Micronesica 30(1): 193–198, 1997

Note
Notes on *Printzina bossei* (de Wildeman) Thompson *et* Wujek (Trentepohliaceae, Chlorophyta) from Malaysia

AISHAH SALLEH AND POZI MILOW

Department of Botany
University of Malaya
50603 Kuala Lumpur
Malaysia

Introduction

In describing the genus *Printzina,* Thompson & Wujek (1992) also transferred into it most species of *Trentepohlia* Mart. which Hariot (1890) had placed under the subgenus *Heterothallus.* The genus is typified by *Printzina lagenifera* (Hildenbrand) Thompson *et* Wujek. Thompson & Wujek also erected a key to distinguish *Printzina* from *Trentepohlia* Mart., as follows:

(1) Sporangia globular to reniform. Sporangiate-laterals solitary, sessile on prostrate filaments on terminal or erect filements. Prostate system will developed; erect system scanty. Gametangia terminal or lateral. Plants of deep shade and high humidity; inconspicuous; epiphytic on leaves; usually green in colour ..... *Printzina*
(2) Sporangia ovoid. Sporangiate-laterals solitary or grouped, borne terminally or on an enlarged terminal head-cell of a branched sporangiophore. Gametangia terminal only. Prostrate system scantly or lacking; erect system profuse. Plants of more exposed habitats; in conspicuous masses; usually yellow to orange ..... *Trentepohlia*

Johnson (1969) recorded *Trentepohlia aurea* Mart. from a national park in Pahang. Ratnasabathy (1972) has recorded *T. jolithus* Witt. from Gunung Jerai. Tan (1976) recognised eight species of *Trentepohlia* Mart. from Ulu Gombak but did not identify them to the species level. Aishah & Pozi (1993) have recorded *Trentepohlia monilia* de Wildeman from the campus of the University of Malaya. Apart from these, there have been no other records *Trentepohlia* and no reports of *Printzina* in Malaysia.

The present report is based on specimens collected from various localities in Malaysia. They are compared to descriptions of *Printzina bossei* by Thompson and Wujek (1992) and its basionym *Trentepohlia bossei* de Wildeman by de Wildeman (1891, 1900) and Printz (1940). Specimens are now deposited in the Cryptogamic Herbarium, Department of Botany, the University of Malaya. The collection number of each specimen begins with PM (for Pozi Milow).

Description of Species

Filaments with smooth surface, prostrate and erect branching systems indistinct, not tapering towards tips, rarely capped at tips. Cells cylindrical or barrel-shaped, 6.3–27.3 μm in diameter. Sporangia pedicellate, or rarely lateral, more or less hemispherical, 14.7–35.7 μm in diameter. Stalk cells of pedicellate sporangia either single celled or two celled. Stalk more or less bottle-shaped or cylindrical, 6.3–31.5 μm wide, not more than 42.0 μm long. Laterally borne sporangia always attached to a cell adjacent to a barrel-shaped cell (Figs. 1, 2).

Specimens Examined

Sarawak, Bako National Park, 22 April 1992, forming reddish orange patches on dry rock, PM045; Melaka, Kampong Gadek, altitude 70 m, 4 July 1992, forming yellowish green to green patches on dry *Mangifera* sp., PM067; Kedah, Pulau Langkawi, 200 m altitude, 14 September 1992, forming brownish greenish mat on dry trunk of a shrub (PM105), greenish orange patches on dry tree trunk (PM106); Johor, Mersing, 70 m altitude, 10 November 1992, forming greenish orange tufts on dry bark of *Hevea brasiliensis,* PM123; Pahang, Pulau Tioman, 10 m altitude, 12 November 1992, forming reddish orange tufts on moist bark of *Guettarda* sp. PM128; Terengganu, Marang, Hutan Simpan Jambu Bongkok, 70 m altitude, 11 January 1993, forming dark greenish orange patches on dry trunk of *Bouea oppositifolia* (PM134), dark green tufts on *Shorea materialis* (PM136); Terengganu, Hutan Rekreasi Peladang Setiu, 100 m altitude, 11 January 1993, forming dark green patches on moist tree trunk, PM139; Kelantan, Machang, Hutan Lipur Bukit Bakar, 300 m altitude, 12 January 1993, forming greenish orange mat on moist tree roots, PM146; Sarawak, Lambir National Park, 300 m altitude, 14 April 1993, forming greenish patches on a dry trunk (PM200), forming greenish orange to dark green tufts on a dry tree trunk (PM202); Kuala Lumpur, University of Malaya, Rimba Ilmu, 70 m altitude, 18 May 1993, PM226I; Selangor, Ulu Gombak, 300 m altitude, 1 July 1993, forming greenish orange and reddish orange tufts on a dry tree bark, PM240; Cameron Highlands, 1000 m altitude, 5 July 1993, PM242ii.

Discussion

Laterally borne sporangia were seen in specimens PM067, PM123, PM136, PM200, PM221, PM240. We believe the latterally borne sporangia were originally terminal sporangia, but cell growth was initiated in the stalk cells thereby extending the filaments and leaving the sporangia in lateral positions. The stalks (single celled or two celled) retained their original shape. Therefore, it was possible to distinguish laterally borne sporangia (seen in specimens PM133 and 128) from the gametangia. Printz (1940) termed them all as zoosprongia and gametangia i.e., measured 16–34 μm in diameter. In specimen PM128, sporangia and gametangia were seen on the same plant. All the specimens identified as *P. bossei* (de Wild.)

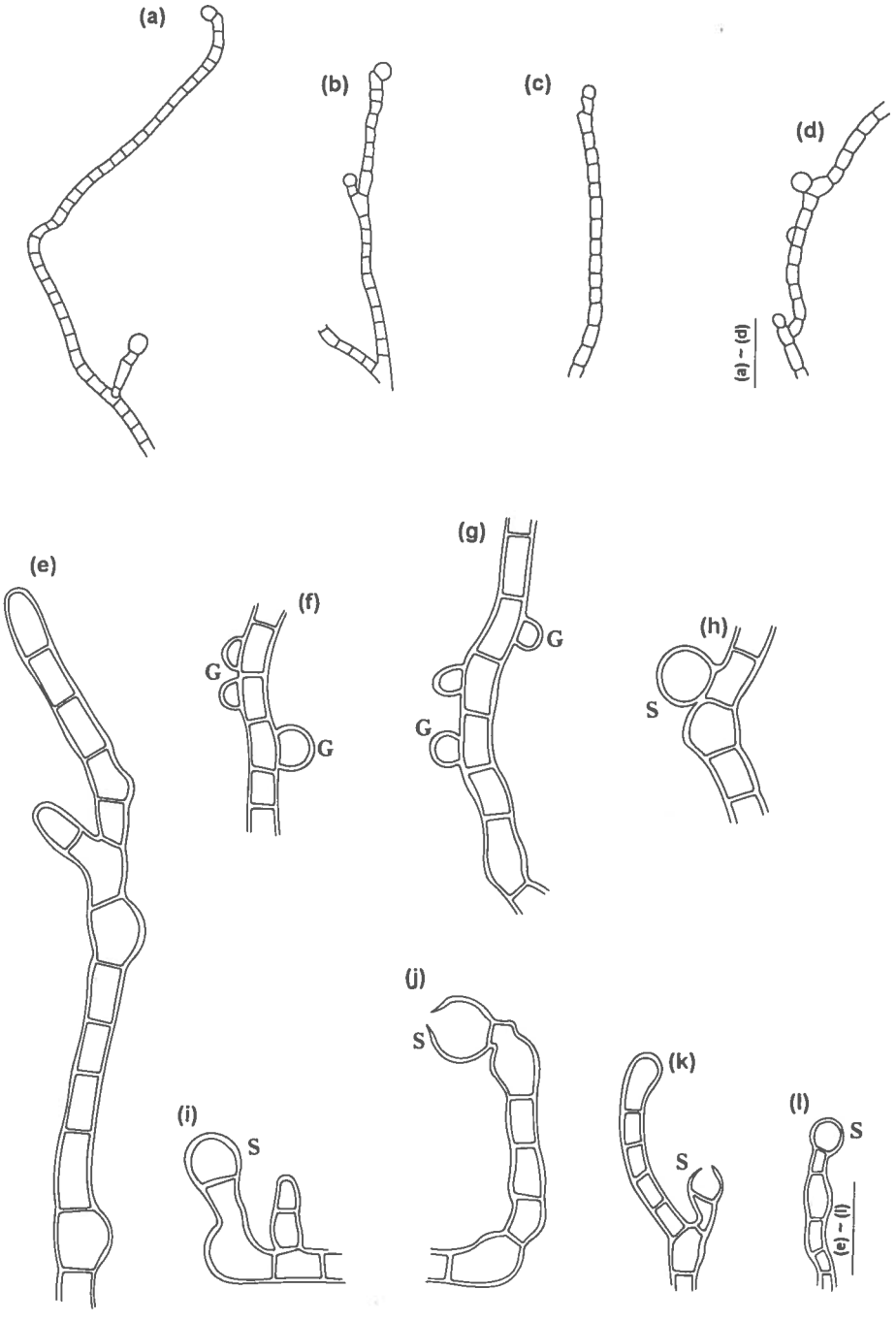

Figure 1. Filaments and vegetative and reproductive cells of some specimens identified as *Printzina bossei* (de Wild.) Thompson *et* Wujek. Gametangia are labelled G and sporangia (including the laterally borne) are labelled S. [Scales: 20 μm].

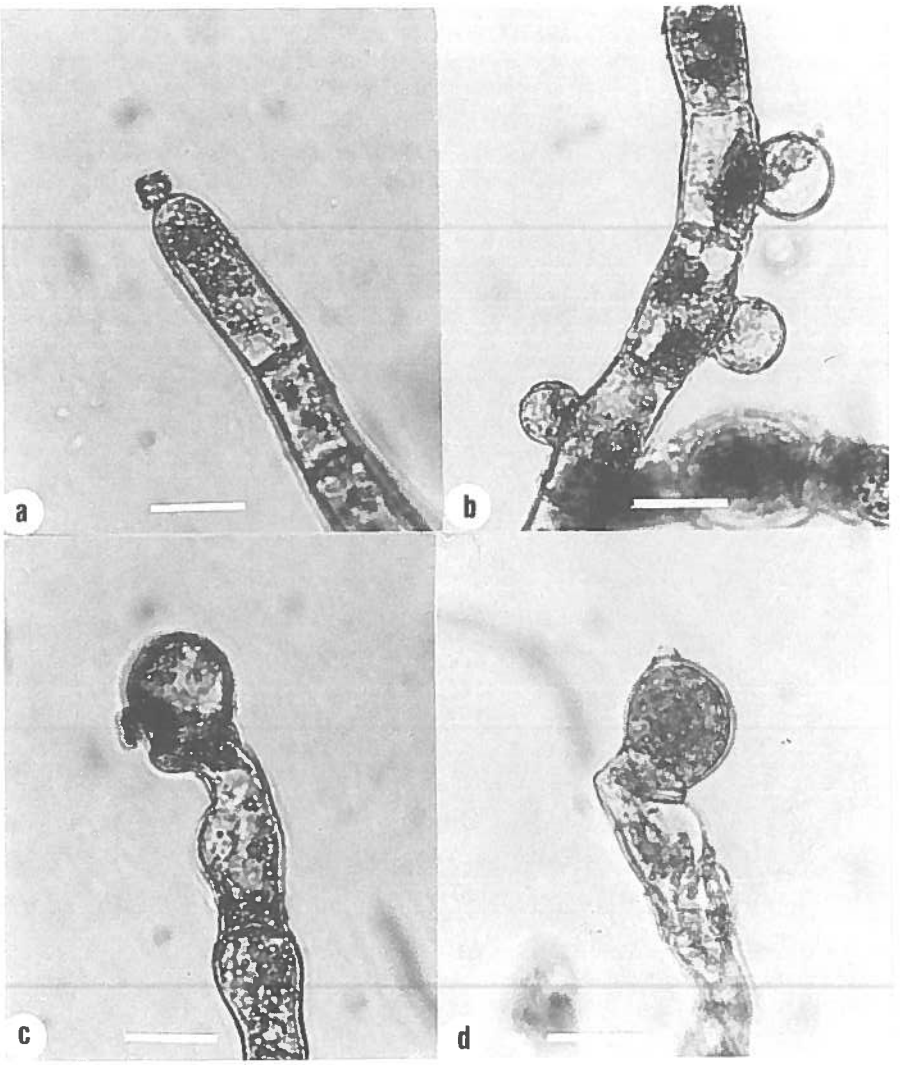

Figure 2. Morphology of filaments and vegetative cells at portions of some specimens identified as *Printzina bossei* (de Wild.) Thompson *et* Wujek. (a) filament with a cap at its tip; (b) gametangia. Sporangia are shown in the rest of the photographs. Laterally borne sporangia (arrowed) are shown in (e) and (f) (*facing page*). The occurrence together on the same plant of sporangia and gametangia are shown in (f), (g) and (h). [Scales: 20 μm].

Thompson *et* Wujek possessed mostly cylindrical cells feature is consistent with Wildeman's (1891, 1900) descriptions are 9–12 μm wide, 2–3 times longer than broad. According to Printz's (1940) description, the cells of the alga are 9–19 μm and 2–3 times longer.

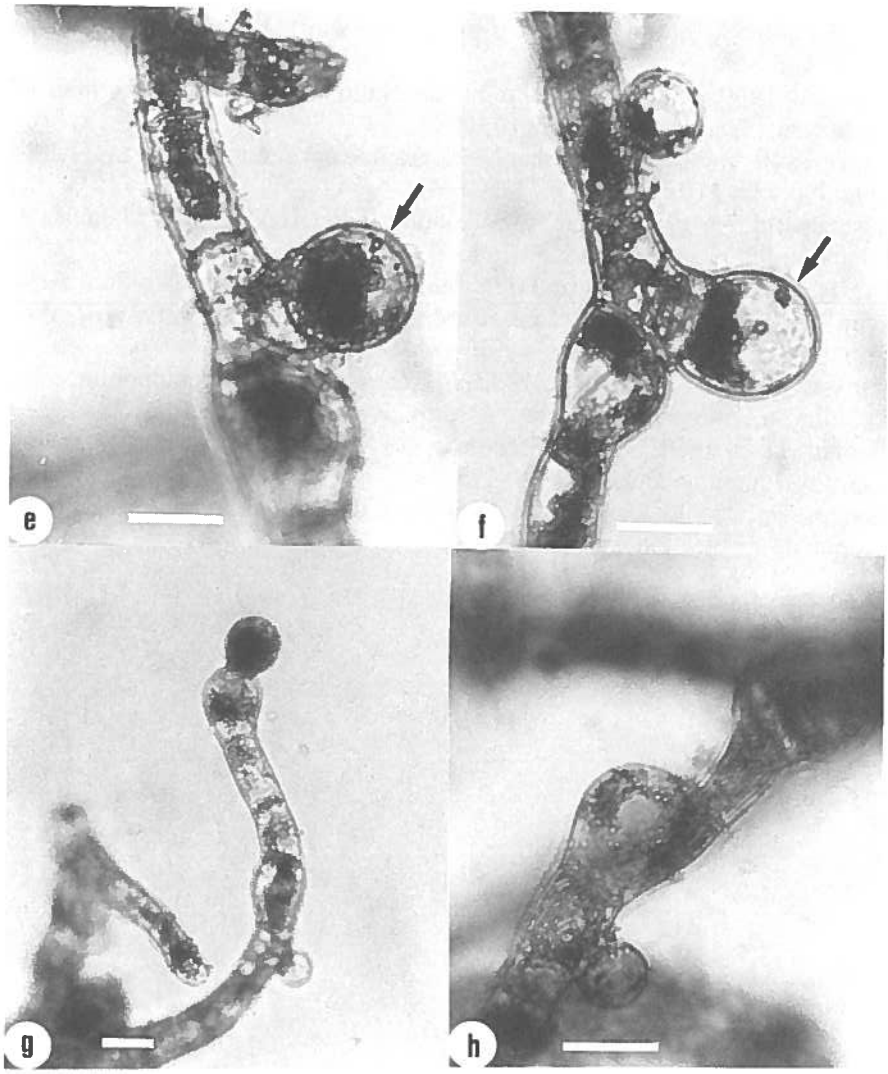

Figure 2. (*continued*)

Acknowledgements

We would like to thank Zainal Mustafa for his help in drawing the figures. This research was supported by Malaysian Research and Development Grant R & D 1-07-04-037.

References

Aishah, S. & M. Pozi. 1993. Notes on *Trentepohlia monilia* de Wildeman (Chlorophyta, Ulotrichales) from the campus of University of Malaya, Kuala Lumpur, Malaysia. Natural History Bulletin of Siam Society 41: 63–65.

Hariot, P. 1890. Notes Sur le Genre *Trentepohlia* Mart. Journal de Botanique 24: 393–405.

Johnson, A. 1969. A forest quadrat in the National Park: the flora than trees. Malaysian Nature Journal 22: 12–158.

Printz, H. 1940. Vorarbeiten zu einer Monographie der Trentepohliceen. Nytt Mag. Nat. 80:137–210.

Ratnasabapathy, M. 1972. Algae from Gunong Jerai (Kedah Peak), Malaysia. Garden's Bulletin, Singapore XXVI: 95–110.

Tan, D. H. 1976. A taxonomic and distributional study of the Epiphyllous Algae at the Ulu Gombak Field Studies Centre. BSc Thesis, University of Malaya, pp. 34–35.

Thompson, R. H. & D. E. Wujek. 1992. *Printzina gen. nov.* (Trentepohliaceae), including a description of a new species. Journal of Phycology 28: 232–237.

Wildeman, D. E. 1891. Les *Trentepohlia* des Indes Neerlandaises. Annales du Jardin Botanique Buitenzorg 9: 127–142.

Wildeman, D. E. 1900. Les Algues de la Flore de Buitenzorg (Essai d'une Algoloque de Java). Leide, pp 64–75.

Received 25 Nov. 1995, revised 6 Nov. 1996.