

# NEW ZEALAND FUNGI

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S. J. HUGHES and W. B. KENDRICK

Plant Research Institute, Central Experimental Farm, Ottawa, Canada

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*Reprinted from the NEW ZEALAND JOURNAL OF BOTANY, Vol. 3, No. 2,  
June 1965*

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(Received for publication 24 February 1965)

## SUMMARY

A new genus of Hyphomycetes is described for two new species with dematiaceous phialophores and hyaline, non-setulate, non-septate, curved phialospores produced from sessile, verticillate phialides which are adpressed to the simple or branched phialophores.

There are a number of Hyphomycetes which produce curved, hyaline phialospores on darkly pigmented phialophores, for example, species of *Menispora* Pers. (redescribed by Hughes and Kendrick, 1963), *Menisporopsis* Hughes (1952), and *Menisporella* Agnihotrudu (1962). In New Zealand one species of each of the first two genera and several species of the third have been found; these will be the subjects of other papers in this series.

The two species described below also produce curved hyaline phialospores, but because of the very distinctive arrangement of their phialides in multiple adjacent verticils they are considered best assigned to a new genus, *Zanclospora* (Etym. *zanclon* Gr., a sickle). The two species may be readily distinguished by their phialospores alone.

**Zanclospora gen. nov.**

Phialophora simplicia vel ramosa, brunnea, septata, apicibus sterilibus, brevis vel longis praedita.

Phialides in singulo vel perpaucis verticillis compactis contiguis productis, ad phialophoram adpressis, sessiles, rectae, anguste ovoideae vel ovoideae, pallide brunneae vel subhyalinae, strophio sive inconspicuo sive infundibuliforme praedita.

Phialospora hyalina, anguste obovoidea et curvata, vel falcata, non-setulata, non-septata, in massam mucosam producta.

Typus: *Zanclospora novae-zelandiae* sp. nov.

\*Contribution No. 446 from the Plant Research Institute, Research Branch, Canada Department of Agriculture, Ottawa, Ontario.

*Zanclospora novae-zelandiae* sp. nov.

(Fig. 1, 2, 4-7)

Coloniae compactae vel effusae, brunneae.

Mycelium immersum, ex hyphis septatis, ramosis, pallide brunneis  $2.0-5.4 \mu$  lat. compositum.Phialophora simplicia vel ramosa, recta vel flexuosa, brunnea vel atrobrunnea, supra pallidiora, septata,  $155-550(-750) \mu$  long., supra basim  $5.0-6.5 \mu$  lat., apicem versus  $1.6-2.4 \mu$  lat.; apice sterili elongato, verrucis planis ad  $1.6 \mu$  lat.,  $0.4 \mu$  alt., ornato.Phialides 3-7 in verticillo ex cellulis (1-)2-3(-4) contiguas phialophorarum oriundae, sessiles, rectae, anguste ovoideae vel ovoideae, plerumque in phialophoro adpressae, pallide brunneae vel subhyalinae,  $9.4-13.5(-17.5) \mu$  long., basim versus  $3.5-4.0 \mu$  lat., apicem versus ad  $1.0-1.6 \mu$  attenuatae, strophio inconspicuo praeditae.Phialospora hyalina, fortiter vel paullum curvata, falcata,  $18-35 \times 1.6-2.6 \mu$ , non-setulata, non-septata, in massam mucosam hyalinam vel stramineam producta.Habitat: in ligno et cortice *Libocedri bidwillii*, *Nothofagi fuscae*, *N. truncatae*, *Weinmannia racemosae* nec non in ligno putrido plantae ignotae.Typus: in ligno et cortice *Weinmanniae racemosae*, New Zealand, Westland, Lake Ianthe, Pukekura, 8.IV.1963, PDD 20737 (DAOM 96020a).

The visible colonies are widely effused or compact and velutinous, brownish, composed of mostly branched phialophores bearing hyaline to pale straw-coloured globules of phialospores.

The mycelium is immersed and composed of pale brown to dark brown, septate, branched hyphae  $2.0-5.4 \mu$  wide.

The phialophores are simple or branched, arise singly or in groups of up to 5 from swollen cells of the repent hyphae, and are crowded or form a thin turf  $155-550(-750) \mu$  high. The main stalk is straight or bent, brown to dark brown, paler toward the distal end, septate, markedly thick-walled towards the base and thinner-walled above,  $5.0-6.5 \mu$  wide just above the basal cell which is up to  $14 \mu$  wide, tapering gradually to  $1.6-2.4 \mu$  toward the subacute apex. The main stalk bears 1 to 3, straight or flexuous, unilateral or alternate branches arising almost at right angles to the main stalk then curving upward. Secondary and tertiary branches may also develop. The distal sterile ends of the main stalk and branches have the walls ornamented with numerous disc-like excrescences up to  $1.6 \mu$  wide and  $0.4 \mu$  high.

The phialides, which occur in whorls of 3 to 7, arise just below the distal septa of a series of (1-)2-3(-4) cells of the phialophore; such fertile zones develop toward the bases of the main stalk and its branches. The cells of the phialophores vary considerably in length, those bearing the phialides being as short as  $5.0 \mu$ , the others being progressively longer towards the base and apex of the main stalk or its branches. The phialides are sessile, straight, narrowly ovoid to ovoid, generally tightly adpressed to the main stalk or branches that bear them, pale brown to subhyaline,  $9.4-13.5(-17.5) \mu$  long,  $3.5-4 \mu$  wide below, and  $1.0-1.6 \mu$  wide at the tapered, open distal end, which lacks a well defined collarete.

The phialospores are hyaline, strongly or gently curved, falcate,  $18-35 \mu$  long,  $1.6-2.6 \mu$  wide, non-setulate, non-septate, produced in slime and finally enveloping the phialides as a hyaline or pale straw-coloured mass.

COLLECTIONS: On dead wood and bark of (1) *Libocedrus bidwillii*, Wellington Province, Tongariro National Park, Ohakune Mt. Road (3,000 ft), 7.III.1963, DAOM

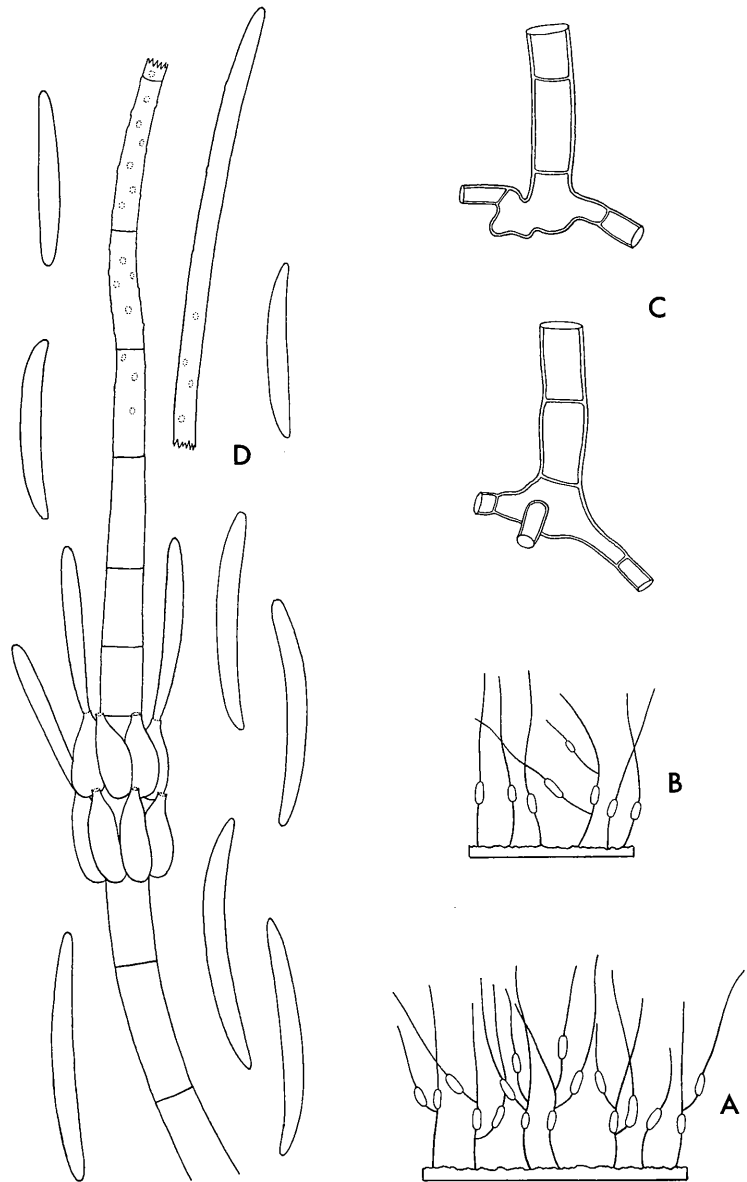


FIG. 1.—*Zanclospora novae-zelandiae*. A, B, semi-diagrammatic illustrations of simple and branched phialophores bearing globules of phialospores,  $\times 100$ ; C, bases of phialophores,  $\times 1,000$ ; D, phialophore with phialides and phialospores,  $\times 1,000$ . A, from DAOM 93903b; B, from DAOM 96012b; C, D, from DAOM 96420b.

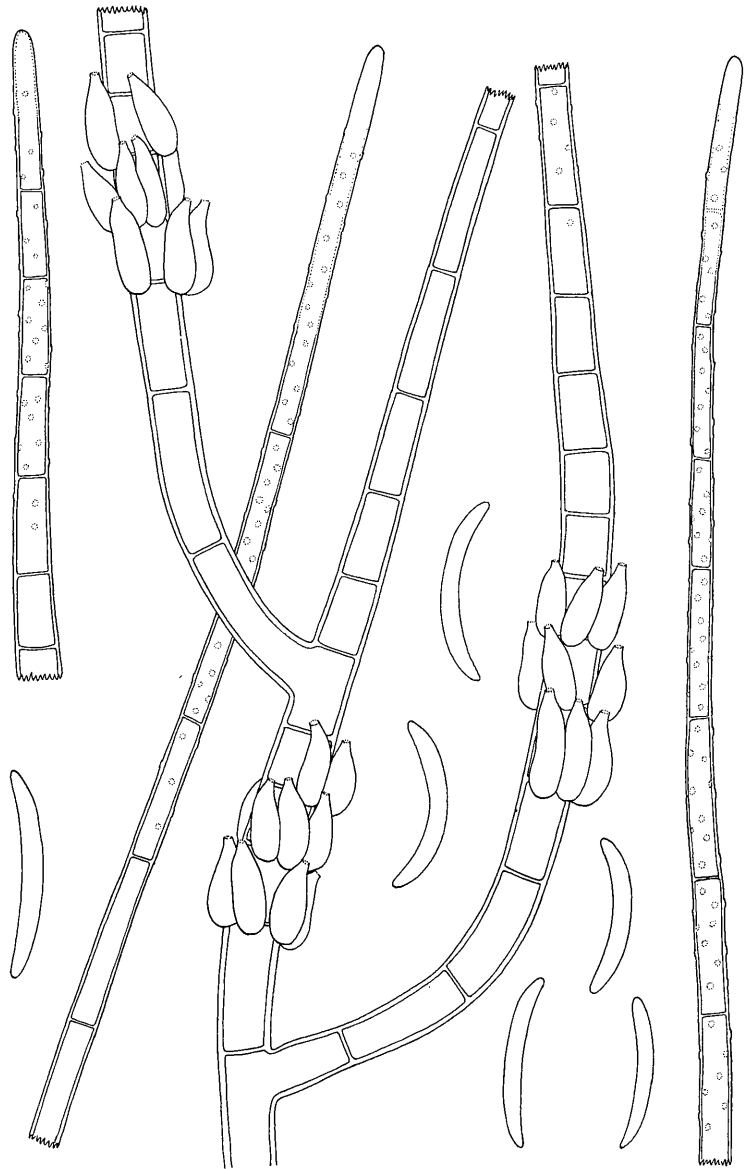


FIG. 2.—*Zanclospora novae-zelandiae*. Upper part of branched phialophore from DAOM 93803b;  $\times 1,000$ .

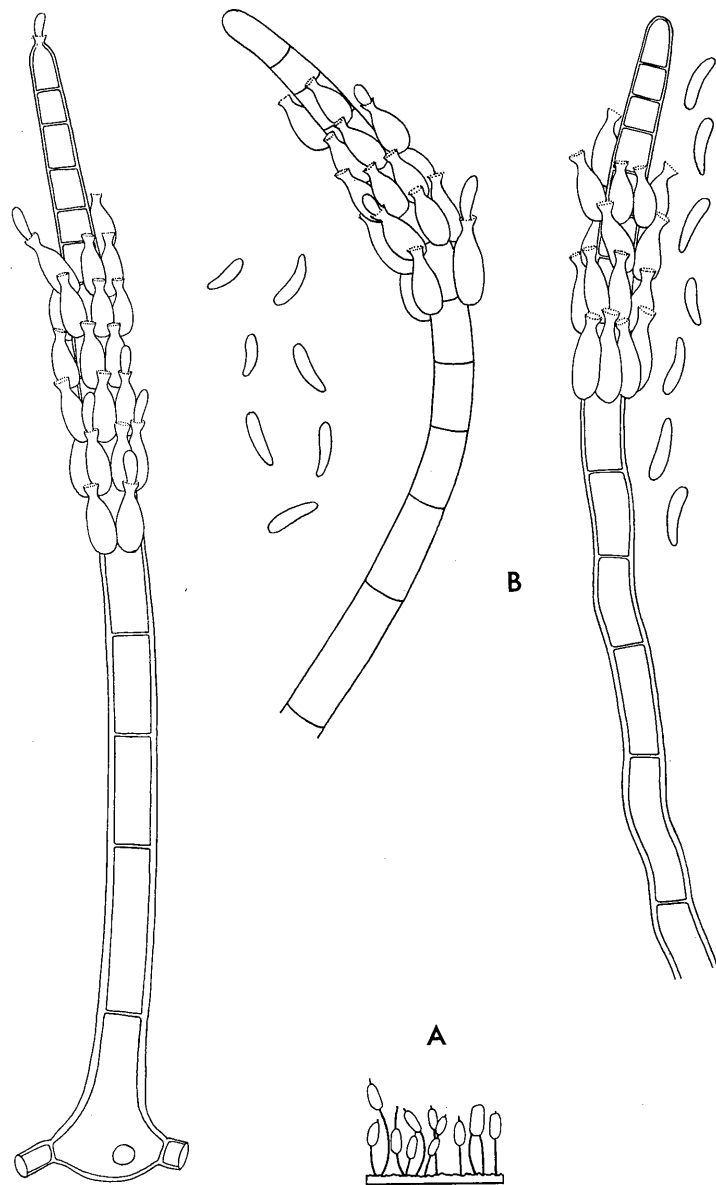


FIG. 3—*Zanclospora brevispora*. A, semi-diagrammatic illustration of simple phialophores bearing globules of phialospores,  $\times 100$ ; B, phialophores, phialides, and phialospores,  $\times 1,000$ ; from the type collection.

96012b; (2) *Nothofagus fusca*, Wellington Prov., Tongariro National Park, Ohakune Mt. Road (2,500 ft), 7.III.1963, DAOM 96420b; (3, 4) *Nothofagus truncata*, Auckland Prov., Orere, 20.II.1963, DAOM 96419, 24.IX.1963, DAOM 96424a; *Weinmannia racemosa*, Westland; (5) Lake Ianthe, Pukekura, 8.IV.1963, PDD 20737 (type) (DAOM 96020a), (6) Lower Poerua River, Hari Hari, 5.IV.1963, PDD 20759 (DAOM 96423); on rotten wood: (7) Auckland Prov., Mamaku State Forest, 22.III.1963, DAOM 93803b; (8) Westland, Lake Ianthe, Pukekura, 8.IV.1963, DAOM 96422.

*Zanclospora brevispora* sp. nov.

(Fig. 3, 8-11)

Coloniae compactae vel effusae, brunneae.

Mycelium immersum, ex hyphis septatis, ramosis, pallide brunneis vel brunneis 2.7-3.6  $\mu$  lat. compositum.

Phialophora simplicia, recta, interdum curvata, brunnea vel atrobrunnea, supra pallidiora, levia, septata, 100-175(-220)  $\mu$  long., supra basim 5.4-7.0  $\mu$  lat., apicem versus 4  $\mu$  lat., cellulis apicalibus 3-5 sterilibus.

Phialides ad 7 in verticillo ex cellulis 4-6(-8) contiguas phialophorarum oriundae, sessiles, rectae, anguste ovoideae vel ovoideae, plerumque in phialophoro adpressae, pallide brunneae vel subhyalinae, 6.4-9.4(-12)  $\times$  3.0-4.0  $\mu$ , strophio infundibuliforme hyalino vel subhyalino, 2.0-2.8  $\mu$  lat., 1.4-2.1  $\mu$  alt., praeditae.

Phialospora hyalina, leniter curvata, anguste obovoidea, ad basim attenuata, 5.4-8.0(-9.4)  $\times$  1.4-2.0  $\mu$ , non-setulata, non-septata, in massam mucosam stramineam vel alutaceam producta.

Habitat: in cortice *Nothofagi solandri* var. *cliffortioidis*.

Typus: in cortice *Nothofagi solandri* var. *cliffortioidis*, New Zealand, Wellington Province, Whakapapanui Track, Tongariro National Park, 5.III.1963, PDD 20647 (DAOM 96413b).

The visible colonies are widely effused or they may form brownish, compact fructifications up to 1 mm in diameter but larger by confluence; they are composed of simple phialophores bearing straw-coloured to alutaceous globules of phialospores.

The mycelium is immersed and composed of pale brown to dark brown, septate, branched hyphae 2.7-3.6  $\mu$  wide.

The phialophores are simple, arise singly from swollen cells of the repent hyphae, and are crowded or in a thin turf 100-175(-220)  $\mu$  high. They are generally straight, brown to dark brown, paler toward the distal end, septate, smooth-walled, 5.4-7.0  $\mu$  wide just above the basal cell which is up to 13  $\mu$  wide, tapering gradually to 4  $\mu$  toward the rounded apex. The cells of the phialophore are 14-18  $\mu$  long toward the base and progressively shorter toward the apex, where they are 3.6-5.0  $\mu$  long. The apical cell occasionally bears a collarette and functions as a phialide, but usually the apical 3 to 5 cells are sterile.

The phialides, which occur in whorls of up to 7, arise just below the distal septa of a series of 4-6(-8) cells of the phialophore below the generally sterile apex. They are sessile, straight, narrowly ovoid to ovoid, generally tightly adpressed to the phialophore, pale brown to subhyaline, 6.4-9.4(-12.0)  $\mu$  long, 3.0-4.0  $\mu$  wide, with an apical, hyaline to subhyaline, more or less funnel-shaped collarette 2.0-2.8  $\mu$  wide and 1.4-2.1  $\mu$  deep.

The phialospores are hyaline, curved, and narrowly obovoid, being blunt at the distal end and tapered at the other, 5.4-8.0(-9.4)  $\mu$  long, 1.4-2.0  $\mu$

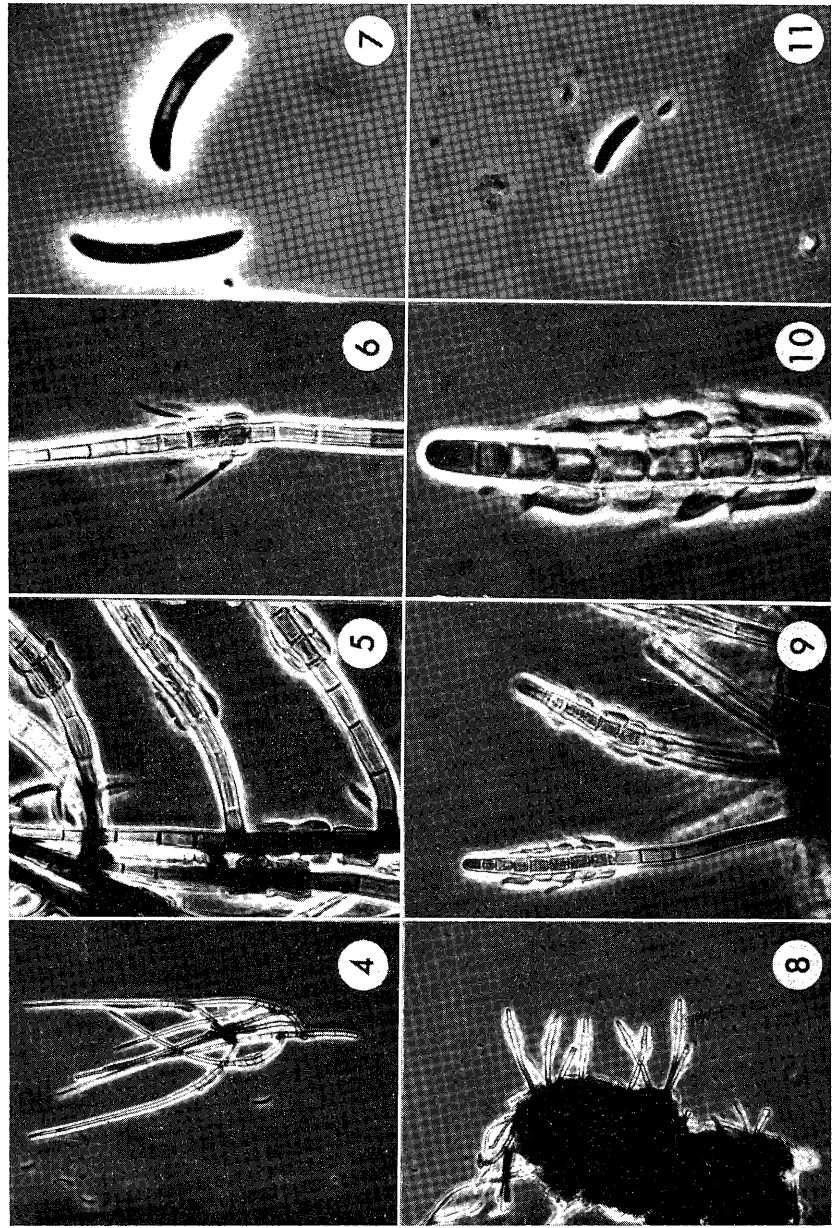


FIG. 4-7—*Zauclospora novae-zealandiae*. Phialophores, phialides, and phialospores from DAOM 93803b; 4,  $\times 100$ ; 5, 6,  $\times 400$ ; 7,  $\times 1,000$ .  
FIG. 8-11—*Zauclospora brevispora*. Phialophores, phialides, and phialospore from the type collection; 8,  $\times 100$ ; 9,  $\times 400$ ; 10, 11,  $\times 1,000$ .

wide, non-setulate, non-septate, produced in slime and finally enveloping the phialides as a straw-coloured to alutaceous mass.

COLLECTION: On bark of *Nothofagus solandri* var. *cliffortioides*, Wellington Province, Whakapapanui Track, Tongariro National Park, 5.III.1963, PDD 20647 (type) (DAOM 96413b).

#### ACKNOWLEDGMENT

We are obliged to Dr B. Boivin for correcting the Latin diagnoses.

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