Fungi from Palms. V.[1] *Phomatospora nypae* sp. nov. and notes on marine fungi from *Nypa fruticans* in Malaysia

K. D. Hyde

Department of Botany, University of Hong Kong, Pokfulam Road, Hong Kong

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Phomatospora nypae sp. nov. is described from leaves of *Nypa fruticans* submerged in the intertidal region. The taxon is illustrated with interference contrast micrographs and compared with related taxa. Records of fungi collected on *Nypa* palm in Malaysia are given.

Keywords: Marine fungi, *Nypa fruticans*, palm fungi, *Phomatospora* .

Surveys of fungi colonizing decaying rachids and leaves of *Nypa fruticans* in the intertidal region in Brunei reveal a diverse population (Hyde, 1992a). These fungi include typical palm saprobes (e. g. *Linocarpon*, *Oxydothis*) and obligate marine species (e. g. *Helicascus* , *Lignincola*) , some of which (e. g. *Helicascus nypae*) may be unique to *Nypa* (Hyde, 1989, 1990, 1991, 1992a; Hyde & Jones, 1988; Hyde & Nakagiri, 1989; Hyde & Sutton, 1992). In Malaysia *Nypa* palm are also abundant and a study was initiated to examine the fungi on submerged *Nypa* petioles and leaf blades. Records of fungi collected on *Nypa* are presented and a new species, *Phomatospora nypae* is described and illustrated.

Material and methods

Decaying fronds of *Nypa fruticans* were collected in Kuala Selangor mangrove in Malaysia during a single visit on 22 October 1991. The fronds were gathered from the mangrove floor and from dead parts hanging in the intertidal region in the Nypa stand. Care was taken to include those samples inundated periodically by seawater (e. g., encrusted with barnacles, algae). Material was returned to the laboratory in plastic bags and examined for higher marine fungi within 14 days.

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[1] IV in Sydowia 45: 15–20.

Results

Phomatospora nypae Hyde, sp. nov. – Figs. 1–8.

Ascomata 130–200 µm diam, solitaria vel gregaria, immersa, globosa vel subglobosa, membranacea, pallide brunnea, clypeata, papilla brevi, periphysata, paraphysata. Asci 90–140 x 4. 8–6. 5 µm, cylindrici, unitunicati, pedunculati, apparato apicali praediti. Ascosporae 6. 5–9. 5 x 2–2. 4 µm, unicellulares, ellipsoideae, hyalinae, uniseriatae, striatae, appendiculatae.

Etymology. – from *Nypa*, the host.

Ascomata 130–200 µm diam, immersed, globose–subglobose, membranous, light-brown, developing under a small blackened clypeus, ostiolate, short papillate, papilla central, periphysate, solitary or gregarious (Figs. 4, 5). – Peridium comprising several layers of brown-walled elongate cells. – Paraphyses hypha-like, filamentous, septate, tapering distally, apically free, hyaline, 8 µm at the base, 2 µm distally. – Asci 90–140 x 4.8–6.5 µm, 8-spored, cylindrical, unitunicate, thin-walled, pedunculate, with a refractive, J–, apical ring, 2.0–2.4 µm high, 2.4–2.8 µm diam, asci developing from the base of the ascoma (Figs. 3, 6, 8). – Ascospores 6.5–9.5 x 2–2.4 µm, unicellular, ellipsoidal, hyaline, uniseriate, covered with faint striations and provided at each end with mucilaginous appendages (Figs. 1, 2, 7).

Holotypus. – Malaysia: Kuala Selangor, dead intertidal leaves of *Nypa fruticans*, Oct. 1991, K. D. Hyde 1628 (BRIP 20735).

Habitat. – Saprobic on intertidal *Nypa* leaf blades.

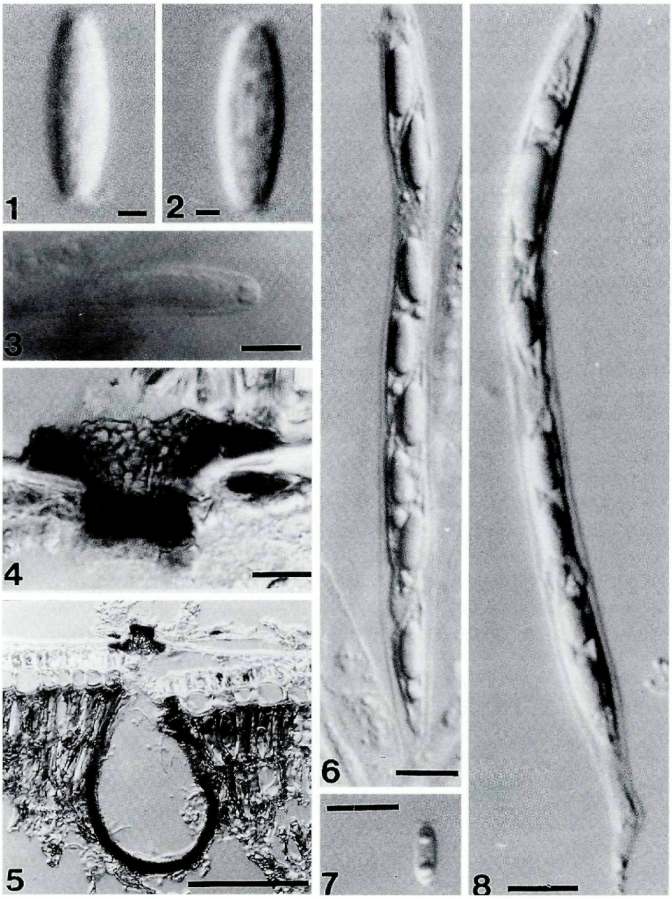
Known distribution. – Malaysia.

Discussion

Phomatospora nypae is characterised in having unicellular ascospores with wall striations and bipolar appendages (Figs. 1, 2, 7) and cylindrical asci with uniseriate ascospores and an apical ring (Figs. 3, 6, 8). Ascomata are immersed under a small blackened clypeus (Figs. 4, 5). Two marine *Phomatospora* species are presently known. *P. kandeliae* Hyde has larger ascospores (11.5–16 x 5.5–8 µm, vs 6.5–9.5 x 2–2.4 µm), while *P. acrostichi* Hyde has a single polar appendage (Hyde, 1988, 1992b; Kohlmeyer & Volkmann-Kohlmeyer, 1991). A key to the marine *Phomatospora* species is given below.

Key to marine species of *Phomatospora*

1. Ascospores with a single polar appendage, on *Acrostichum speciosum* Willd . ..... *P. acrostichi* Hyde



Figs 1–8. – Interference contrast micrographs of *Phomatospora nypae*. – 1, 2 and 7. Ascospores. Note the moustache-like polar appendages. – 3. Apex of ascus with refractive ring. – 4, 5. Section of ascoma illustrating small clypeus. – 6, 8. Asci. – Bars: 1, 2 = 1 µm; 3, 4, 6 – 8 = 10 µm; 5 = 100 µm.

1. Ascospores with bipolar appendages, on other hosts 2
2. Ascospores 6. 5–9. 5 x 2–2. 4 µm, on *Nypa* palm ..... *P. nypae* Hyde
2. Ascospores 11. 5–16 x 5. 5–8 µm, on *Kandelia candel* (L.) Druce .... *P. kandeliae* Hyde

Other fungi from intertidal *Nypa fruticans* collected in Kuala Selangor, Malaysia on 22 October 1991

Astrosphaeriella striatispora (Hyde) Hyde, on rachides, K. D. Hyde 853, BRIP 19879.

Carinispora nypae Hyde, on rachides, K. D. Hyde 860, BRIP 19887.

Fasciatispora nypae Hyde, on rachides, K. D. Hyde 859, BRIP 19883.

Helicascus nypae Hyde, on rachides, K. D. Hyde 842, BRIP 19889.

Lignincola longirostris (Cribb & Cribb) Kohlm., on rachides, K. D. Hyde 854, BRIP 19881.

Linocarpon appendiculatum Hyde, on rachides, K. D. Hyde 852, BRIP 19884.

Linocarpon nypae (Henn.) Hyde, on rachides, K. D. Hyde 855, BRIP 19896.

Neolinocarpum globosicarpon Hyde, on rachides, K. D. Hyde 841, BRIP 19889.

Oxydothis nypae Hyde & Nakagiri, on rachides, K. D. Hyde 851, BRIP 19880.

The nine fungi listed above are new records of fungi on *Nypa fruticans* in Malaysia (Jones & Kuthubutheen, 1989). It is noteworthy that *Astrosphaeriella*, *Linocarpon* and *Oxydothis*, which are typically associated with terrestrial palm petioles in the tropics, have marine species found on decaying intertidal *Nypa* palm (e. g. *Astrosphaeriella striatispora*, *Linocarpon appendiculatum*, *Oxydothis nypae*). *Lignincola* Höhnk and *Helicascus* Kohlm. are genera usually found on intertidal driftwood or mangrove wood in the tropics and in this study are found associated with intertidal *Nypa* palm. Amongst these, *Helicascus* has one species which is unique to *Nypa* palm. *Astrosphaeriella striatispora*, *Helicascus nypae*, *Linocarpon appendiculatum* and *Oxydothis nypae* were extremely common, each being present on more than 50% of the samples examined.

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