres, A. & Schnittler, M. 2005. (1688-1691) Proposals to conserve the names Amaurochaete against Lachnobolus, Ceratiomyxa against Famintzinia, Cribraria Pers. against Cribraria Schrad. ex J.F. Gmel. and Hemitrichia against Hyporhamma (Myxomycetes). *Taxon* 54(2): 543-545.
- Lado, C., Estrada-Torres, A., Ramírez, M. & Conde, E. 2002a. A study of the succulenticolous Myxomycetes from arid zones of Mexico. *Scripta Botanica Belgica* 22: 58.
- Lado, C., Estrada-Torres, A., Schnittler, M., Wrigley, D. & Stephenson, S.L. 2002b. Rapid biodiversity assessment of the Myxomycetes from the Yasuni Biosphere Reserve (Ecuador). *Scripta Botanica Belgica*. 22: 59-60.
- Lado, C., Estrada-Torres, A. & Stephenson, S.L. 2007a. Myxomycetes collected in the first phase of a north-south transect of Chile. *Fungal Diversity* 25: 81-101.
- Lado, C., Estrada-Torres, A., Stephenson, S.L., Wrigley de Basanta, D. & Schnittler, M. 2003. Biodiversity assessment of myxomycetes from two tropical forest reserves in Mexico. *Fungal Diversity* 12: 67-110.
- Lado, C., Mosquera, J. & Beltrán-Tejera, E. 1999a. Cribraria zonatispora, development of a new myxomycete with unique spores. *Mycologia* 91: 157-165.
- Lado, C., Mosquera, J., Estrada-Torres, A., Beltrán-Tejera, E. & Wrigley de Basanta, D. 2007b. Description and culture of a new succulenticolous Didymium (Myxomycetes). *Mycologia* 99(4): 602-611.
- Lado, C., Rodríguez-Palma, M. & Estrada-Torres, A. 1999b. Myxomycetes from a seasonal tropical forest on the Pacific coast of Mexico. *Mycotaxon* 71: 307-321.
- Lazo, W.R. 1966. Notes and illustrations of Myxomycetes from Chile and other countries. *Mycologia* 58(1): 67-79.
- Léveillé, J.H. 1863. Fungi. In: Triana, J. & Planchon, J.E. *Prodromus Florae Novo-Granatensis. Annales des Sciences Naturelles IV Botanique* 20(5): 282-300.
- Ling, H. & Collins, O.R. 1970. Control of plasmodial fusion in a Panamanian isolate of Didymium iridis. *American Journal of Botany* 57: 292-298.
- Lister, A. 1894. *A Monograph of the mycetozoa*. Printed by order of the Trustees. London.
- Lister, A. 1898a. Mycetozoa of Antigua and Dominica. *Journal of Botany* 36: 113-122.
- Lister, A. 1898b. Mycetozoa of Antigua. *Journal of Botany* 36: 378-379.
- Lister, A. 1911. *A monograph of the Mycetozoa*. 2nd ed. revisada por G. Lister. Printed by order of the Trustees. London.
- Lister, A. 1925. *A monograph of the Mycetozoa*, 3rd ed., revisada por G. Lister. Printed by order of the Trustees. London.
- Lizárraga, M. 2002. Myxomycetes de Chihuahua I. In: Guzmán, G. & Mata, G. (eds.), *Estudios sobre los hongos latinoamericanos. Resumen IV Congreso Latinoamericano de Micología*: 250.
- Lizárraga, M., Illana, C. & Moreno, G. 1998. Didymium subreticulosporum (myxomycetes), a new species for America. *Mycotaxon* 67: 313-316.
- Lizárraga, M., Illana, C. & Moreno, G. 1999a. First records of myxomycete in the state of Sinaloa, Mexico. *Micologia Vegetatione Mediterranea* 13: 167-176.

- Lizárraga, M., Illana, C. & Moreno, G. 1999b. SEM studies of the myxomycete from the Peninsula of Baja California (Mexico), I. Arcyria to Fuligo. *Annales Botanici Fennici* 35: 287-306.
- Lizárraga, M., Illana, C. & Moreno, G. 1999c. SEM studies of the myxomycete from the Peninsula of Baja California (Mexico), II. Hemitrichia to Trichia. *Annales Botanici Fennici* 36: 187-210.
- Lizárraga, M., Illana, C. & Moreno, G. 2004a. Contribución al estudio de los Myxomycetes de la península de Baja California, México. *Boletín de la Sociedad Micológica de Madrid* 28: 45-53.
- Lizárraga, M., Moreno, G. & Illana, C. 1997. The myxomycetes from Baja California (Mexico). I. *Mycotaxon*. 63: 287-300.
- Lizárraga, M., Moreno, G. & Illana, C. 2005a. Myxomycetes from Chihuahua, Mexico. 2. *Österreichische Zeitschrift für Pilzkunde* 14: 105-121.
- Lizárraga, M., Moreno, G. & Illana, C. 2006. Macbrideola hererae sp. nov., a new myxomycete from Mexico. *Boletín de la Sociedad Micológica de Madrid* 30: 265-269.
- Lizárraga, M., Moreno, G., Esqueda, M. & Coronado, M.L. 2008. Myxomycetes of Sonora, Mexico. 4: Sierra de Alamos-Rio Cuchujaqui Biosphere Reserve. *Mycotaxon* 103: 153-170.
- Lizárraga, M., Moreno, G., Esqueda, M., Sánchez, A. & Coronado, M. 2007. Myxomycetes from Sonora, Mexico. 3: National Forest Reserve and Wildlife Refuge, Ajos-Bavispe. *Mycotaxon* 99: 291-301.
- Lizárraga, M., Moreno, G., Illana, C. & Castillo, A. 1996. Two new species of Myxomycetes from Mexico. In: Lado, C. & Hernández, J.C. (eds.), *Abstract Volume. Second International Congress on the Systematics and Ecology of Myxomycetes*: 56.
- Lizárraga, M., Moreno, G., Illana, C. & Singer, H. 2004b. Calonea foliicola, a myxomycete with a difficult taxonomic position. *Micología Vegetacione Mediterranea* 19(1): 38-42.
- Lizárraga, M., Moreno, G., Illana, C. & Singer, H. 2005b. Myxomycetes from Chihuahua, Mexico III. *Mycotaxon* 93: 75-88.
- Lizárraga, M., Moreno, G., Illana, C. & Solis, F. 2003a. Myxomycetes in the State of Sinaloa (Mexico) II. *Mycotaxon* 88: 425-432.
- Lizárraga, M., Moreno, G., Singer, H. & Illiana, C. 2003b. Myxomycetes from Chihuahua, Mexico. *Mycotaxon* 88: 409-424.
- López, A. & García, J. 1996a. Didymium squamulosum (Alb. & Schw.) Fries. *Funga Veracruzana* 10.
- López, A. & García, J. 1996b. Physarella oblonga (Berk. & Curt.) Morgan. *Funga Veracruzana* 11.
- López, A. & García, J. 1996c. Didymium verrucosporum Welden. *Funga Veracruzana* 12.
- López, A. & García, J. 1996d. Didymium ovoideum Nann.-Brem. *Funga Veracruzana* 13.
- López, A. & García, J. 1996e. Didymium nigripes (Link) Fr. *Funga Veracruzana* 14.
- López, A. & García, J. 1996f. Didymium minus (A. Lister) Morgan. *Funga Veracruzana* 15.
- López, A. & García, J. 1996g. Didymium clavus (Alb. & Schw.) Rab. *Funga Veracruzana* 16.
- López, A. & García, J. 1996h. Didymium megalosporum Berk. & Curt. *Funga Veracruzana* 17.
- López, A. & García, J. 1996i. Didymium leoninum Berk. & Br. *Funga Veracruzana* 18.
- López, A. & García, J. 1996j. Didymium iridis (Ditmar) Fries. *Funga Veracruzana* 20.
- López, A. & García, J. 2001a. Dictydium cancellatum. *Funga Veracruzana* 30.
- López, A. & García, J. 2001b. Physarum pezizoideum. *Funga Veracruzana* 32.
- López, A. & García, J. 2001c. Hemitrichia serpula. *Funga Veracruzana* 48.
- López, A. & García, J. 2001d. Trichia scabra. *Funga Veracruzana* 49.
- López, A. & García, J. 2002a. Physarum compressum. *Funga Veracruzana* 51.
- López, A. & García, J. 2002b. Hemitrichia calyculata. *Funga Veracruzana* 53.
- López, A. & García, J. 2002c. Lycogala epidendrum. *Funga Veracruzana* 55.
- López, A. & García, J. 2002d. Diderma hemisphaericum. *Funga Veracruzana* 60.
- López, A. & García, J. 2002e. Arcyria incarnata. *Funga Veracruzana* 65.
- López, A. & García, J. 2002f. Arcyria nigella. *Funga Veracruzana* 66.
- López, A. & García, J. 2002g. Arcyria cinerea. *Funga Veracruzana* 73.
- López, A. & García, J. 2005a. Physarum virescens. *Funga Veracruzana* 85.
- López, A. & García, J. 2005b. Didymium anellus. *Funga Veracruzana* 90.
- López, A. & Sosa, A. 1982. Myxomycetes del estado de Quintana Roo. *1er Congreso Nacional de Micología, Xalapa, Veracruz. Libro de Resúmenes*: 7.
- López, A., Sosa, A. & Villarreal, L. 1979. Estudio sobre los hongos myxomycetes del Estado de Veracruz. I. *Boletín de la Sociedad Mexicana de Micología* 13: 127-144.
- López, A., Sosa, A. & Villarreal, L. 1981a. Estudio sobre los hongos myxomycetes del Estado de Veracruz. II. *Biótica* 6: 43-56.
- López, A., Sosa, A. & Villarreal, L. 1982. Estudios sobre los Myxomycetes de Veracruz. IV. *1er Congreso Nacional de Micología, Xalapa, Veracruz. Libro de Resúmenes*: C-95.
- López, A., Villarreal, L. & Sosa, A. 1981b. Estudio sobre los hongos myxomycetes del Estado de Veracruz. III. *Boletín de la Sociedad Mexicana de Micología* 16: 77-94.
- López, A., Villarreal, L. & Sosa, A. 1981c. Estudio sobre los hongos myxomycetes del Estado de Veracruz. V. Los myxomycetes mexicanos registrados en la literatura. *Boletín de la Sociedad Mexicana de Micología* 16: 95-104.
- Macbride, T.H. 1893. Nicaraguan myxomycetes. *Bulletin of the Laboratories of Natural History, Iowa State University* 2(2): 277-283.
- Macbride, T.H. 1899. *The North American slime-moulds*. Macmillan and Co., Ltd. New York.
- Macbride, T.H. 1922. *The North American slime-moulds* (ed. 2). Macmillan and Co., Ltd. New York.
- Macbride, T.H. & Smith, C.L. 1896. The Nicaraguan Myxomycetes. With notes on certain Mexican species (continued). *Bulletin of the Laboratories of Natural History, Iowa State University* 4(1): 73-75.
- Maimoni-Rodella, R.C. 2002. Biodiversidade e distribuição de mixomicetos em ambientes naturais e antropogênicos no Brasil: espécies ocorrentes nas Regiões Sudeste e Centro-Oeste. In: Araújo, E.L., Moura, A.N., Sampaio, E.V.S.B., Gestinari, L.M.S. & Carneiro, J.M.T. (eds.), *Biodiversidade, conservação e uso sustentável da flora do Brasil*, pp. 217-220. Universidade Federal Rural de Pernambuco, Sociedade Botânica do Brasil, Recife.
- Maimoni-Rodella, R. & Cavalcanti, L.H. 2006. Myxomycetes sobre inflorescências e folhas vivas de lírio-do-brejo (Hedychium coronarium Koenig, Zingiberaceae): registro de um novo substrato. *Revista Brasileira de Botânica* 29(2): 331-333.
- Maimoni-Rodella, R.C. & Gottsberger, G. 1980. Myxomycetes from the forest and the cerrado vegetation in Botucatu, Brazil: A comparative ecological study. *Nova Hedwigia* 34: 207-246.

- Mapes, C., Guzmán, G. & Caballero, J. 1981. Etnomicología purépecha. El conocimiento y uso de los hongos de la cuenca del lago Pátzcuaro, Michoacán. *Cuadernos de Etnobiología* 2.
- Mariz, G. 1968. *Gêneros de Mixomicetes de ocorrência em Pernambuco*. Universidade Federal de Pernambuco, Recife.
- Mariz, G. & Cavalcanti, L.H. 1970. Alguns Mixomicetos do Pernambuco. *Instituto de Biociências, Botanica ser. B* 1(5): 1-9.
- Martin, G.W. 1932. New species of slime molds. *Journal of the Washington Academy of the Sciences* 22(4): 88-92.
- Martin, G.W. 1936. Myxomycetes from Panama. *Transactions of the American Microscopical Society* 55: 277-280.
- Martin, G.W. 1938a. Myxomycetes from Colombia. *Transactions of the American Microscopical Society* 57: 123-126.
- Martin, G.W. 1938b. Additional Myxomycetes from Panamá. *Studies in Natural History, Iowa University* 17(8): 347-350.
- Martin, G.W. 1948. Additions to Galapagos fungi. *Pacific Sciences* 2: 71-77.
- Martin, G.W. 1957. A new species of *Licea* from Panama. *Mycologia* 49: 439-440.
- Martin, G.W. & Alexopoulos, C.J. 1969. *The Myxomycetes*. Univ. Iowa Press. Iowa
- Martínez-Alfaro, M.A., Pérez-Silva, E. & Aguirre-Acosta, E. 1983. Etnomicología y exploraciones micológicas en la Sierra Norte de Puebla. *Boletín de la Sociedad Mexicana de Micología* 18: 51-63.
- Martínez-Murillo, M.A. & López-Ochoterena, E. 1970. Contribución al conocimiento de los micetozoarios (Protozoo, Sarcodina) de México. *Revista de la Sociedad Mexicana de Historia Natural* 31: 95-106.
- Massee, G. 1889. A revision of the Trichiaceae. *Journal of the Royal Microscopical Society of London* 1889(1): 325-359.
- Matsumoto, J. 2002. Taxonomic study on *Didymium floccoides*. *Scripta Botanica Belgica* 22: 63.
- McHugh, R. 2005. Moist chamber cultura and field collections of Myxomycetes from Ecuador. *Mycotaxon* 91: 107-118.
- Mendes, C.L. & Guerrero, R.T. 1990. Myxomycetes do Morro Santana, Porto Alegre, Rio Grande do Sul. *Boletim Instituto de Biociências de la Universidade Federal de Rio Grande do Sul* 46: 1-95.
- Minter, D.W., Rodríguez Hernández, M. & Mena Portales, J. 2001. *Fungi of the Caribbean. An annotated checklist*. PDMS Publishing, Middlesex.
- Mittermeier, R.A., Robles Gil, P., Hoffmann, M., Pilgrim, J., Brooks, T., Mittermeier, C.G., Lamoreux, J. & Fonseca, G.A.B. da. 2004. *Hotspots Revisited*. Cemex. México.
- Mobin, M. & Cavalcanti, L.H. 1998. Myxomycetes ocorrentes sobre buriti (*Mauritia venifera* L. f; *Arecaceae*). *Revista da Universidade do Amazonas, Sér. Ciências Biológicas* 2/3: 43-51.
- Mobin, M. & Cavalcanti, L.H. 1999a. Physarales (Myxomycetes) do Parque Nacional de Sete Cidades (Piauí, Brasil). *Hoehnea* 26: 1-14.
- Mobin, M. & Cavalcanti, L.H. 1999b. Stemonitales (Myxomycetes) do Parque Nacional de Sete Cidades (Piauí, Brasil). *Acta Botanica Brasílica* 13: 139-148.
- Mobin, M. & Cavalcanti, L.H. 2000. Myxomycetes em Carnáubeira (*Copernicia prunifera* (Miller) T.E. Moore, *Arecaceae*). *Acta Botanica Brasílica* 14: 71-75.
- Mobin, M. & Cavalcanti, L.H. 2001. Trichiaceae (Myxomycetes) do Parque Nacional de Sete Cidades (Piripiri - Piauí - Brasil). *Hoehnea* 28(1): 39-51.
- Montagne, C. 1837. Centurie de plantes cellulaires exotiques nouvelles. Ser. II. *Annales des Sciences Naturelles. Paris* 8 : 345-370.
- Montagne, C. 1838. Botanique. Plantes cellulaires. In: Ramón de la Sagra, M. *Histoire Physique, Politique et Naturelle de l'île de Cuba*. Paris.
- Montagne, J.P.F.C. 1852a. Botanica. In C. Gay, *Historia física y política de Chile*. Paris
- Montagne, J.P.F.C. 1852b. Hongos. In: Gay, C., *Flora Chilensis* 8: 1-53.
- Montagne, J.P.F.C. 1855. Cryptogamie Guyanensis. *Annales des Sciences Naturelles. IV* 3(2): 91-145.
- Morawetz, W. & Readig, C. 2007. Angiosperms biodiversity. Endemism and conservation in the Neotropics. *Taxon* 56(4): 1245-1254.
- Moore, D.L. & Stephenson, S.L. 2003. Microhabitat distribution of protostelids in a Tropical Wet Forest in Costa Rica. *Mycologia* 95(1): 11-18.
- Moreno, G., Castillo, A., Illana, C. & Lizárraga, M. 1997a. Taxonomic status of *Didymium laxifilum* and *D. rubeopus*, incl. a new variety of *D. rubeopus* (myxomycetes). *Cryptogamie Mycologie* 18: 315-325.
- Moreno, G., Illana, C. & Lizárraga, M. 2001. SEM studies of the Myxomycetes from the Peninsula of Baja California (Mexico), III. Additions. *Annales Botanici Fennici* 38: 225-247.
- Moreno, G., Illana, C., Esqueda, M., Castillo, A. & Pérez-Silva, E. 2004. Notes on Myxomycetes from Mexico. II. *Boletín de la Sociedad Micológica de Madrid* 28: 55-63.
- Moreno, G., Lizárraga, M. & Illana, C. 1997b. *Metatrichia horrida* (myxomycetes), an African species in the Baja California Peninsula (Mexico). *Mycotaxon* 64: 385-392.
- Moreno, G., Lizárraga, M. & Illana, C. 1997c. A rare *Didymium* from Mexico (Myxomycetes). *Cryptogamie Mycologie* 18: 327-331.
- Moreno, G., Lizárraga, M. & Illana, C. 2006a. *Macbrideola lamprodermoides* sp. nov., a new myxomycete from Mexico. *Boletín de la Sociedad Micológica de Madrid* 30: 255-263.
- Moreno, G., Lizárraga, M. & Illana, C. 2007. Catálogo de los Myxomycetes de México. *Boletín de la Sociedad Micológica de Madrid* 31: 187-229.
- Moreno, G., Lizárraga, M., Esqueda, M., Pérez-Silva, E. & Herrera, T. 2006b. Myxomycetes de Sonora, México. II: Reserva Forestal Nacional y Refugio de Fauna Silvestre Ajos-Bavispe. *Revista Mexicana de Micología* 22: 13-23.
- Moreno, G., Lizárraga, M., Illana, C., Castillo, A. & Oltra, M. 2000. *Hemitrichia agaves* sp. nov. un nuovo Myxomycetes delle piante grasse dal Messico e dalla Spagna. *Rivista Micologica Boletín della Associazione Micologica Bresadola* 21: 5-16.
- Mosquera, J., Lado, C. & Beltrán-Tejera, E. 2000a. Morphology and ecology of *Didymium subreticulosporum*. *Mycologia* 92: 978-983.
- Mosquera, J., Lado, C., Estrada-Torres, A. & Beltrán-Tejera, E. 2000b. *Trichia perichaenoides*, a new myxomycete associated with decaying succulent plants. *Mycotaxon* 75: 319-328.
- Mosquera, J., Lado, C., Estrada-Torres, A., Beltrán-Tejera, E. & Wrigley de Basanta, D. 2003. Description and cultura of a new myxomycete *Licea succulenticola*. *Anales del Jardín Botánico de Madrid* 60: 3-10.
- Muchovej, J.J. & Muchovej, J.R.M.C. 1987. *Physarum cinereum* on turfgrass in Brazil. *Fitopatología Brasileña* 12: 402-403.
- Muenschner, W.C. 1930. Myxomycetes. In: Chardon and Toro. *Mycological explorations of Colombia. Journal of the Department of Agriculture of Porto Rico* 14(4): 214-215.
- Muenschner, W.C. 1934. Myxomycetes. In Chardon & Toro. *Mycological explorations of Venezuela. Monografías Universidad de Puerto Rico, B* 2: 71-75.
- Mújica, F. & Vergara, C. 1945. *Flora Fungosa Chilena*. Ministerio de Agricultura. Imprenta Stanley. Santiago.
- Myers, N. Mittermeier, R.A. Mittermeier, C.G., Fonseca, G.A. & Kent, J. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403: 853-858.

- Nannenga-Bremekamp, N.E. 1961. Notes on Myxomycetes III. A new species from Suriname. *Acta Botanica Neerlandica* 10: 54-55.
- Nannenga-Bremekamp, N.E. 1989. Notes on Myxomycetes XXIII. Seven new species of Myxomycetes. Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen, series C, 92: 505-515.
- Nannenga-Bremekamp, N.E. 1991. *A guide to temperate Myxomycetes*. Biopress Limited. Bristol.
- Nieves-Rivera, A.M. 2003. Mycological survey of Río Camuy Caves Park, Puerto Rico. *Journal Cave Karst Studies* 65(1): 23-28.
- Nieves-Rivera, A.M. & Darrah, R.G. 2002a. The search for Myxomycetes and Protostelids in Puerto Rico. *Inoculum* 53(2): 8-10.
- Nieves-Rivera, A.M. & Darrah, R.G. 2002b. Further studies of slime molds in Puerto Rico. *Inoculum* 53(5): 2-5.
- Novozhilov, Y.K., Schnittler, M., Rollins, A.W. & Stephenson, S.L. 2000. Myxomycetes from different forest types in Puerto Rico. *Mycotaxon* 77: 285-299.
- Ogata, N. & Andrade-Torres, A. 1996. *Los Myxomycetes de la Reserva Ecológica "El Edén" Quintana Roo, Mexico*. web www.ucr.edu
- Ogata, N., Nestel, D., Rico-Gray, V. & Guzmán, G. 1994. Los Myxomycetes citados de México. *Acta Botánica Mexicana* 27: 39-52.
- Ogata, N., Rico-Gray, V. & Nestel, D. 1996. Abundance, richness, and diversity of Myxomycetes in a Neotropical Forest Ravine. *Biotropica* 28: 627-635.
- Pando, F. 1997. Catálogo preliminar de los Mixomicetes del Parque Nacional de Coiba (Panamá). In: Castroviejo, S. (ed.), *Flora y fauna del Parque Nacional de Coiba (Panamá)*, pp. 191-204. Agencia Española de Cooperación Internacional. Madrid.
- Patouillard, N. & Gaillard, A. 1888. Champignons du Venezuela et du Haut-Orenoque. Recoltes en 1887 par M.A. Gaillard (suite). *Bulletin de la Société Mycologique de France* 4: 92-129.
- Patouillard, N. & Lagerheim, G. de. 1891. Champignons de l'Equateur. *Bulletin de la Société Mycologique de France* 7: 158-184.
- Patouillard, N. & Lagerheim, G. de. 1892. Champignons de l'Equateur (Pugillus II). *Bulletin de la Société Mycologique de France* 8: 113-140.
- Patouillard, N. & Lagerheim, G. de. 1893. Champignons de l'Equateur (Pugillus III). *Bulletin de la Société Mycologique de France* 9(2): 124-165.
- Patouillard, N. & Lagerheim, G. de. 1895a. Champignons de l'Equateur (Pugillus IV). *Bulletin de l'Herbier Boissier* 3: 53-74.
- Patouillard, N. & Lagerheim, G. de. 1895b. Champignons de l'Equateur (Pugillus V). *Bulletin de la Société Mycologique de France* 11: 205-234.
- Pazschke, O. 1896. Verzeichnis brasilianischer von E. Ule gesammelter Pilze. *Hedwigia* 35: 50-55.
- Pérez, J.M. & Camino, M. 2000. Riqueza micológica en un sitio natural del Jardín Botánico Nacional. *Revista del Jardín Botánico Nacional* 21(1): 133-137.
- Pérez-Moreno, J. & Villarreal, L. 1988. Los hongos y myxomycetes del estado de Chiapas, Mexico. Estado actual de conocimiento y nuevos registros. *Micología Neotropical Aplicada* 1: 97-133.
- Pérez-Silva, E. 1979. Primer registro del mixomicete *Physarum flavicomum* en Mexico. *Boletín de la Sociedad Mexicana de Micología* 13: 239-242.
- Pérez-Silva, E. & Aguirre-Acosta, E. 1985. Micoflora del Estado de Durango, Mexico. *Revista Mexicana de Micología* 1: 315-329.
- Pérez-Silva, E. & Bárcenas, E. 1999. Nuevos registros de myxomycetes para el Estado de México. *Ciencia Ergo Sum* 6: 165-167.
- Pérez-Silva, E., Herrera, T., Esqueda, M., Illana, C. & Moreno, G. 2001. Myxomycetes of Sonora, Mexico I. *Mycotaxon* 77: 181-192.
- Phillips, O. & Miller, J.S. 2002. Global patterns of plant diversity: Alwyn H. Gentry's Forest transect data set. *Monographs of Systematic Botany Missouri Botanical Garden* 89.
- Ponte, M.P.M.P., Cavalcanti, L.H. & Mobin, M. 2003. Myxomycetes do Parque Zoobotânico de Teresina, Piauí, Brasil. *Acta Botanica Brasílica* 17: 1-18.
- Pôrto, K.C. & Cavalcanti, L.H. 1984. Myxomycetes da Floresta Estacional Perenifolia costeira (Recife - PE) I. Influência dos fatores climáticos. In: *Congresso Nacional de Botânica, 1984, Porto Alegre*. Anais. Porto Alegre.
- Pôrto, K.C. & Cavalcanti, L.H. 1986. Trichiaceae (Myxomycetes) da floresta pluvial tropical I. *Arcyria Wiggers*. 36° Congresso Brasileiro de Botânica, 1986, Curitiba. Anais. pp. 867.
- Pôrto, K.C., Cavalcanti, L.H. & Correia, A.M.S. 1982. Incidência de Myxomycetes em Palmae. Anais XXXIII Congresso Nacional de Botânica, Maceió, 1982, pp. 181-187.
- Putzke, J. 1996. Myxomycetes do Brasil. *Cuadernos de Pesquisa, Série Botânica* 8: 3-133.
- Putzke, J. 2002. Myxomycetes na Região Sul do Brasil. In: Araújo, E.L., Moura, A.N., Sampaio, E.V.S.B., Gestinari, L.M.S. & Carneiro, J.M.T. (eds.), *Biodiversidade, conservação e uso sustentável da flora do Brasil*, pp. 221-223. Universidade Federal Rural de Pernambuco, Sociedade Botânica do Brasil, Recife.
- Raunkiaer, C. 1928. Myxomycetes from the West Indian Islands St. Croix, St. Thomas and St. Jan. *Dansk Botanisk Arkiv* 5(16): 1-9.
- Real Jardín Botánico, Madrid: MA-Fungi (accessed through GBIF data portal, <http://data.gbif.org/datasets/resource/1518,2008-06-24>).
- Reid, D.A., Pegler, D.N. & Spooner, B.M. 1981. An annotated list of the fungi of the Galapagos Islands. *Kew Bulletin* 35: 847-891.
- Rodrigues, C.L.M. & Guerrero, R.T. 1990. Myxomycetes do morro Santana, Porto Alegre, Rio Grande do Sul. *Boletim do Instituto de Biociencias* 46: 1-102.
- Rodrigues, K.F. 1985. Contribuição ao estudo dos mixomicetos do Estado do Rio de Janeiro. *Rodriguésia* 37: 46-47.
- Rodríguez, G. 1955. Adiciones a los Myxomycetes de Venezuela. *Boletín del Museo de Ciencias Naturales* 1(1): 83-88.
- Rodríguez, G. 1957. Nuevas adiciones a los Myxomycetes de Venezuela. *Acta Biológica Venezolana* 2(13): 135-138.
- Rodríguez-Palma, M. 1998. Myxomycetes of the state of Tlaxcala. *Mclvainea* 13: 25-32.
- Rodríguez-Palma, M. & Estrada-Torres, A. 1996a. Some Stemonitales (Myxomycetes) from the state of Tlaxcala, Mexico. *Mycotaxon*. 60: 79-102.
- Rodríguez-Palma, M. & Estrada-Torres, A. 1996b. Distribution and biogeographic affinities of the Liceales community of the Abies-Pinus forests from the Malintzi volcano, Mexico. In: Lado, C. & Hernández, J.C. (eds.), *Abstract Volume. Second International Congress on the Systematics and Ecology of Myxomycetes*: 99.
- Rodríguez-Palma, M., Estrada-Torres, A. & Hernández-Cuevas, L. 2005. Myxomycetes (Protistas). In: Fernández, J.A. & López, J.C. (eds.), *Biodiversidad del Parque Nacional Malinche*. Tlaxcala. Mexico.
- Rodríguez-Palma, M., Lado, C. & Estrada-Torres, A. 1996. Myxomycetes from a seasonal tropical forest in the Pacific coast of Mexico. In: Lado, C. & Hernández, J.C. (eds.), *Abstract Volume. Second International Congress on the Systematics and Ecology of Myxomycetes*: 136.
- Rodríguez-Palma, M., Varela-García, A. & Lado, C. 2002. Corticolous Myxomycetes associated with four tree species in Mexico. *Mycotaxon* 81: 345-355.
- Rogerson, C.T., Harris, R.C. & Samuels, G.J. 1990. *Fungi collected by Bassett Maguire and collaborators in the Guayana highland, 1944-1983*.

- Rojas, C. & Stephenson, S.L. 2007. Distribution and ecology of myxomycetes in the high-elevation oak forest of Cerro Bellavista, Costa Rica. *Mycologia* 99(4): 534-543.
- Rojas, C. & Stephenson, S.L. 2008. Myxomycete ecology along an elevation gradient on Cocos Island, Costa Rica. *Fungal Diversity* 29: 117-127.
- Rorer, J.B. 1911. *A preliminary list of Trinidad fungi*. Dept. Agriculture Trinidad -Tobago Circ. 4: 37-44.
- Rudolphi, F. 1829. Plantarum vel novarum vel minus cognitarum descripciones. *Linnaea* 4: 114-120.
- Rufino, M.U.L. & Cavalcanti, L.H. 2007. Alterations in the lignicolous myxomycete biota over two decades at the Dois Irmãos Ecologic State Reserve, Recife, Pernambuco, Brazil. *Fungal Diversity* 24: 159-171.
- Rzedowski, J. 1991. El endemismo en la flora fanerogámica mexicana: una apreciación analítica preliminar. *Acta Botánica Mexicana* 15: 47-64.
- Saccardo, P.A. 1892. *Sylloge fungorum*. Ed. Sumptibus auctoris typis Seminarii 10: 1-964.
- Saccardo, P.A. 1895. *Sylloge fungorum*. Ed. Sumptibus auctoris typis Seminarii. 11: 1-753.
- Saccardo, P.A. & Saccardo, D. 1906. *Sylloge fungorum*. Ed. Sumptibus auctoris typis Seminarii 18: 208-214.
- Saccardo, P.A. & Sydow, P. 1899. *Sylloge fungorum*. Ed. Sumptibus auctoris typis Seminarii 14: 831-840.
- Saccardo, P.A. & Sydow, P. 1902. *Sylloge fungorum*. Ed. Sumptibus auctoris typis Seminarii 16: 819-824.
- Saccardo, P.A. & Trotter, A. 1913. *Sylloge fungorum*. Ed. Sumptibus auctoris typis Seminarii 22: 792-817.
- Santos, E.J. & Cavalcanti, L.H. 1988. Revisão de Myxomycetes ocorrentes em cana-de-açúcar (*Saccharum* spp.) no Brasil. *Boletim de Micologia* 4: 61-64.
- Santos, E.J. & Cavalcanti, L.H. 1991a. Adições à Mixoflora da Ilha de Maracá (Boa Vista-RR). *Resumos da 15a. Reunião Nordestina de Botânica., Maceió*, pp. 8.
- Santos, E.J. & Cavalcanti, L.H. 1991b. Myxomycetes do canal I. Levantamento florístico em Carpina-PE. *Acta Botanica Brasílica* 5: 49-61.
- Santos, E.J. & Cavalcanti, L.H. 1995. Myxomycetes ocorrentes em bagaço de cana-de-açúcar armazenado em indústria. *Boletim da Sociedade Broteriana* 67: 5-22.
- Santos, E.J., Cavalcanti, L.H. & Albuquerque, W.C. 1986. Myxomycetes de Alagoas. In: *Congresso Nacional de Botânica, 37. 1986, Ouro Preto. Anais. Ouro Preto (MG): Sociedade Botânica do Brasil*, pp. 499-503.
- Schinner, F. 1981. Myxomycetes from the tropical rain forest of Ecuador. *Bericht des Naturwissenschaftlich-Medizinischen Vereins Innsbruck* 68: 7-11.
- Schnittler, M. 2001. Foliicolous liverworts as a microhabitat for Neotropical myxomycetes. *Nova Hedwigia* 72: 259-270.
- Schnittler, M. & Stephenson, S.L. 2000. Myxomycete biodiversity in four different forest types in Costa Rica. *Mycologia* 92: 626-637.
- Schnittler, M. & Stephenson, S.L. 2002a. Inflorescences of Neotropical herbs as a newly discovered microhabitat for myxomycetes. *Mycologia* 94: 6-20.
- Schnittler, M. & Stephenson, S.L. 2002b. Myxomycetes from inflorescences of giant herbs and foliicolous liverworts. *Scripta Botanica Belgica* 22: 83.
- Schnittler, M., Lado, C. & Stephenson, S.L. 2002. Rapid biodiversity assessment of a tropical myxomycete assemblage - Maquipucuna Cloud Forest Reserve, Ecuador. *Fungal Diversity* 9: 135-167.
- Seaver, F.J. & Chardon, C.E. 1926. Scientific survey of Porto Rico and the Virgin Islands. *New York Academy of Sciences Annual* 8(1): 3-9.
- Silva, M.I.L. & Cavalcanti, L.H. 1988. Myxomycetes ocorrentes nos brejos de Pernambuco, I. *Boletim de Micologia* 4: 31-35.
- Spegazzini, C. 1880a. Fungi argentini. *Pugillus primus. Anales de Sociedad Científica Argentina* 9(4): 158-192.
- Spegazzini, C. 1880b. Fungi argentini, *Pugillus secundus* (continuación). *Anales de Sociedad Científica Argentina* 10: 5-33.
- Spegazzini, C. 1880c. Fungi argentini. *Pugillus tertius. Anales de Sociedad Científica Argentina* 10: 145-168.
- Spegazzini, C. 1881. Fungi argentini. *Pugillus quartus. Additis nonnullis Brasiliensibus Montevideensibusque. Anales de Sociedad Científica Argentina* 12: 241-258.
- Spegazzini, C. 1882. Fungi argentini additis non nullis Brasiliensibus Montevideensibus que. *Revue Mycologique Toulouse* 4(14): 121-123.
- Spegazzini, C. 1886. Fungi guaranitici. *Pugillus I. Anales de Sociedad Científica Argentina* 22: 186-224.
- Spegazzini, C. 1887a. Fungi patagonici. *Boletín de la Academia Nacional de Ciencias. Córdoba* 11(1): 5-64.
- Spegazzini, C. 1887b. Fungi fuegiani. *Boletín de la Academia Nacional de Ciencias. Córdoba* 11: 135-308.
- Spegazzini, C. 1888. Fungi guaranitici. *Pugillus II. Anales de Sociedad Científica Argentina* 26(1): 5-74.
- Spegazzini, C. 1889. Fungi puiggariani. *Boletín de la Academia Nacional de Ciencias. Córdoba* 11: 381-622.
- Spegazzini, C. 1896a. *Contribución al estudio de la flora de la Sierra de la Ventana [Fungi]*. Min. Obras Publ. Buenos Aires.
- Spegazzini, C. 1896b. Hongos de la caña de azúcar. *Revista de la Facultad de Agronomía Veterinaria de La Plata* 2(18): 227-258.
- Spegazzini, C. 1899a. Mycetes argentinienses. *Anales de Sociedad Científica Argentina* 47(6): 262-279.
- Spegazzini, C. 1899b. Fungi argentini novi v. critici. *Anales del Museo Nacional de Historia Natural de Buenos Aires* 6(3): 81-367.
- Spegazzini, C. 1909a. Fungi in Illice paraguariensi vigentes. *Anales del Museo Nacional de Historia Natural de Buenos Aires* 10: 114-133.
- Spegazzini, C. 1909b. Mycetes argentinienses. (Series.IV). *Anales del Museo Nacional de Historia Natural de Buenos Aires* 19: 257-458.
- Spegazzini, C. 1912. Mycetes argentinienses. (Series.VI). *Anales del Museo Nacional de Historia Natural de Buenos Aires* 23: 1-146.
- Spegazzini, C. 1913. Mycetes argentinienses. *Anales del Museo Nacional de Historia Natural de Buenos Aires* 24: 167-186.
- Spegazzini, C. 1917. Algunos hongos chilenos. *Revista chilena de Historia Natutal* 21(4-5): 117-126.
- Spegazzini, C. 1919a. Los hongos de Tucumán. *Iª Reunión Nacional de la Sociedad Argentina de Ciencias Naturales* 1916: 254-274.
- Spegazzini, C. 1919b. Reliquiae mycologicae tropicae et fungi Costaricensis nonnulli. *Boletín de la Academia Nacional de Ciencias. Córdoba* 23: 365-609.
- Spegazzini, C. 1921. Mycetes chilenses. *Boletín de la Academia Nacional de Ciencias. Córdoba* 25: 1-124.
- Spegazzini, C. 1923. Fungi paraguayenses. *Anales del Museo Nacional de Historia Natural de Buenos Aires* 31: 335-450.
- Spegazzini, C. 1926. Algunas especies de Myxomycetas de la Argentina. *Physis (Buenos Aires)* 8: 417-419.
- Spegazzini, C. 1927. Contribución al conocimiento de la flora micológica de las Sierras de Córdoba. *Boletín de la Academia Nacional de Ciencias. Córdoba* 29(3-4): 113-190.
- Staatliche Naturwissenschaftliche Sammlungen Bayerns, The Myxomycetes Collections at the Botanische Staatssammlung

- München - Collection of Martin Schnittler (accessed through GBIF data portal, <http://data.gbif.org/datasets/resource/1444>, 2008-06-25, and Collection of Hermann Neubert (accessed through GBIF data portal, <http://data.gbif.org/datasets/resource/1443>, 2008-06-25)
- Standley, P.C. 1927. The flora of Barro Colorado Island, Panama. *Smithsonian Miscellaneous Collection* 78(8): 417-419.
- Standley, P.C. 1933. The flora of Barro Colorado Island, Panama. *Contributions from the Arnold Arboretum* 5: 5-159.
- Stephenson, S.L. & Mitchell, D. 1994. Notes on tropical Myxomycetes. I. Collections from Ecuador and Peru. *Micología Neotropical Aplicada* 7: 17-21.
- Stephenson, S.L. & Stempen, H., 1994. *Myxomycetes A Handbook of Slime molds*. Timber Press, Portland, Oregon.
- Stephenson, S.L., Estrada-Torres, A., Schnittler, M., Lado, C., Wrigley, D. & Ogata, N. 2003. Distribution and ecology of myxomycetes in the forests of Yucatan. In: Gómez-Pompa, A., Allen, M., Fedick, S. & Jiménez-Osornio, J. (eds.), *Lowland Maya Area: Three Millennia at the Human-Wildland Interface*. Haworth Press, New York.
- Stephenson, S.L., Landolt, J.C. & Moore, D.L. 1999. Protostelids, dictyostelids, and myxomycetes in the litter microhabitat of the Luquillo Experimental Forest, Puerto Rico. *Mycological Research* 103: 209-214.
- Stephenson, S.L., Schnittler, M. & Lado, C. 2004a. Ecological characterization of a tropical myxomycete assemblage - Maquipucuna Cloud Forest Reserve, Ecuador. *Mycologia* 96: 488-497.
- Stephenson, S.L., Schnittler, M., Lado, C., Estrada-Torres, A., Wrigley de Basanta, D., Landolt, J., Novozhilov, Y.K., Clark, J., Moore, D.L. & Spiegel, F.W. 2004b. Studies of neotropical mycetozoans. *Systematics and Geography of Plants* 74: 87-108.
- Stevenson, J.A. 1971. An account of Fungus exsiccati containing material from the Americas. *Nova Hedwigia* 36: 1-564.
- Stevenson, J.A. 1975. The fungi of Puerto Rico and the American Virgin Islands. *Contributions from the Reed Herbarium* 23: 1-743.
- Stevenson, J.A. & Cardenas, M. 1949. Lista preliminar de los hongos de Bolivia. *Lilloa* 21: 77-134.
- Sturgis, W.C. 1916. Myxomycetes from South America. *Mycologia* 8(1): 34-41.
- Sydow, H. & Sydow, P. 1907. Verzeichnis der von Hern F. Noack in Brasilien gesammelten Pilze. *Annales Mycologici* 5(4): 348-363.
- Toro, R.A. 1926. *Mixomicetos de Santo Domingo*. Imprenta de J.R. Vda. García. Santo Domingo. R. D.
- Torrend, C. 1908. Les Myxomycètes. Étude des espèces connues jusqu'ici. *Brotéria, Série Botánica* 7: 5-177.
- Torrend, C. 1915. Les Myxomycètes du Brésil, connus jusqu'ici. *Brotéria* 13(2): 72-88.
- Torrend, C. 1916. Os Myxomycetes dos arredores da Bahia. In: Anon. (ed.), *Anais do 5º Congresso Brasileiro de Geographia. Sociedade Brasileira de Geographia, Salvador*, pp. 484-492.
- Trujillo-Flores, F. 1988. Contribución al conocimiento de los myxomycetes de la sierra de Manantlán, Jalisco. *Tiempos de Ciencia* 12: 20-27.
- Trujillo-Flores, F., Castañeda Macías, M. & Guzmán-Dávalos, L. 1986. Hongos del estado de Jalisco, VI. Los myxomycetes conocidos. *Tiempos de Ciencia* 5: 42-51.
- University of Arkansas, Planetary Biodiversity Inventory Eumycetozoan Databank (accessed through GBIF data portal, <http://data.gbif.org/datasets/resource/1515>, 2008-06-24).
- Uribe-Meléndez, J. 1995. Catálogo de los Myxomycetes registrados para Colombia. *Caldasia* 18: 23-26.
- Utah State University, USU-UTC Specimen Database (accessed through GBIF data portal, <http://data.gbif.org/datasets/resource/1508>, 2008-06-25).
- Verde de Millán, L. & Jaimes, F. 1987. Contribución al conocimiento de los Myxomycetes de Venezuela. I. Estado de Sucre. *Boletín de la Sociedad Micológica de Madrid* 11(2): 195-201.
- Villarreal, L. 1983. Algunas especies de myxomycetes no registradas del Estado de Veracruz. *Boletín de la Sociedad Mexicana de Micología* 18: 153-164.
- Villarreal, L. 1985. Nuevos registros de Myxomycetes en el Estado de Veracruz. *Revista Mexicana de Micología* 1: 363-378.
- Villarreal, L. 1990. Estudios sobre los Myxomycetes de México, I. Nuevos registros. *Micología Neotropical Aplicada* 3: 67-79.
- Welden, A.L. 1954. Some Myxomycetes from Panama and Costa Rica. *Mycologia* 46(2): 93-99.
- Welden, A.L. & Guzmán, G. 1978. Lista preliminar de los hongos, líquenes y myxomycetes de las regiones de Uxpanapa, Coatzacoalcos, Los Tuxtla, Papaloapan y Xalapa (parte de los estados de Veracruz y Oaxaca). *Boletín de la Sociedad Mexicana de Micología* 12: 59-102.
- Welden, A.L. & Lemke, P.A. 1961. Notas sobre algunos hongos mexicanos. *Boletín de la Sociedad Botánica Mexicana* 26: 1-24.
- Welden, A.L., Dávalos, L. & Guzmán, G. 1979. Segunda lista de los hongos, líquenes y mixomicetos de las regiones de Uxpanapa, Coatzacoalcos, Los Tuxtla, Papaolapan and Xalapa (Mexico). *Boletín de la Sociedad Mexicana de Micología* 13: 151-161.
- Weston, W.H. Jr. 1933. The fungi of Barro Colorado. *Scientific Monthly* 36(5): 387-407.
- Wheeler, Q.D. 1980. Studies on Neotropical slime mold / Beetle relationships, part I: Natura, history and description of a new species of *Anisotoma* from Panama (Coleoptera: Leioididae). *Proceedings of the Entomological Society of Washington* 82(3): 493-498.
- Wright, J.E. & Albertó, E. 2006. *Guía de los hongos de la Región Pampeana. II. Hongos sin laminillas*. Ed. L.O.L.A., Buenos Aires.
- Wrigley de Basanta, D. & Lado, C. 2005. A taxonomic evaluation of the stipitate *Licea* species. *Fungal Diversity* 20: 261-314.
- Wrigley de Basanta, D., Lado, C. & Estrada-Torres, A. (in press). Description and culture of a new species of *Didymium* (Myxomycetes) from arid areas of Mexico. *Mycologia*
- Wrigley de Basanta, D. & Stephenson, S.L. 2005. Mycetozoan Biodiversity in the realm of the condor. *Inoculum* 56 (2): 5-6.
- Wrigley de Basanta, D., Estrada-Torres, A. & Lado, C. 2003. Biodiversity Surveys for Neotropical Mycetozoans in Cuba and Mexico. *Inoculum* 54(1): 1-2.
- Wrigley de Basanta, D., Lado, C., Stephenson, S.L. & Estrada-Torres, A. 2002. Myxomycetes from moist chamber cultures of Neotropical substrates. *Scripta Botanica Belgica* 22: 100.
- Wrigley de Basanta, D., Stephenson, S.L., Lado, C., Estrada-Torres, A. & Nieves-Rivera, A.M. 2008. Lianas as a microhabitat for myxomycetes in tropical forests. *Fungal Diversity* 28: 109-125.
- Yamamoto, Y. 2000. Several Mexican Myxomycetes preserved in TNS. *The Myxomycetes* 18: 43-45.
- Yamamoto, Y., Hagiwara, H. & Kawakami, S. 2000. Brazilian Myxomycetes in the Herbarium of the National Science Museum, Tokyo. *Bulletin of the National Science Museum, Tokyo, Ser. B* 26(4): 123-133.

Associate Editor: F. Pando

Received: 27-V-2008

Accepted: 7-VII-2008