

# Supplementary Material

Algae 2017, 32(1): 29-39

<https://doi.org/10.4490/algae.2017.32.2.25>

Open Access



**Supplementary Table S1.** Detailed overview of hosts tested (x) for specificity with *Pythium porphyrae*

Species	Code	Conchocelis stage	Gametophytic thallus	Location	Collection date	Infection
' <i>Bangia</i> ' 1 sp. BFK Sutherland et al. 2011		x		Frank Kitts Park, Wellington, North Island	May 10, 2006	-
' <i>Bangia</i> ' 1 sp. BMW Sutherland et al. 2011	LB_04		x	Lyall Bay, Wellington, North Island	Aug 24, 2016	-
' <i>Bangia</i> ' 2 sp. BGA Sutherland et al. 2011			x	?	Oct 4, 2016	-
' <i>Bangia</i> ' 2 sp. BGA Sutherland et al. 2011		x		Hector, West Coast, South Island	May 30, 2001	-
<i>Bostrychia arbuscula</i> W. H. Harvey			x	Moa Point, Wellington, North Island	Aug 24, 2016	-
<i>Champia novae-zealandiae</i> (J. D. Hooker & Harvey) Harvey			x	Evans Bay, Wellington, North Island	Aug 24, 2016	-
<i>Clymene</i> sp. OTA Sutherland et al. 2011		x		Cabbage Tree Creek, Brighton, Otago, South Island	Apr 16, 2002	-
<i>Porphyra</i> sp. GRB145 Sutherland et al. 2011	LB_02		x	Lyall Bay, Wellington, North Island	Jul 11, 2016	+
<i>Porphyra</i> sp. GRB145 Sutherland et al. 2011		x		Te Wharenaonao Point, East Cape, North Island	Jan 31, 2001	-
<i>Porphyra</i> sp. LDG030 Sutherland et al. 2011	MP_02		x	Moa Point, Wellington, North Island	Aug 24, 2016	+
<i>Porphyra</i> sp. LDG030 Sutherland et al. 2011		x		Puheke Beach, Doubtless Bay, North Island	Nov 16, 1996	-
<i>Pyropia cinnamomea</i> (W. A. Nelson) W. A. Nelson	MP_03		x	Moa Point, Wellington, North Island	Aug 1, 2016	+
<i>Pyropia cinnamomea</i> (W. A. Nelson) W. A. Nelson		x		Lyall Bay, Wellington, North Island	Jun 11, 1997	-
<i>Pyropia columbina</i> (Montagne) W. A. Nelson		x		Antipodes Islands	Nov 25, 1995	-
<i>Pyropia plicata</i> W. A. Nelson	MP_01		x	Moa Point, Wellington, North Island	Jun-Oct, 2016	+
<i>Pyropia plicata</i> W. A. Nelson		x		Maukatia (Maori Bay), Auckland, North Island	Nov 23, 1996	-
<i>Pyropia rakiura</i> (W. A. Nelson) W. A. Nelson		x		Seal Colony, Kaikoura coast, South Island	Aug 31, 1996	-
<i>Pyropia suborbiculata</i> (Kjellm.) J. E. Sutherland, H. H. Choi, M. S. Hwang & W. A. Nelson	LB_03		x	Lyall Bay, Wellington, North Island	Sep 19, 2016	+
<i>Pyropia suborbiculata</i> (Kjellm.) J. E. Sutherland, H. H. Choi, M. S. Hwang & W. A. Nelson		x		Frank Kitts Park, Wellington, North Island	Jun 27, 1997	-
<i>Pyropia virididentata</i> (W. A. Nelson) W. A. Nelson	LB_01		x	Lyall Bay, Wellington, North Island	Jul 11, 2016	+
<i>Pyropia virididentata</i> (W. A. Nelson) W. A. Nelson		x		Lyall Bay, Wellington, North Island	Jun 11, 1997	-
<i>Ulva</i> sp. L.			x	Moa Point, Wellington, North Island	Jul 11, 2016	+

All conchocelis-stages were identified and maintain in culture by Wendy Nelson (NIWA).

+, infected cells seen in previously uninfected tissue; -, no infected cells seen.

**Supplementary Table S2.** *Pythium* samples used for ITS and COI trees from Genbank, with accession numbers

Species	Isolate	COI	ITS
<i>P. adhaerens</i>	CBS 520.74	HQ708462	HQ643415
<i>P. aphanidermatum</i>	CBS 287.79	HQ708486	HQ643439
<i>P. aphanidermatum</i>	Lev 1800	HQ708489	HQ643442
<i>P. aphanidermatum</i>	Lev 2150	HQ708488	HQ643441
<i>P. aphanidermatum</i>	Lev 3014	HQ708487	HQ643440
<i>P. aphanidermatum</i>	CBS 118.80	HQ708485	HQ643438
<i>P. chondricola</i>	CBS 206.85	HQ708543	HQ643497
<i>P. chondricola</i>	CBS 207.85	HQ708542	HQ643496
<i>P. chondricola</i>	CBS 312.93	HQ708545	HQ643499
<i>P. chondricola</i>	CBS 203.85	HQ708544	HQ643498
<i>P. deliense</i>	CBS 114.84	HQ708566	HQ643520
<i>P. deliense</i>	Lev 2095	HQ708567	HQ643521
<i>P. deliense</i>	CBS 314.33	HQ708568	HQ643522
<i>P. deliense</i>	CBS 114.84	HQ708566	HQ643520
<i>P. deliense</i>	Lev 2095	HQ708567	HQ643521
<i>P. deliense</i>	CBS 314.33	HQ708568	HQ643522
<i>P. insidiosum</i>	CBS 577.85	HQ708613	HQ643569
<i>P. insidiosum</i>	CBS 578.85	HQ708612	HQ643568
<i>P. insidiosum</i>	CBS 580.85	HQ708611	HQ643567
<i>P. insidiosum</i>	CBS 574.85	HQ708614	HQ643570
<i>P. monospermum</i>	BR 1031	HQ708743	HQ643699
<i>P. monospermum</i>	BR 1032	HQ708742	HQ643698
<i>P. monospermum</i>	CBS 158.73	HQ708741	HQ643697
<i>P. porphyrae</i>	CBS 369.79	HQ708794	HQ643753

ITS, internal transcribed spacer of the rDNA cistron; COI, cytochrome oxidase subunit 1.

**Supplementary Table S3.** *Pythium porphyrae* collections from Wellington, New Zealand placed into culture, plus host, and collection date

Sample	Location	Host in field	Collection date
<i>P. porphyrae</i>	Moa Point	<i>Pyropia plicata</i>	Jun 2, 2016
<i>P. porphyrae</i>	Moa Point	<i>Pyropia plicata</i>	Jun 9, 2016
<i>P. porphyrae</i>	Moa Point	<i>Pyropia plicata</i>	Jul 5, 2016



**Supplementary Fig. S1.** Maximum-likelihood phylogeny of all Bangiales from Sutherland et al. (2011) based on *rbcL* gene sequences. Samples used in infection with *Pythium porphyrae* experiments identified (marked with red boxes). Outgroups removed for clarity.

## REFERENCE

Sutherland, J. E., Lindstrom, S. C., Nelson, W. A., Brodie, J., Lynch, M. D. J., Hwang, M. S., Choi, H. -G., Miyata, M., Kikuchi, N., Oliveira, M. C., Farr, T., Neefus, C., Mols-Mortensen, A., Milstein, D. & Müller, K. M. 2011. A new look at an ancient order: generic revision of the Bangiales (Rhodophyta). *J. Phycol.* 47:1131-1151.