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THE JAVANESE SPECIES OF TETRAPLOA

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ABSTRACT

Two specieg of the hyphomycete genus *Tetraploa* are reported from Java, namely the widespread *Tetraploa aristata* and the newly described *Tetraploa javanica.* Illustrated descriptions are presented for both species.

ABSTRAK

Dua jenis jamur *Tetraploa* dilaporkan dari Jawa, yaitu *Tetraploa aristata* dan jenis baru *Tetraploa javanica.* Pertelaan bergambar untuk masing-masing jenis disajikan.

In his revision of *Tetraploa* Berk. & Br., Ellis (1949) considered that five species could be recognized in this hyphomycete genus. Only two of these are widely distributed, namely the cosmopolitan *Tetraploa aristata* Berk. & Br. and the less common *Tetraploa ellisii* Cooke (Ellis 1971). As might be expected the former species occurs also in Java, whereas the fatter so far is known only from USA, Argentina and Rhodesia but more recently Yokoyama & Tubaki (1973) reported its occurence in Papua New Guinea. A species which appears to be undescribed has been collected in Bogor Botanic Gardens. Since under a casual examination this new species can be easily mistaken for *Tetraploa aristata,* for comparative purposes we take this opportunity to give a detailed account of the two species as components of the mycoflora of Java.

TETRAPLOA Berk. & Br.

Tetraploa Berk. & Br. *in* Ann. Mag. nat. Hist. II, 5 : 459.1850; Sacc., *Syll, Fung.* 4 : 516. 1886; Clem. & Shear, *Gen. Fung.* : 217. 1931; Barnet, *III Gen. Imperf. Fung.* : **130. 1960; Ellis, *Demat. Hyphomyc.* : 51. 1971; Carmichael *et al., Gen. Hyphomyc. :*** 184. 1980.

Type species : *Tetraploa aristata* Berk. & Br.

KEY TO JAVANESE TETRAPLOA

1. a. Conidia obovoid in outline, mostly with 4 cells in each column, setiform appendages divaricate, more or less of equal length ..... *Tetraploa aristata*
   b. Conidia ovoid in outline, mostly with 6 cells in each column, setiform appendages almost fascicled, strongly unequal in length, two long and two very short ..... *Tetraploa javanica*

TETRAPLOA ARISTATA Berk. & Br. — Fig. 1.

Tetraploa aristata Berk. & Br. in Ann. Mag. nat. Hist. II, 5 : 459. 1850; Ellis *in* Trans. Brit, mycol. Soc. 32 : 249. 1949; *Demat Hyphomyc. :* 52. 1971; Yokoyama & Tubaki *in* Bull. Nat. Sc. Mus. 16 : 658. pi. 5 D - E. 1973.

Colonies effused, greyish brown. Mycelium superficial, consisted of pale brown, smooth walled, flexuous, septate, much branched and anastomosing hyphae 1.8 — 3.5 µm diam. which form a compact network. Conidiophores micronematous, hardly distinguishable from the mycelium, with integrated, short cylindrical, intercalary, determinate and monoblastic eonidiogenous cells. Conidia solitary, obovoid to oblong obovoid in outline, 25 — 40 x 14 — 28µm, brown, wall distincly verrucose, consist of 4 columns or rows of 9 — 16 µm diam. cells and mostly with 4 cells to each row which tends to diverge from one another apically and terminated by an almost straight, septate, setiform appendage which measures 10 — 90 µm long, up to 8µm diam. at the base and taper into its 2 — 3.5 µm paler apex; these four appendages therefore divaricate and generally more or less of equal length.

SPECIMENS EXAMINED : on culm of a decaying tall grass *(? Saccharum),* Bogor Botanic Gardens, Java, December 1930, *KB. Boedijn* 865 (BO).

Tetraploa javanica *spec. nov.* — Fig. 2

Coloniae effusae, velutinosae, atrobrunneae. Mycelium superficiale. Conidiopbora micronematica, ex hyphis septatis, irregulariter ramosis, anastomosis, flexuosis, laevis, 1.6 — 4µm diam. composita. Cellulae conidiogenae integratae, monoblasticae. Conidia ovoidea, brunnea, laevia, 30 — 42 (— 58) x 17 — 28µm, plerumque ex 4- seriebus cellularibus (unaquaeque series 4 — 7 cellulatis 8 — 18µm diam.) composita, apice in appendicum longum (— 215µm) et appendicum brevem (— 25µm) transmutata.

KaD. in culmis emortois Bambusae glaucescentis, Hortus Botanicus Bogor, Java, Januarii 1988, *Rifai 7920* typus est (BO).

Colonies effuied , velvety, dark brown to blackish brown. Mycelium superficial, composed of pale brown to brown, smooth walled, flexuous, septate, irregularly branched and anastomosing 1.6 — 4µm diam. hyphae which form a compact network on the surface of the substrate. Conidiophores micronematous, hardly distinguishable from the mycelium, consisted of integrated, determinate, intercalary, short cylindrical, monoblastic or

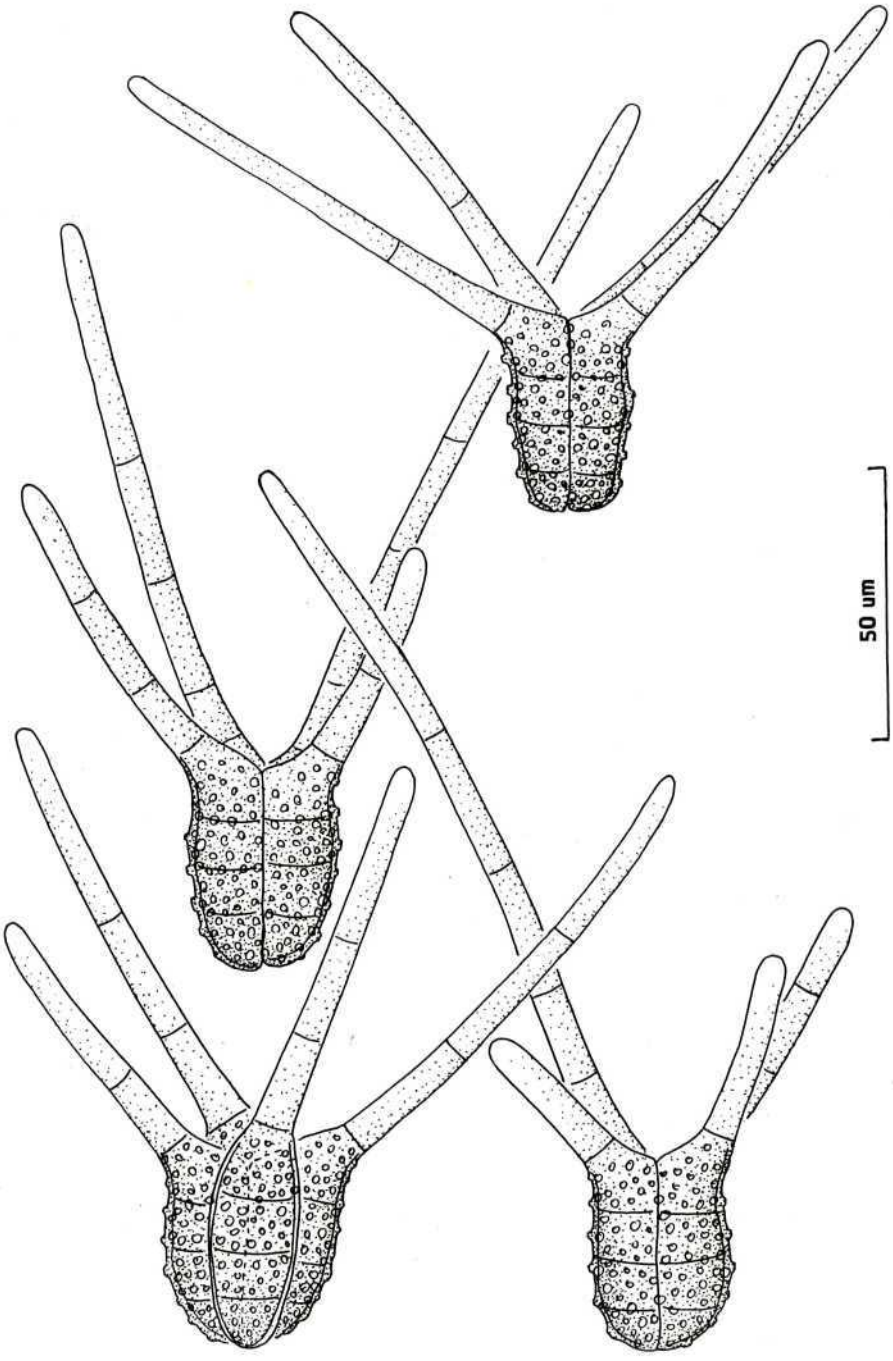

Fig. 1. *Tetraploa aristata:* conidia

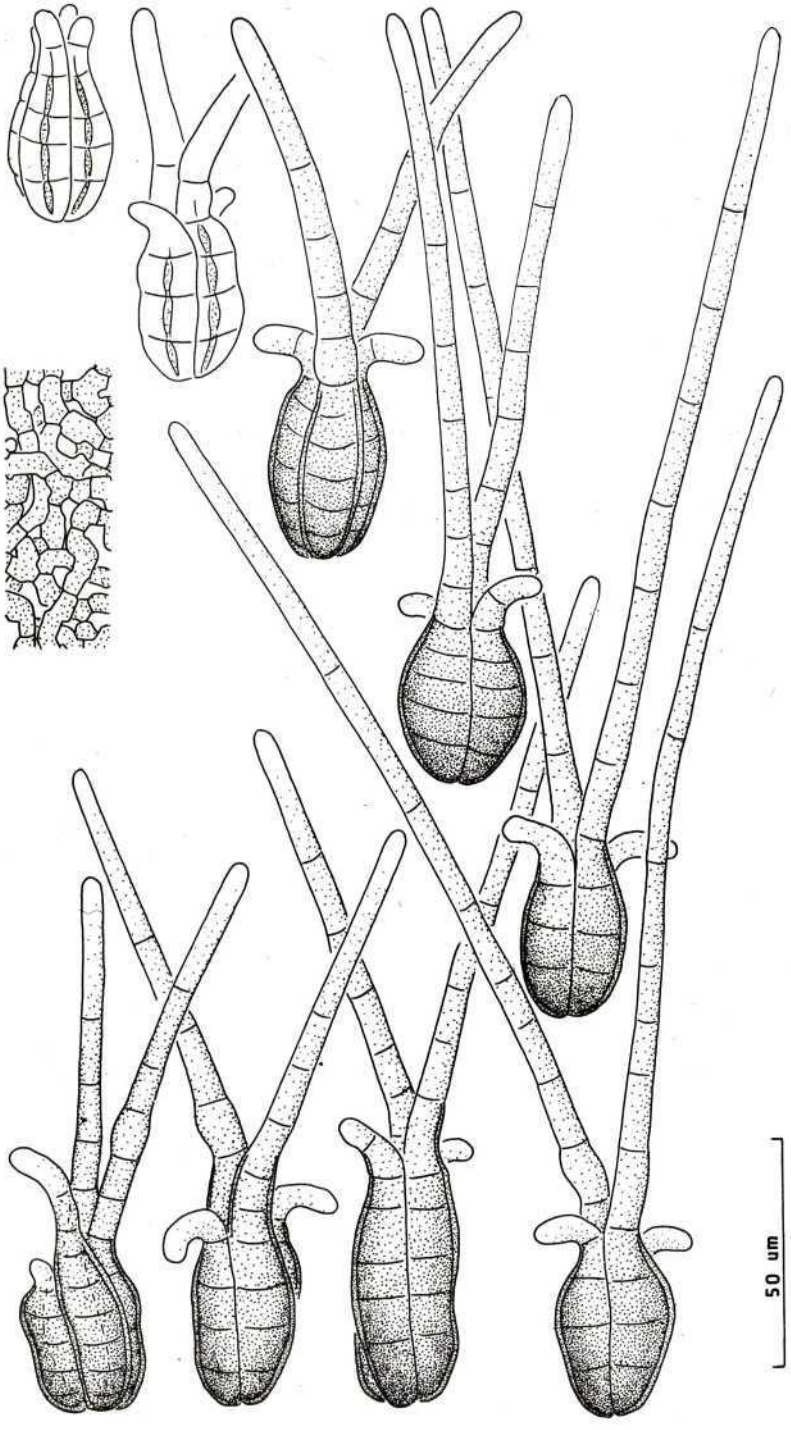

Fig. 2. *Tetraploa javanica:* mycelium and conidia.

polyblastic conidiogenous cells. Conidia solitary, pleurogenous, as a rule ovoid in outline, 30 — 42 (— 58) x 17 — 28µm, smooth walled (or at the most the wall faintly verrucose), consisted of 4 (or rarely up to 6) rows or columns of brown cells, mostly with 4 — 7 cells measuring 8 — 18µm diam. to each column which tends to appear fascicled apically with each other and topped by appendage of unequal lengun. uenerailv in each conidium there are two long setiform appendages which are originating from opposing columns, almost straight, up to 215µm long and gently attennuate from the pale brown 5.4 — 8µm diam. base to about 2.5 — 3.5µm at the much paler, thinner walled apex, elongate by proliferations, only slightly diverge from the long axis of the conidium body; from the remaining columns emerge two short appendages measuring 9 — 25µm long which recurve sideway almost at right angle to the long axis of the conidium body.

SPECIMENS EXAMIND : on culms of decaying *Bambusa glaucescens,* Bogor Botanic Garden, Java, March 1980, *A. Cholil & Hardaniah Zainuddin* (BO); 31 December 1980, *Hardaniah Zainuddin & M.A. Rifai s.n.* (BO); January 1988, *M.A. Rifai 7920* (BO, holotype); on dead *Bambusa glaucescens* hedge, Bogor, Java, February 1988, *E.A. Widjaja, Rugayah & M.A. Rifai s.n.* (BO).

It should be noted that the substrate of this new species, *Bambusa glaucescens,* is not native to Java but introduced from Japan. It would be of interest to search for this species in the native country of this bamboo species. *Tetraploa javanica* can be easily distinguished from the other species of *Tetraploa* by its ovoid conidia and the seemingly fascicled dimorphic appendages.

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