

Checklist of saprobic asexual microfungi from the tropical montane cloud forest of Veracruz, México.

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ABSTRACT — A checklist comprising 355 species and 190 genera of asexual microfungi associated with plant debris collected in different localities of the tropical montane cloud forest of Veracruz, Mexico, is presented based on literature and fresh specimens. Annotations (lists of studied material and locations) are accompanied by illustrations of 31 species. A total 101 taxa are recorded for the Mexican mycobiota for the first time.

KEY WORDS — biodiversity, systematics, tropical cloud forest, conidial fungi.

Introduction

The Tropical Montane Cloud Forest (TMCF) is one of the world's most diverse biomes. In Mexico, this ecosystem covers less than 1% of the land surface, but contains 10–12% of the country's flowering plant species (Rzedowski 1991). Because of its climatological characteristics and the enormous variety of microhabitats of these forests, there is considerable fungal diversity. Unfortunately, TMCF is severely endangered and disappearing from Mexico and around the world.

For more than two decades, the authors have studied saprobic asexual microfungi (SAM) collected on plant debris from different localities of TMCF in the state of Veracruz (Arias et al. 2000, 2010, 2015, 2016; Castañeda-Ruiz et al. 2000a,b, 2001, 2010, 2011, 2012, 2013; Delgado et al.

2006; Heredia 1993, 1994; Heredia & Mercado-Sierra 1998; Heredia & Reyes 1999; Heredia et al. 1995, 1997, 2000a,b, 2002, 2004, 2006, 2013, 2014; Mena-Portales et al. 1995, 2009; Mercado-Sierra & Heredia 1994; Mercado-Sierra et al. 1995, 1997, 2002). Before the present contribution, about 227 taxa of SAM had been recorded for Mexican TMCF. Most of them belongs to the Veracruz state. Unfortunately, for other Mexican states with TMCF, information on these kind of fungi is scarce or non-existent.

Although studies on the species richness of SAM have increased in recent years, the magnitude of diversity of these fungi in the Mexican TMCF remains largely unknown. To improve our knowledge about these important and diverse fungi, in this contribution, in addition to record several species unknown for Mexico, we present a current state of the SAM species recorded to date for the TMCF areas of the state of Veracruz.

Materials and methods

Samples of plant debris consisting of leaf litter, dead branches, rotten wood, palm rachides, petioles and submerged plant remains, were collected. Material were placed in paper bags, taken to the laboratory, and prepared according to Castañeda-Ruiz et al. (2016). Mounts were prepared in polyvinyl alcohol and lactic acid (PVL), measurements were made at a magnification of $\times 1000$. Micrographs were obtained with a Nikon Eclipse 80i microscope equipped with bright field. All specimens consisting in permanent slides were deposited in the fungus collection of the Herbarium of the Instituto de Ecología A. C. (XAL). To complete the information relevant literature was extensively reviewed for scattered records. For the quantification of the species registered in the TMCF, only species published in refereed journals and documented with specimens deposited in registered collections were considered.

The Index Fungorum (<http://www.indexfungorum.org/Names/Names.asp>) database was consulted for current nomenclature and author names.

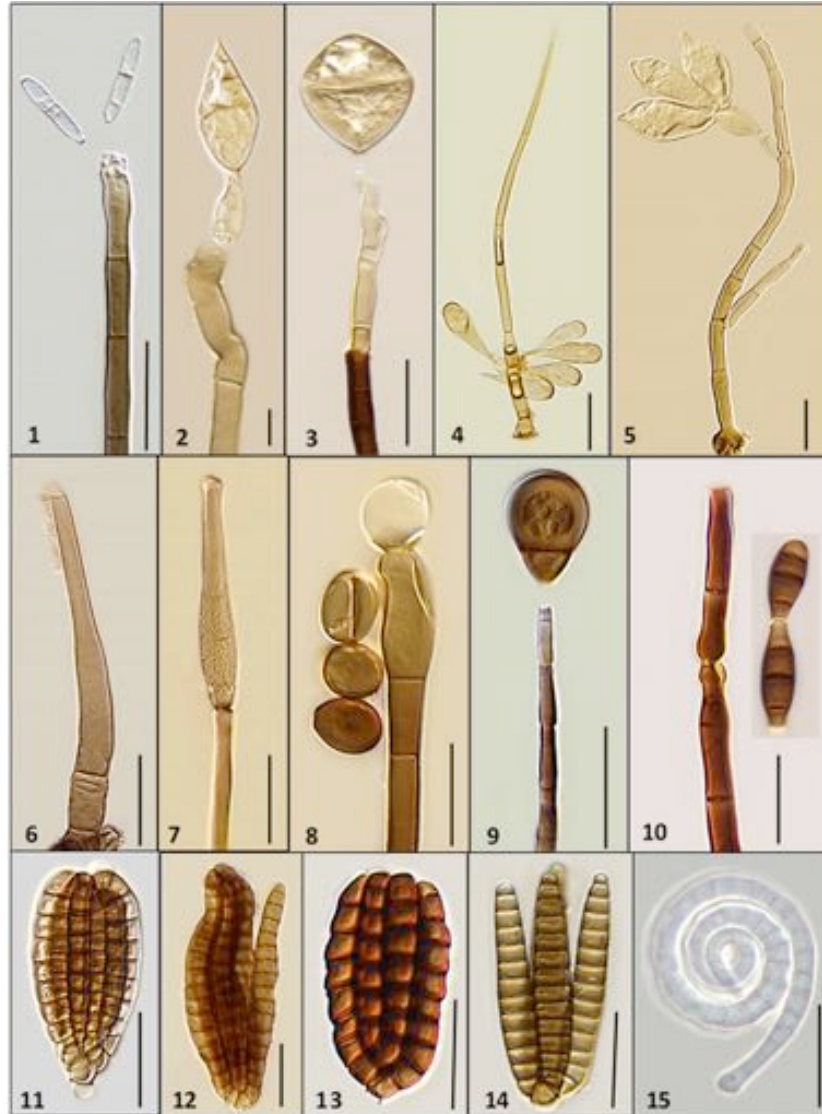
Results

This contribution adds 42 genera and 129 species to the 148 genera and 226 species of SAM already known from TMCF in Veracruz State, taking totals up to 190 genera and 355 species.

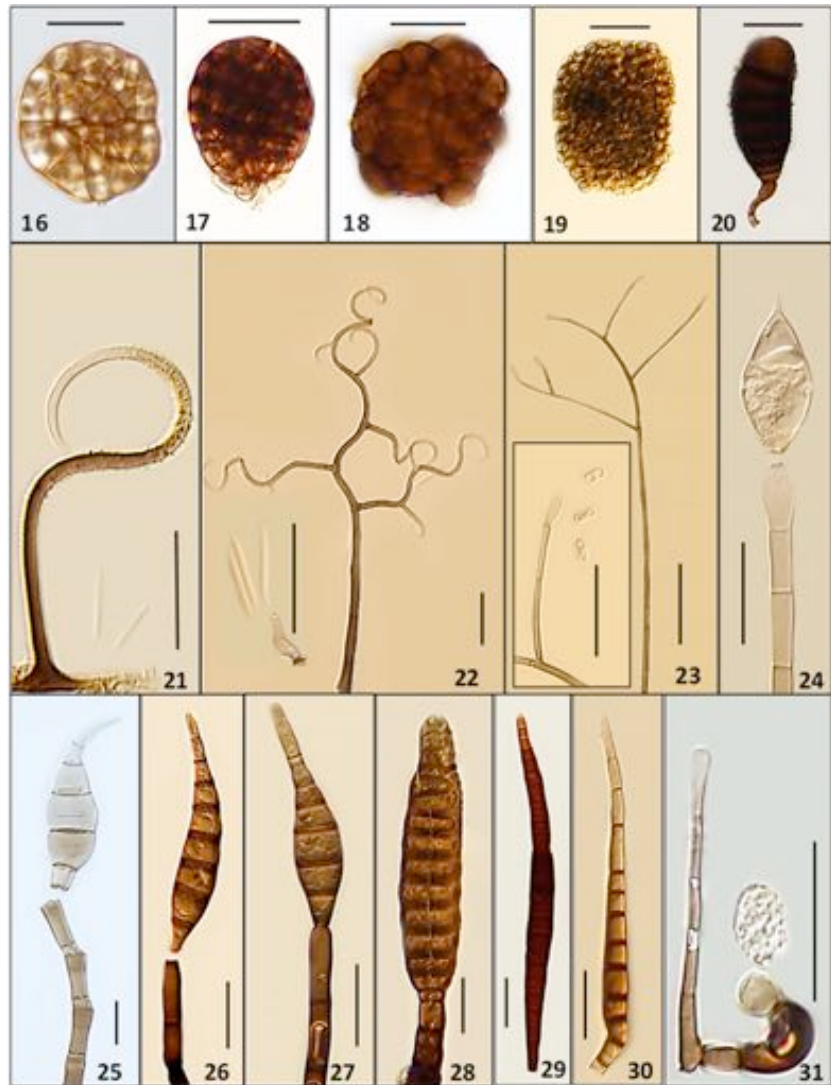
The genus with the highest number of recorded species was *Monodictys* S. Hughes with 30 species, followed by *Dictyochaeta* Speg. with eleven species, *Sporidesmium* Link with ten, *Dictyosporium* Corda with eight species and *Endophragiella* B. Sutton and *Chalara* (Corda) Rabenh, both with seven species.

Among the specimens we found six new genera and twenty-one new species. The new genera were: *Anaselenosporella*, *Anaseptoidium*, *Carrismyces*, *Helensiella*, *Minimelanolocus*, and *Veracruzomyces*. The new species were: *Acremoniula triseptata*, *Anaselenosporella sylvatica*, *Anaseptoidium mycophilum*, *Bactrodesmium simile*, *Belemnospora navicularis*, *Camposporium quercicola*, *Carrismyces proliferatus*, *Cylindrosymposium sosae*, *Dictyoaquaphila unisetulata*, *Endophragiella mexicana*, *Helensiella rigidophora*, *Hermatomyces amphispurus*, *Lobatopedis kirkii*, *Minimelanolocus curvisporus*, *Minimelanolocus limpidus*, *Monodictys spinosa*, *Piricauda mexicana*, *Pseudobeltrania macrospora*, *Redbia inflata*, *Repetophragma paracambrense*, and *Veracruzomyces obclavatus*.

Species names are listed alphabetically including information of their herbarium number and localities. An asterisk (*) before the name of the species indicates that the taxon is reported for the first time for Mexico, and the symbol § indicates a new record for TMCF. Illustrations are provided for 31 species.



FIGURES. 1-15. 1. *Anungitea longicatenata*, 2. *Beltrania concurvispora*, 3. *Beltrania onirica*, 4. *Beltraniella clara*, 5. *Beltraniopsis tanzaniensis*, 6. *Chalara hughesii*, 7. *Corynespora elaeidicola*, 8. *Craspedodidymum proliferans*, 9. *Endophragmiella boewei*, 10. *Heteroconium avilae*, 11. *Dictyosporium bulbosum*, 12. *Dictyocheirospora gigantea*, 13. *Dictyosporium tetrasporum*, 14. *Digitodesmium elegans*, 15. *Helicomycetes colligatus*. Scale bars: 20 μ m.



FIGURES. 16-31. 16. *Monodictys cerebriformis*, 17. *Monodictys melanopa*, 18. *Monodictys nitens*, 19. *Monodictys shigatsensis*, 20. *Trichocladium asperum*, 21. *Circinotrichum olivaceum*, 22. *Gyrothrix grisea*, 23. *Penidiella cubensis*, 24. *Pseudobeltrania angamosensis*, 25. *Repetophragma inflatum*, 26. *Sporidesmium australiense*, 27. *Sporidesmium nanii*, 28. *Sporidesmium vagum*, 29. *Stanjehughesia nigroascus*, 30. *Teratosperma sclerotivorum*, 31. *Zygosporium pacificum*. Scale bars: 20 μ m.

Checklist of species

*§ *Acanthohelicospora aurea* (Corda) Rossman & W.C. Allen, IMA Fungus 7: 2 (2016).

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves of *Quercus* sp., coll. G. Heredia, 05/01/2011, XAL-CB2036. Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on decaying leaves, coll. G. Heredia, 05/08/2011, XAL-CB2184, XAL-CB2208.

Acroniula triseptata J. Mena, Heredia & Mercado, Mycotaxon 55: 492 (1995).

REFERENCE: Mercado-Sierra et al. 1995.

§ *Acrodictys bambusicola* M.B. Ellis, Mycol. Pap. 79: 6 (1961).

STUDIED MATERIAL: Xalapa, Francisco Javier Clavijero Park, 19°30'47"N 96°56'31"W, 1340 m asl, on dead branch, coll. R.M. Arias, 05/09/2011, XAL-CB2268.

Acrodictys septosporioides Matsush., Matsush. Mycol. Mem. 3: 2 (1983).

REFERENCE: Arias et al. 2015.

Acrogenospora sphaerocephala (Berk. & Broome) M.B. Ellis, Dematiaceous Hyphomycetes (Kew): 114 (1971).

REFERENCE: Mercado-Sierra & Heredia 1994.

Alysiidiopsis pipsisewae B. Sutton, Mycol. Pap. 132: 5 (1973).

REFERENCE: Heredia et al. 2004.

Anaselenosporella sylvatica Heredia, R.F. Castañeda & R.M. Arias, Mycotaxon 112: 67 (2010).

REFERENCE: Castañeda-Ruiz et al. 2010.

Anaseptoidium mycophilum R.F. Castañeda, Heredia & R.M. Arias, Mycotaxon 119: 448 (2012).

REFERENCE: Castañeda-Ruiz et al. 2012.

Angulimaya sundara Subram. & Lodha, Antonie van Leeuwenhoek 30: 329 (1964).

REFERENCE: Arias et al. 2015.

Anungitea fragilis B. Sutton, Mycol. Pap. 132: 10 (1973).

REFERENCE: Heredia et al. 1995.

- *§ *Anungitea longicatenata* Matsush., Icon. microfung. Matsush. lect. (Kobe): 7 (1975). **Fig. 1**
 STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves, coll. G. Heredia, 05/01/2011, XAL-CB1920.
- *§ *Anungitea uniseptata* Matsush., Icon. microfung. Matsush. lect. (Kobe): 8 (1975).
 STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on decaying leaves, coll. G. Heredia, 07/02/2010, XAL-CB1702.
- *§ *Anungitopsis triseptata* (Matsush.) R.F. Castañeda & W.B. Kendr., Univ. Waterloo Biol. Ser. 35: 12 (1991).
 STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on bark of *Platanus* sp., coll. G. Heredia, 07/02/2010, XAL-CB1703.
- § *Arachnophora polyradiata* (Mercado & R.F. Castañeda) R.F. Castañeda & W. Gams, Nova Hedwigia 64: 482 (1997).
 STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on bark of *Platanus* sp., coll. G. Heredia, 07/02/2010, XAL-CB1704.
- Bactrodesmiastrum obscurum* Hol.-Jech., Folia Geobot. Phytotax. 19(1): 105 (1984).
 REFERENCE: Arias et al. 2015.
- Bactrodesmium biformatum* (Höhn.) S. Hughes, Fungi Canadenses, Ottawa 258: 1 (1983).
 REFERENCE: Arias et al. 2015.
- Bactrodesmium simile* R.M. Arias, Heredia & R.F. Castañeda, Mycotaxon 131(2): 292 (2016).
 REFERENCE: Arias et al. 2016.
- Bactrodesmium spilomeum* (Berk. & Broome) E.W. Mason & S. Hughes, Can. J. Bot. 31(5): 616 (1953).
 REFERENCE: Arias et al. 2010.

Belemnospora navicularis R.F. Castañeda & Heredia, Cryptog. Mycol.
21(4): 221 (2000).

REFERENCE: Castañeda-Ruiz & Heredia 2000b.

*§ *Beltrania concurvispora* Matsush., Icon. microfung. Matsush. lect.
(Kobe): 15 (1975). **Fig. 2**

STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N
94°53'20"W, 1334 m asl, on decaying leaves, coll. G. Heredia, 05/08/2011,
XAL-CB2199.

*§ *Beltraniella havanensis* (Hol.-Jech.) Matsush., Matsush. Mycol. Mem. 5:
5 (1987). **Fig. 24**

STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N
96°59'27"W, 1503 m asl, on decaying leaves, coll. G. Heredia, 07/02/2010,
XAL-CB1871. Acajete, Mesa de la Yerba, 19°33'40"N 97°01'04"W, 1933 m
asl, on dead branch, 05/12/2010, coll. G. Heredia, XAL-CB1913. San Andrés
Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on
decaying leaves of *Quercus* sp., coll. G. Heredia, 05/01/2011, XAL-CB1974,
XAL-CB1975, XAL-CB2024.

Beltrania malaiensis Wakef., Bull. Misc. Inf., Kew: 204 (1931).

REFERENCE: Heredia et al. 2004.

*§ *Beltrania onirica* Lunghini, Mycotaxon 13(2): 333 (1981). **Fig. 3**

STUDIED MATERIAL: Xalapa, Francisco Javier Clavijero Park, 19°30'47"N
96°56'31"W, 1340 m asl, on dead branch, coll. R.M. Arias, 05/09/2011,
XAL-CB2270, XAL-CB2298.

Beltrania rhombica Penz., Michelia 2(8): 474 (1882).

REFERENCE: Heredia et al. 1994.

*§ *Beltraniella clara* Onofri, Mycotaxon 17: 242 (1983). **Fig. 4**

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano,
18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia,
05/01/2011, XAL-CB1921, XAL-CB2002.

§ *Beltraniella portoricensis* (F. Stevens) Piroz. & S.D. Patil, Can. J. Bot.
48(3): 575 (1970).

STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N
96°59'27"W, 1503 m asl, on decaying leaves of *Quercus* sp., coll. G.
Heredia, 07/02/2010, XAL-CB1709. Coatepec, Rancho Guadalupe,
19°30'00"N 97°09'00"W, 1300 m asl, on decaying leaves of *Quercus* sp.,
coll. G. Rosas, 13/06/1995, XAL-CB411-5, XAL-CB420-8. Coatepec,

Rancho Guadalupe, 19°30'00"N 97°09'00"W, 1300 m asl, on decaying leaves of *Quercus* sp., coll. G. Heredia, 25/08/1993, XAL-CB613.

§ *Beltraniopsis ramosa* R.F. Castañeda, Revista Jardín bot. Nac., Univ. Habana 6(1): 53 (1985).

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves of *Quercus* sp., coll. G. Heredia, 05/01/2011, XAL-CB1922.

*§ *Beltraniopsis tanzaniensis* Piroz., Mycol. Pap. 129: 40 (1972). **Fig. 5**

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves of *Quercus* sp., coll. G. Heredia, 05/01/2011, XAL-CB1923. Huatusco, Las Cañadas, 19°11'23"N 96°59'11"W, 1295 m asl, on submerged leaves, coll. R.M. Arias, 21/03/2011, XAL-CB2051.

Berkleasmiium pandani McKenzie, Mycotaxon 104: 24 (2008).

REFERENCE: Arias et al. 2016.

§ *Berkleasmiium sinense* Joanne E. Taylor, K.D. Hyde & E.B.G. Jones, Fungal Diversity Res. Ser. 12: 302 (2003).

STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on branch of *Bambusa* sp., coll. G. Heredia, 07/02/2010, XAL-CB1808. Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on bark, coll. R.M. Arias, 06/06/2011, XAL-CB2132.

Botryosporium longibrachiatum (Oudem.) Maire, Annls mycol. 1(4): 341 (1903).

REFERENCE: Heredia et al. 2004.

Brachydesmiella biseptata G. Arnaud ex S. Hughes, Can. J. Bot. 39: 1095 (1961).

REFERENCE: Arias et al. 2015.

Brachysporiella pulchra (Subram.) S. Hughes, N.Z. J. Bot. 17(2): 184 (1979).

REFERENCE: Heredia et al. 2004.

Brachysporium obovatum Keissl., Syll. fung. (Abellini) 4: 427 (1886).

REFERENCE: Arias et al. 2010.

Cacumisporium pleuroconidiophorum (Davydkina & Melnik) R.F.

Castañeda, Heredia & Iturr., Mycotaxon 100: 332 (2007).

REFERENCE: Castañeda-Ruiz et al. 2007.

*§ ***Calonectria pyrochroa*** (Desm.) Sacc., Michelia 1: 308 (1878).

Asexual form: *Cylindrocladium ilicicola* (Hawley) Boedijn & Reitsma, Reinwardtia 1: 57 (1950).

STUDIED MATERIAL: Acajete, Mesa de la Yerba, 19°33'40"N 97°01'04"W, 1933 m asl, on decaying leaves, 05/12/2010, coll. G. Heredia, XAL-CB1902. San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, G. Heredia 05/01/2011, XAL-CB1932, XAL-CB2026. Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on decaying leaves, coll. G. Heredia, 05/08/2011, XAL-CB2220.

Camposporium ontariense Matsush., Matsush. Mycol. Mem. 3: 3 (1983).

REFERENCE: Heredia et al. 2013.

Camposporium quercicola Mercado, Heredia & J. Mena, Mycotaxon 55: 495 (1995).

REFERENCE: Mercado-Sierra et al. 1995.

Campylospora filicladia Nawawi, Trans. Br. Mycol. Soc. 63(3): 604 (1974).

REFERENCE: Arias et al. 2015.

§ ***Canalisporium pulchrum*** (Hol.-Jech. & Mercado) Nawawi & Kuthub., Mycotaxon 34(2): 481 (1989).

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves, coll. G. Heredia, 05/01/2011, XAL-CB2039.

Candelabrum brocchiatum Tubaki, Trans. Mycol. Soc. Japan 16: 134-137 (1975).

REFERENCE: Heredia et al. 2000a.

Candelabrum clathrosphaeroides Voglmayr, Mycol. Res. 102(4): 412 (1998).

REFERENCE: Arias et al. 2015.

§ ***Candelabrum microsporium*** R.F. Castañeda & W.B. Kendr., Univ. Waterloo Biol. Ser. 35: 16 (1991).

STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on bark, coll. R.M. Arias, 06/06/2011, XAL-CB2106.

- Candelabrum spinulosum* Beverw., *Antonie van Leeuwenhoek* 17: 11 (1951). Loc. 16. XAL-CB797.
REFERENCE: Delgado et al. 2006.
- Carrismyces proliferatus* R.F. Castañeda & Heredia, *Mycotaxon* 76: 128 (2000).
REFERENCE: Castañeda-Ruiz & Heredia 2000a.
- Catenularia kalakadensis* Subram. & Bhat, *Kavaka* 15(1-2): 49 (1989).
REFERENCE: Heredia et al. 2004.
- Ceratosporella deviata* Subram., *Proc. Indian Acad. Sci., Pl. Sci.* 46: 327 (1957).
REFERENCE: Heredia et al. 1995.
- Ceratosporella stipitata* (Goid.) S. Hughes, *Trans. Br. Mycol. Soc.* 35: 243 (1952).
REFERENCE: Delgado et al. 2006.
- *§ *Cercosporula uncinata* R.F. Castañeda, *Revista Jardín Bot. Nac., Univ. Habana* 6(1): 48 (1985).
STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on decaying leaves of *Liquidambar* sp., coll. G. Heredia, 07/02/2010, XAL-CB1808.
- *§ *Chaetopsina acutispora* Zucconi & Rambelli, *Mycotaxon* 48: 6 (1993).
STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on decaying leaves, 05/08/2011, coll. G. Heredia, XAL-CB2212.
- *§ *Chaetopsina catenulata* Samuels, *Mycotaxon* 22(1): 28 (1985).
STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1926, XAL-CB1997.
- Chaetopsina fulva* Rambelli, *Atti Acad. Sci. Ist. Bologna*: 1-6 (1956).
REFERENCE: Arias et al. 2015.
- § *Chaetopsina nimbae* Rambelli, *Mycotaxon* 44(2): 328 (1992).
STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves, coll. G. Heredia, 05/01/2011, XAL-CB1928, XAL-CB1929, XAL-CB1993.

*§ *Chaetopsina penicillata* Samuels, Mycotaxon 22(1): 24 (1985).

STUDIED MATERIAL: Huatusco, Las Cañadas, 19°11'23"N 96°59'11"W, 1295 m asl, on decaying leaves, coll. R.M. Arias. 21/03/2011, XAL-CB2056, XAL-CB2057.

Chaetopsina splendida B. Sutton & Hodges, Nova Hedwigia 27(1-2): 346 (1976).

REFERENCE: Heredia et al. 2004.

Chaetosphaeria aspergilloides M.E. Barr & J.L. Crane, Can. J. Bot. 57: 835 (1979).

REFERENCE: Delgado et al. 2006. Identified as *Custingophora* anamorph of *Chaetosphaeria aspergilloides* M.E. Barr & J.L. Crane, Can. J. Bot. 57: 835 (1979).

Chaetosphaeria dingleyae S. Hughes, W.B. Kendr. & Shoemaker, N.Z. J. Bot. 6: 343 (1968).

REFERENCE: Heredia et al. 2004. Identified as *Dictyochaeta* anamorph *Chaetosphaeria dingleyae* S. Hughes, W.B. Kendr. & Shoemaker, N.Z. J. Bot. 6: 343 (1968).

Chaetosphaeria vermicularioides (Sacc. & Roum.) W. Gams & Hol.-Jech., Stud. Mycol. 13: 15 (1976).

REFERENCE: Arias et al. 2010. Identified as *Chloridium virescens* var. *chlamydosporum* (J.F.H. Beyma) W. Gams & Hol.-Jech., Stud. Mycol. 13: 21 (1976).

*§ *Chalara affinis* Sacc. & Berl., Atti Inst. Veneto Sci. lett., ed Arti, Sér. 6 3: 741 (1885).

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves of *Quercus* sp., coll. G. Heredia, 05/01/2011, XAL-CB2027.

Chalara alabamensis Morgan-Jones & E.G. Ingram, Mycotaxon 4(2): 489 (1976).

REFERENCE: Heredia et al. 1994.

Chalara aspera (Piroz. & Hodges) P.M. Kirk, Kew Bull. 38(4): 580 (1984).

REFERENCE: Arias et al. 2010.

*§ *Chalara aurea* (Corda) S. Hughes, Can. J. Bot. 36 (6): 747 (1958).
 STUDIED MATERIAL: Acajete, Mesa de la Yerba, 19°33'40"N 97°01'04"W,
 1933 m asl, on decaying leaves, coll. G. Heredia, 05/12/2010, XAL-CB1898.
 Cosautlan de Carbajal, 19°20'00"N 96°59'00"W, 1172 m asl, on decaying
 leaves, coll. G. Olvera, 11/03/96, XAL-CB632.

Chalara brevipes Nag Raj & W.B. Kendr., A monograph of *Chalara* and
 allied genera: 95 (1975).
 REFERENCE: Arias et al. 2015.

*§ *Chalara hughesii* Nag Raj & W.B. Kendr., N.Z. J. Bot. 12(1): 118
 (1974). **Fig. 6**
 STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fría, 19°31'15"N
 96°59'27"W, 1503 m asl, on decaying leaves of *Quercus* sp., coll. G.
 Heredia, 07/02/2010, XAL-CB1809. Huatusco, Las Cañadas, 19°11'23"N
 96°59'11"W, 1295 m asl, on decaying leaves, coll. R.M. Arias, 21/03/2011,
 XAL-CB2059, XAL-CB2060.

Chalara urceolata Nag Raj & W.B. Kendr., N.Z. J. Bot. 12: 120 (1974).
 REFERENCE: Heredia et al. 1994.

Cheiromyces echinulata Mercado & J. Mena, Acta Botánica Cubana 53:
 2 (1988).
 REFERENCE: Arias et al. 2010.

*§ *Chloridium chloroconium* (W. Gams & Hol.-Jech.) Réblová & Seifert,
 IMA Fungus 7(1): 134 (2016).
 STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano,
 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, G. Heredia
 05/01/2011, XAL-CB1941.

Chloridium lignicola (F. Mangenot) W. Gams & Hol.-Jech., Stud. Mycol.
 13: 37 (1976).
 REFERENCE: Delgado et al. 2006.

Chloridium phaeosporum Hol.-Jech., Česká Mykol. 41(2): 113 (1987).
 REFERENCE: Heredia et al. 2013.

Chloridium reniforme Hol.-Jech., Česká Mykol. 37(1): 16 (1983).
 REFERENCE: Heredia et al. 2006.

Circinotrichum maculiforme Nees, Syst. Pilze (Würzburg): 19 (1817).
REFERENCE: Arias et al. 2015.

*§ *Circinotrichum olivaceum* (Speg.) Piroz., Mycol. Pap. 84: 6 (1962).

Fig. 21

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on palm rachis, coll. G. Heredia, 05/01/2011, XAL-CB1930, XAL-CB2008.

§ *Circinotrichum papakuræ* S. Hughes & Piroz., N.Z. J Bot. 9(1): 40 (1971).

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STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fría, 19°31'15"N
96°59'27"W, 1503 m asl, on wood, coll. G. Heredia, 07/02/2010, XAL-
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STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fría, 19°31'15"N
96°59'27"W, 1503 m asl, on wood, coll. G. Heredia, 07/02/2010, XAL-
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STUDIED MATERIAL: Huatusco, Las Cañadas, 19°11'23"N 96°59'11"W, 1295
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STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N
94°53'20"W, 1334 m asl, on dead branch, coll. G. Heredia, 05/08/2011,
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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fria, 19°31'15"N 96°59'27"W, 1503 m asl, on bark of *Platanus* sp., coll. G. Heredia, 07/02/2010, XAL-CB1818.

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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N
96°59'27"W, 1503 m asl, on wood, coll. G. Heredia, 07/02/2010, XAL-
CB1835. San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N
95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011,
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STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on decaying leaves, coll. G. Heredia, 05/08/2011, XAL-CB2164.

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STUDIED MATERIAL: Huatusco, Las Cañadas, 19°11'23"N 96°59'11"W, 1295 m asl, on decaying leaves, coll. R.M. Arias, 21/03/2011, XAL-CB2075.

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 STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on bark, coll. R.M. Arias, 06/06/2011, XAL-CB2111.
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 STUDIED MATERIAL: Huatusco, Las Cañadas, 19°11'23"N 96°59'11"W, 1295 m asl, on decaying leaves of *Quercus* sp., coll. R.M. Arias, 21/03/2011, XAL-CB2076.
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 STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves, G. Heredia, 05/01/2011, XAL-CB1936.
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 STUDIED MATERIAL: Xalapa, Francisco Javier Clavijero Park, 19°30'47"N 96°56'31"W, 1340 m asl, on dead branch, coll. R.M. Arias, 05/09/2011, XAL-CB2264, XAL-CB2282, XAL-CB2294.
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 STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on wood, coll. R.M. Arias, 06/06/2011, XAL-CB2133.

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 STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on dead branch, coll. G. Heredia, 07/02/2010, XAL-CB1826.

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STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on dead branch, coll. G. Heredia, 07/02/2010, XAL-CB1828.

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STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on dead branch, coll. G. Heredia, 05/08/2011, XAL-CB2167.

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STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on dead branch, coll. G. Heredia, 05/08/2011, XAL-CB2207.

*§ *Endophragmiella uniseptata* (M.B. Ellis) S. Hughes, N.Z. J Bot. 17(2): 156 (1979).

STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on wood, coll. G. Heredia, 07/02/2010, XAL-CB1829.

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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fria, 19°31'15"N 96°59'27"W, 1503 m asl, on fern rachis, coll. G. Heredia, 07/02/2010, XAL-CB1831, XAL-CB1832.

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STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves, coll. G. Heredia, 05/01/2011, XAL-CB1969.

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 STUDIED MATERIAL: Xalapa, Francisco Javier Clavijero Park, 19°30'47"N 96°56'31"W, 1340 m asl, on dead branch, coll. R.M. Arias, 05/09/2011, XAL-CB2265. Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on dead branch, coll. J. Mena, 24/07/95, XAL-CB483-4. Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on dead branch, coll. G. Heredia, 10/07/1995, XAL-CB854, XAL-CB854-1.

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 STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on wood, coll. R.M. Arias, 06/06/2011, XAL-CB2135.

*§ *Gyrothrix grisea* Piroz., Mycol. Pap. 84: 17 (1962). **Fig. 22**
 STUDIED MATERIAL: San Andrés Tuxtla, Volcano, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1942.

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 STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on decaying leaves of *Liquidambar* sp., coll. G. Heredia, 07/02/2010, XAL-CB1894. Coatepec, Rancho Guadalupe, 19°30'00"N 97°09'00"W, 1300 m asl, on bark, coll. A. Mercado, 11/03/1996, XAL-CB628-1.

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STUDIED MATERIAL: Acajete, Mesa de la Yerba, 19°33'40"N 97°01'04"W, 1933 m asl, on dead branch, 05/12/2010, coll. G. Heredia, XAL-CB1906.

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STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1944, XAL-CB2030.

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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on decaying leaves of *Liquidambar* sp., coll. G. Heredia, 07/02/2010, XAL-CB1836. Acatlan, Acatlan Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on wood, coll. R.M. Arias, 18/09/2011, XAL-CB2241.

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STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1945.

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STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1946. Volcano Santa Marta, on bark, coll. G. Heredia, 05/08/2011, XAL-CB2234. Acatlan, Acatlan Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on wood, coll. R.M. Arias, 18/09/2011, XAL-CB2239. Xalapa, Francisco Javier Clavijero Park, 19°30'47"N 96°56'31"W, 1340 m asl, on dead branch, coll. R.M. Arias, 05/09/2011, XAL-CB2281. Xalapa, Macuiltepetl Hill, 19°32'54"N 96°55'15"W, 1500 m asl, on decaying leaves, coll. G. Heredia, 10/06/1995, XAL-CB857.

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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N
96°59'27"W, 1503 m asl, on dead branch, coll. G. Heredia, 07/02/2010,
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STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W,
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 STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on bark, coll. G. Heredia, 05/08/2011, XAL-CB1710.

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 STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on decaying leaves, coll. G. Heredia, 05/08/2011, XAL-CB2169, XAL-CB2185, XAL-CB2228.

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STUDIED MATERIAL: Acatlan, Acatlan Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on dead branch, coll. R.M. Arias, 18/09/2011, XAL-CB2258.

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STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on wood, coll. R.M. Arias, 06/06/2011, XAL-CB2138.

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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on bark of *Platanus* sp., coll. G. Heredia, 07/02/2010, XAL-CB1854. Acajete, Mesa de la Yerba, 19°33'40"N 97°01'04"W, 1933 m asl, on dead branch, 05/12/2010, coll. G. Heredia, XAL-CB1910. San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves of *Quercus* sp., coll. G. Heredia, 05/01/2011, XAL-CB2040.

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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on dead branch, coll. G. Heredia, 07/02/2010, XAL-CB1855.

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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on decaying leaves, coll. G. Heredia, 07/02/2010, XAL-CB1856.

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STUDIED MATERIAL: Huatusco, Las Cañadas, 19°11'23"N 96°59'11"W, 1295 m asl, on wood, coll. R.M. Arias, 21/03/2011, XAL-CB2089. Acatlán, Acatlán Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on wood, coll. R.M. Arias, 18/09/2011, XAL-CB2244.

*§ *Monodictys capensis* R.C. Sinclair, Boshoff & Eicker, Mycotaxon 59: 359 (1996).
STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1959.

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STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on dead branch, coll. G. Heredia, 05/08/2011, XAL-CB2188, XAL-CB2189, XAL-CB2190, XAL-CB2191.

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Hyphomycetes (Kew): 44 (1976).

STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on bark, on dead branch, coll. G. Heredia, 05/08/2011, XAL-CB2192, XAL-CB2209.

*§ *Monodictys melanopa* (Ach.) M.B. Ellis, More Dematiaceous

Hyphomycetes (Kew): 43 (1976).

Fig. 17

STUDIED MATERIAL: Acajete, Mesa de la Yerba, 19°33'40"N 97°01'04"W, 1933 m asl, on wood, 05/12/2010, coll. G. Heredia, XAL-CB1884. Xalapa, Francisco Javier Clavijero Park, 19°30'47"N 96°56'31"W, 1340 m asl, on dead branch, fern rachis, coll. R.M. Arias, 05/09/2011, XAL-CB2269, XAL-CB2273, XAL-CB2296.

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26(3): 328 (2007).

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on palm rachis, coll. G. Heredia, 05/01/2011, XAL-CB1960, XAL-CB1961. Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on dead branch, coll. G. Heredia, 05/08/2011, XAL-CB2193.

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Fig. 18

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1962, XAL-CB2022.

*§ *Monodictys peruviana* Matsush., Matsush. Mycol. Mem. 7: 57 (1993).

STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on bark, on decaying leaves of *Quercus* sp., coll. R. M. Arias, 06/06/2011, XAL-CB2140, XAL-CB2152.

*§ *Monodictys putredinis* (Wallr.) S. Hughes, Can. J. Bot. 36: 785 (1958).

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on fern rachis, coll. G. Heredia, 05/01/2011, XAL-CB1963. Huatusco, Las Cañadas, 19°11'23"N 96°59'11"W, 1295 m asl, fern rachis, coll. R.M. Arias, 21/03/2011, XAL-CB2090. Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m

asl, on bark, coll. G. Heredia, 05/08/2011, XAL-CB2194, XAL-CB2195, XAL-CB2196.

*§ *Monodictys sessilis* Hol.-Jech., Česká Mykol. 40(3): 151 (1986).

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1964. Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on bark, coll. R.M. Arias, 06/06/2011, XAL-CB2141.

*§ *Monodictys shigatsensis* Y.M. Wu & T.Y. Zhang, Mycotaxon 109: 266

(2009).

Fig. 19

STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on fern rachis, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1965, XAL-CB2000, XAL-CB2019.

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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fria, 19°31'15"N 96°59'27"W, 1503 m asl, on wood, coll. G. Heredia, 07/02/2010, XAL-CB1830. Coatepec, Rancho Guadalupe, 19°30'00"N 97°09'00"W, 1300 m asl, on bejuco, coll. J. Mena, 13/06/1995, XAL-CB395-3. Coatepec, Rancho Guadalupe, 19°30'00"N 97°09'00"W, 1300 m asl, on bejuco, coll. G. Rosas, 13/06/1996, XAL-CB400. Ixhuacan de los Reyes, 19°21'22"N 97°07'01"W, 1754 m asl, on dead branch, coll. A. Mercado, 05/03/1996, XAL-CB533.

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STUDIED MATERIAL: San Andrés Tlanelhuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on decaying leaves, coll. G. Heredia, 07/02/2010, XAL-CB1857.

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STUDIED MATERIAL: San Andrés Tlanelhuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on branch of *Bambusa* sp., coll. G. Heredia, 07/02/2010, XAL-CB1858. San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves, coll. G. Heredia, 05/01/2011, XAL-CB2041.

*§ *Penidiella cubensis* (R.F. Castañeda) U. Braun, Crous & R.F. Castañeda, Stud. Mycol. 58: 19 (2007). **Fig. 23**

STUDIED MATERIAL: San Andrés Tlanelhuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on bark of *Platanus* sp., coll. G. Heredia, 07/02/2010, XAL-CB1859, XAL-CB1860.

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STUDIED MATERIAL: San Andrés Tlanelhuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on dead branch, coll. G. Heredia, 07/02/2010, XAL-CB1862, XAL-CB1863. Cosautlán de Carbajal, 19°20'00"N 96°59'00"W, 1172 m asl, on dead branch, coll. J. Mena, 06/07/1995, XAL-CB479, XAL-CB480. Cosautlán de Carbajal, 19°20'00"N 96°59'00"W, 1172 m asl, on dead branch, coll. G. Rosas, 06/07/1995, XAL-CB491. Cosautlán de Carbajal, 19°20'00"N 96°59'00"W, 1172 m asl, on dead branch, coll. G. Olvera, 11/03/1996 XAL-CB617. Cosautlán de Carbajal, 19°20'00"N 96°59'00"W, 1172 m asl, on dead branch, coll. G. Rosas, 06/07/1995, XAL-CB491. Cosautlán de Carbajal, 19°20'00"N 96°59'00"W, 1172 m asl, on dead branch, coll. A. Mercado, 11/03/1996 XAL-CB642, XAL-CB645. Coatepec, La Pitahaya, 19°49'88"N 96°94'44"W, 1300 m asl, on dead branch, coll. G. Rosas, 18/11/1995, XAL-CB503, XAL-CB519. Ixhuacán de los Reyes, 19°21'22"N 97°07'01"W, 1754 m asl, on dead branch, coll. G. Olvera, 05/03/1996, XAL-CB524, XAL-CB545, XAL-CB554, XAL-CB556. Ixhuacán de los Reyes, 19°21'22"N 97°07'01"W, 1754 m asl, on dead branch, coll. A. Mercado, 05/03/1996, XAL-CB525, XAL-CB575, XAL-CB597.

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STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on dead branch, coll. G. Heredia, 07/02/2010, XAL-CB1866.

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STUDIED MATERIAL: Acatlan, Acatlan Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on trunk, coll. R.M. Arias, 18/09/2011, XAL-CB2256.

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STUDIED MATERIAL: San Andrés Tlanelhuayocan, Agüita Fria, 19°31'15"N 96°59'27"W, 1503 m asl, on decaying leaves, coll. G. Heredia, 07/02/2010, XAL-CB1888.

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STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fria, 19°31'15"N 96°59'27"W, 1503 m asl, on dead branch, coll. G. Heredia, 07/02/2010, XAL-CB1872.

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STUDIED MATERIAL: Huatusco, Las Cañadas, 19°11'23"N 96°59'11"W, 1295 m asl, on submerged leaves, coll. R.M. Arias, 21/03/2011, XAL-CB2097, XAL-CB2098.

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STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on decaying leaves, coll. G. Heredia, 07/02/2010, XAL-CB1876.

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Fig. 26

STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on dead branch, coll. G. Heredia, 07/02/2010, XAL-CB1879, XAL-CB1880.

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Fig. 27

STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on decaying leaves, coll. R.M. Arias, 06/06/2011, XAL-CB2117.

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STUDIED MATERIAL: Xalapa, Francisco Javier Clavijero Park, 19°30'47"N 96°56'31"W, 1340 m asl, on dead branch, coll. R.M. Arias, 05/09/2011, XAL-CB2272.

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STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1983. Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on bark, coll. R.M. Arias, 06/06/2011, XAL-CB2118. Coatepec, Rancho Guadalupe, 19°30'00"N 97°09'00"W, 1300 m asl, on dead branch, coll. J. Mena, 10/06/1995, XAL-CB356-1. Coatepec, Rancho Guadalupe, 19°30'00"N 97°09'00"W, 1300 m asl, on dead branch, coll. G. Rosas, 13/06/1995, XAL-CB404-1.

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STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on trunk, coll. R.M. Arias, 06/06/2011, XAL-CB2134. Coatepec, Rancho Guadalupe, 19°30'00"N 97°09'00"W, 1300 m asl, on bejuco, coll. J. Mena, 10/06/1995, XAL-CB358-1. Coatepec, Rancho Guadalupe, 19°30'00"N 97°09'00"W, 1300 m asl, on dead branch, coll. J. Mena, 13/06/1995, XAL-CB408-1.

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STUDIED MATERIAL: San Andrés Tlalnahuayocan, Agüita Fría, 19°31'15"N 96°59'27"W, 1503 m asl, on wood, coll. G. Heredia, 07/02/2010, XAL-CB1881, XAL-CB2047. San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on dead branch, coll. G. Heredia, 05/01/2011, XAL-CB1984. Xalapa, Francisco Javier Clavijero Park, 19°30'47"N 96°56'31"W, 1340 m asl, on decaying leaves, coll. G. Heredia y A. Mercado, 30/07/1993, XAL-CB032. Ixhuacán de los Reyes, 19°21'22"N 97°07'01"W, 1754 m asl, on dead branch, coll. A. Mercado, 05/03/1996, XAL-CB532-1.

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STUDIED MATERIAL: Acatlán, Acatlán Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on bark, coll. R.M. Arias, 18/09/2011, XAL-CB2252.

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STUDIED MATERIAL: Acatlán, Acatlán Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on dead branch, coll. R.M. Arias, 18/09/2011, XAL-CB2246.

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STUDIED MATERIAL: Acatlán, Acatlán Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on wood, coll. R.M. Arias, 18/09/2011, XAL-CB2238.

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STUDIED MATERIAL: Acatlán, Acatlán Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on bark, coll. G. Heredia, 07/02/2010, XAL-CB2253.

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STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on bark, coll. R.M. Arias, 06/06/2011, XAL-CB2119.

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STUDIED MATERIAL: San Andrés Tlalnelhuayocan, Agüita Fria, 19°31'15"N 96°59'27"W, 1503 m asl, on *Platanus* sp. bark, coll. G. Heredia, 07/02/2010, XAL-CB1889.

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STUDIED MATERIAL: Soteapan, Santa Marta Volcano, 18°20'56"N 94°53'20"W, 1334 m asl, on decaying leaves of *Quercus* sp., coll. G. Heredia, 05/08/2011, XAL-CB2203. Xalapa, Francisco Javier Clavijero Park, 19°30'47"N 96°56'31"W, 1340 m asl, on bark, 27/07/1993, coll. G. Heredia & A. Mercado, XAL-CB046-2.

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STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on wood, coll. R.M. Arias, 06/06/2011, XAL-CB2120, XAL-CB2144. Acatlán, Acatlán Volcano, 19°30'47"N 96°56'31"W, 1814 m asl, on dead branch, on bark, coll. R.M. Arias, 18/09/2011, XAL-CB2251, XAL-CB2300, XAL-CB2301.

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STUDIED MATERIAL: Banderilla, La Martinica, 19°35'17"N 96°57'62"W, 1580 m asl, on bark, coll. R.M. Arias, 06/06/2011, XAL-CB2156. Cosautlán de Carbajal, 19°20'00"N 96°59'00"W, 1172 m asl, on dead branch, coll. A. Mercado, 19/03/1996, XAL-CB620. Coatepec, Rancho Guadalupe, 19°30'00"N 97°09'00"W, 1300 m asl, on decaying leaves of *Quercus germana*, coll. G. Heredia, 16/08/1992, XAL-CB583-1. Xalapa, Las Hayas, Ecological Park, 19°30'00"N 96°56'00"W, 1460 m asl, on decaying leaves, coll. F. García, 26/03/1995, XAL-CB325-2, XAL-CB335.

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STUDIED MATERIAL: San Andrés Tuxtla, San Martín Tuxtla Volcano, 18°32'06"N 95°08'28"W, 1075 m asl, on decaying leaves, coll. G. Heredia, 05/01/2011, XAL-CB1989.

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STUDIED MATERIAL: Xalapa, Francisco Javier Clavijero Park, 19°30'47"N 96°56'31"W, 1340 m asl, on dead branch, coll. R.M. Arias, 05/09/2011, XAL-CB2262.

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