

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

Hyde, K. D. (1993). Fungi from palms. V. *Phomatospora nypae* sp. nov. and notes on marine fungi from *Nypa fruticans* in Malaysia. – *Sydowia* 45(2): 199–203.

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. *Lino-carpon*, *Oxydothis*) and obligate marine species (e. g. *Helicascus*, *Lignicola*), 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.

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 \times 4.8–6.5 μm , cylindrici, unitunicati, pedunculati, apparato apicali praediti. Ascospores 6.5–9.5 \times 2–2.4 μm , unicellulares, ellipsoideae, hyalinae, uniseriatae, striatae, appendiculatae.

E t y m o l o g y . – from *Nypa*, the host.

A s c o m a t a 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). – **P e r i d i u m** comprising several layers of brown-walled elongate cells. – **P a r a p h y s e s** hypha-like, filamentous, septate, tapering distally, apically free, hyaline, 8 μm at the base, 2 μm distally. – **A s c i** 90–140 \times 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). – **A s c o s p o r e s** 6.5–9.5 \times 2–2.4 μm , unicellular, ellipsoidal, hyaline, uniseriate, covered with faint striations and provided at each end with mucilaginous appendages (Figs. 1, 2, 7).

H o l o t y p u s . – Malaysia: Kuala Selangor, dead intertidal leaves of *Nypa fruticans*, Oct. 1991, K. D. Hyde 1628 (BRIP 20735).

H a b i t a t . – Saprobic on intertidal *Nypa* leaf blades.

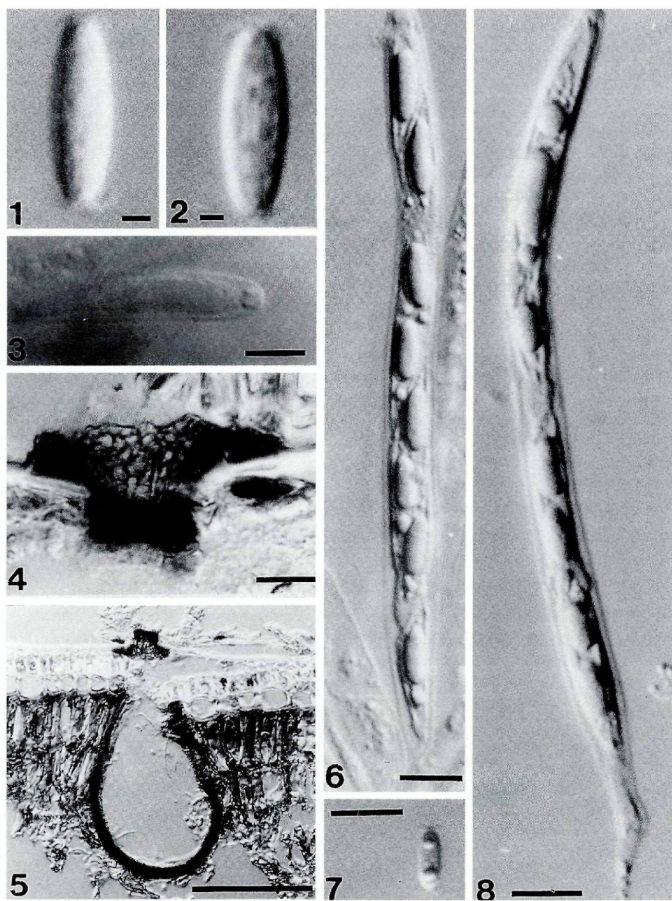
K n o w n d i s t r i b u t i o n . – Malaysia.

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 \times 5.5–8 μm , vs 6.5–9.5 \times 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.
- Neolinocarpon 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.

Acknowledgments

I should like to thank Professors A. Nawawi and A. Kuthubutheen for invitations to Malaysia to work on palm fungi and the Australian Quarantine Inspection Service, the Northern Australian Quarantine Strategy and Queensland Department of Primary Industries for use of laboratory facilities. Ceri Wait is thanked for photographic assistance and Dr. L. L. P. Vrijmoed for her comments on the manuscript.

References

- Hyde, K. D. (1988). *Phomatospora acrostichi* sp. nov., a marine fungus on pinnae of *Acrostichum speciosum*. – Trans. Brit. mycol. Soc. 90: 135–138.
- (1989). The genus *Linocarpon* from the mangrove palm *Nypa fruticans*. – Trans. mycol. Soc. Japan 29: 339 – 350.
- (1990). A comparison of the intertidal mycota of five mangrove tree species. – Asian Marine Biol. 7: 93 – 107.
- (1991). *Helicascus kanaloanus*, *Helicascus nypae* sp. nov. and *Salsuginea ramicola* gen. et sp. nov. from intertidal mangrove wood. – Botanica Marina 34: 311 – 318.
- (1992a). Fungi from decaying intertidal fronds of *Nypa fruticans*, including three new genera and four new species. – Bot. J. Linn. Soc. 110: 95–110.
- (1992b). Intertidal fungi from *Kandelia candel* including *Phomatospora kandeliae* sp. nov. – Trans. mycol. Soc. Japan 34: (33: 313–316).
- & Jones, E. B. G. (1988). Marine mangrove fungi. – Marine Ecology (Berlin) 9: 15–33.
- & Nakagiri, A. (1989). A new species of *Oxydothis* from the mangrove palm *Nypa fruticans* Thunb. – Trans. mycol. Soc. Japan 30: 69 – 75.
- & Sutton, B. C. (1992). *Nypaella frondicola* gen. et sp. nov., *Plectophomella nypae* sp. nov. and *Pleurophomopsis nypae* sp. nov. (Coelomycetes) from intertidal fronds of *Nypa fruticans*. – Mycol. Res. 96: 210–214.
- Kohlmeyer, J. & Volkmann-Kohlmeyer, B. (1991). Illustrated key to filamentous higher marine fungi. – Botanica Marina 34: 1–61.
- Jones, E. B. G. & Kuthubutheen, A. (1989). Malaysian Mangrove Fungi. – Sydowia 41: 160–169.

(Manuscript accepted 12th May 1993)

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 1993

Band/Volume: [45](#)

Autor(en)/Author(s): Hyde Kevin D.

Artikel/Article: [Fungi from Palms. V. Phomatospora nypae n.spec. and notes on marine fungi from Nypa fruticans in Malaysia. 199-203](#)