

On *Trichocladium* and a New Species, *Trichocladium pavgii* *)

V. RAVINDRA NATH

IARI Regional Station and
All-India Coordinated Sorghum Improvement Project
Rajendranagar, Hyderabad-500 030, India

Zusammenfassung. Aus Nüssen von *Arachis hypogaea* L. wurde eine neue Art von *Trichocladium* (*T. pavgii*) isoliert und mit den 9 anderen bisher bekannten Taxa dieser Gattung kritisch verglichen.

The genus *Trichocladium* was created by HARZ in 1871 to accommodate *Sporidesmium asperum* CORDA as *T. asperum* HARZ, and then the genus had 3 species. The main characters of this new genus were: conidia not twisted, cells not differing greatly in size and on short branches as against conidia twisted, with one large and two smaller cells as characterised in *Acrospiera* BERK. and BR. The type species was not designated by HARZ. The first addition to the genus was *T. olivaceum* PETCH (1922). A correction on the nomenclatural aspect of the type species was made by HUGHES (1952), who designated *T. asperum* HARZ as the lectotype and added *T. opacum* (CORDA) HUGHES. Later, a new species *T. canadense* was recorded by HUGHES (1959). MEYERS and MOORE (1960), while creating the genus *Culcitalna* on the type species *C. achraspora*, observed that the conidia are comparable to *Trichocladium*, but considered the sporodochial formation as sufficient to raise the new genus. Almost immediately a dissenting view was expressed by HUGHES (1960), who felt that since conidial characters completely agree with each other, the presence or absence of sporodochia can bring in a significant distinction at the specific level and not at the generic one. JOHNSON and SPARROW (1961) also reiterated the similarities of *Culcitalna* and *Trichocladium* and indicated the need of a new combination of *Culcitalna achraspora*. Subsequently, DIXON (1968) added the new species *T. pyriformis* DIXON and consolidated the characters of the other six species of the genus by including the combination of *T. achrasporum* (MEYERS and MOORE) DIXON. Indications to further changes to the nomenclatural status occurred when HUGHES (1969) pointed out the invalidity of the new combination of DIXON (1968) while agreeing that *C. achraspora* belongs

*) Part of the Doctoral Thesis submitted to the Faculty of Agriculture, Banaras Hindu University, India, 1974.

to *Trichocladium*. It was left to SHEARER and CRANE (1971) to validate the combination as *T. achrasporum* (MEYERS and MOORE) DIXON and *C. achraspora* was its basionym. The most recent addition of a new species was *T. novae zelandiae* by HUGHES (1969). The following 9 species of *Trichocladium* are so far recorded.

1. *T. asperum* HARZ 1871. — 2. *T. tenellum* HARZ (not compiled by SACCARDO). 3. *T. fuscum* m(ihi) HARZ (not compiled by SACCARDO) 1871. — 4. *T. olivaceum* PETCH 1922. — 5. *T. opacum* (CORDA) HUGHES 1952. — 6. *T. canadense* HUGHES 1959. — 7. *T. achrasporum* (MEYERS & MOORE) (SHEARER & CRANE 1971 [*C. achraspora* MEYERS & MOORE 1960; *T. achraspora* DIXON 1968 n. n.]). — 8. *T. pyriformis* DIXON 1968. — 9. *T. novae zelandiae* HUGHES 1969.

Among these, Nos. 3 and 4 are not included by DIXON (1968) in her comparative studies for reasons unknown.

While studying seed borne fungi of *Arachis hypogaea* L., a species of *Trichocladium* was isolated from the kernels. This was designated as *Trichocladium* sp. pending more detailed studies (RAVINDRA NATH, 1974). Further study of the fungus revealed that it did not resemble any of the described species of *Trichocladium* and as such is described as a new species.

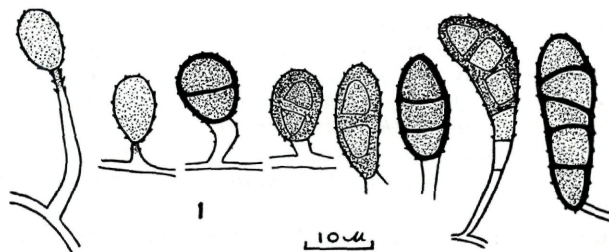


Fig. 1. *Trichocladium pavgii* RAVINDRA NATH: conidiophores and conidia (type)

Trichocladium pavgii RAVINDRA NATH, sp. n.

Coloniae in agaro cum Solani tuberis et dextroso composito cultae albae, vel griseae atque nigrae, byssoideae, inferne visae pallide avellaneae vel aurantiacae; conidiophora vix distincta, micronemata vel semi-macronemata, mononemata, recta vel flexuosa, hyalina, leves, 1.1–2.2 μ m crassa; cellulae conidiogenae monoblasticae, terminales, cylindricae, plerumque leves et hyalinae, prope conidium asperae, 5.0–22.0 \times 2.2–4.4 μ m (plerumque usque ad 16.5, nonnumquam 26.5 μ); conidia singulares, acrogena, ovata, elliptica, clavata, vel raro rotunda, ad apicem rotundata, basim truncatum versus attenuata, fusco-olivaceo-brunnea, crasse tunicata, verrucosa, 1–2, nonnumquam 3–4-septa (Fig. 1).

A *T. aspero* differt part terminali aspera cellularum conidiogenerum et conidiis p. p. majore biseptatis, haud ad septum constrictis atque minoribus.

E semine *Arachidis hypogaeae* L. cultum sub numero TMV-3, 3-1-1973—10-1-1973, Rajendranagar, Hyderabad, a V. RAVINDRA NATH CMI No. 205718 (typus).

Colonies on PDA white to grey and black with cottony fluffy growth, reverse light avellaneous or orange; conidiophores poorly differentiated micronematous or semi-macronematous mononematous straight or flexuous, hyaline, smooth 1.1—2.2 μm wide; conidiogenous cells monoblastic, terminal, cylindrical, smooth and hyaline for most part and rough as they reach the conidia 5.0—22.0 \times 2.2—4.4 μm (mostly up to 16.5 and occasionally 26.5 μm); conidia solitary, acrogenous, ovate, elliptical, clavate, rarely round, rounded at the apex, narrowed to a truncate base, dark olive brown, thickwalled, verrucose, 1—2 septate, sometimes 3—4 septate; predominantly two septate conidia observed and they comprise 80% of conidial production, single septate conidia being 18% and three to four septate being 2% (Fig. 1).

1 septate 13.2—18.7 \times 5.5—8.8 μm [14.74 \times 7.48 μm (average)]

2 septate 14.3—22.0 \times 6.5—9.9 μm [18.37 \times 7.81 μm (average)]

3 septate 17.6—19.8 \times 6.6—8.8 μm

4 septate 18.7 \times 9.9 μm

This isolate differs from *Trichocladium asperum* in having the rough upper part on the conidiogenous cells, predominantly two septate (occasionally 3—4 septate) conidia and smaller conidial size (HARZ, 1871). Further, the absence of a constriction at the septum, makes it distinct from *Trichocladium asperum* (HUGHES, 1952).

Isolated from kernels of *Arachis hypogaea* L. cv TMV-3, 3-1-1973, Rajendranagar, Hyderabad, leg. V. RAVINDRA NATH, CMI No. 205718 (Type).

Etymology: Named after Dr. M. S. PAVGI, Senior Professor of Plant Pathology, Faculty of Agriculture, Banaras Hindu University, Varanasi, India, in recognition of his striking contribution in various fields of Taxonomy of Fungi as well as in Plant Pathology.

Acknowledgements

My sincere appreciation is due to Dr. B. J. SUTTON, Principal Mycologist, CMI, Kew, Surrey, England for confirming that this fungus does not agree with any other species and that it has not been described yet. My attention has also been drawn by Dr. SUTTON to the work of SHEARER and CRANE (1971). I am indebted to Dr. A. APPA RAO, Director of Research, APAU, Hyderabad, and Dr. N. G. P. RAO, Project Coordinator (Sorghum) & Head, IARI Regional Station, for encouragement and providing facilities. I am also grateful to Dr. Donald P. ROGERS, Professor of Botany, University of Illinois, Urbana, Illinois, USA, for the Latin translation,

References

- DIXON, Majorie (1968). *Trichocladium pyriformis* sp. nov. — Trans Brit. Mycol. Soc. 51: 160—164.
- HARZ, Karl Otto (1871). Einige neue Hyphomyceten. — Bull. Soc. Imper Moscow. 44: 125—127.
- HUGHES, G. C. (1960). Ecological aspects of some lignicolous Fungi in Estuarine waters. — Ph. D. Thesis. The Florida State University, 150 p.
- HUGHES, S. J. (1952). *Trichocladium* HARZ. — Trans. Brit. Mycol. Soc. 35: 152—157.
- (1959). Micro Fungi IV. *Trichocladium canadense* nov. sp. — Can. J. Bot. 37: 857—858.
- (1969). New Zealand Fungi 13, *Trichocladium* HARZ. — New Zealand J. Bot. 7: 153—157.
- JOHNSON, T. W. and SPARROW, F. K. (1961). Fungi in oceans and estuaries. — J. Cramer, Weinheim, 668 p.
- MEYERS, S. P. and MOORE, R. T. (1960). Thalassiomycetes II. New Genera and species of Deuteromycetes. — Amer. J. Bot. 47: 345—349.
- PETCH, T. (1922). Additions to Ceylon Fungi II. — Ann. Roy. Bot. Gdn. Peradeniya. 7: 318.
- RAVENDRA NATH, Vembar (1974). Studies on seed and soil borne diseases of *Arachis hypogaea*. — Doctoral Thesis, Banaras Hindu, University, 141 p.+96 p. Appendix.
- SHEAREE, Carol A. and CRANE, J. L. (1971). Fungi of Chesapeake Bay and its Tributaries I. Patuxent River. — Mycologia. LXIII: 237—260.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 1978/1979

Band/Volume: [31](#)

Autor(en)/Author(s): Nath V. Ravindra

Artikel/Article: [On Trichocladium and a New Species, Trichocladium pavgii. 122-125](#)