STUDIA BOTANICA HUNGARICA
(Antea: Fragmenta Botanica)
XXIII. 1992 pp. 63–68

A new species of *Triadelphia* from Hungary

By

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(Received 30 April, 1990)

Abstract: A new dematiaceous hyphomycete species, *Triadelphia morgóensis* is described and illustrated. A key for 12 species of *Triadelphia* is proposed.

During investigations of wood-inhabiting *Hyphomycetes* in Hungary, black sporodochial structures with 2-septate conidia formed singly on ampulliform cells mixed with some obclavate subhyaline, multiseptate conidia, were observed. In pure culture on cornmeal agar the fungus produced three forms of conidia. Consequently, the culture was considered to belong to the pleomorphic genus *Triadelphia* Shearer & Crane (1971), which has been emended by CONSTANTINESCU and SAMSON (1982). They distinguished six pleomorphic species and illustrated six (a-f) distinguishable forms of conidia. The three conidial forms found in pure culture represent the type "a", "c" and "e", but they are different in some respect from any described species.

Triadelphia morgóensis - sp. n.
Plate I. 1-4; Fig. 1.

Mycelium immersum, ex hyphis ramosis, septatis, subhyalinis 2-3 μm crassis compositum. Cellulae conidiogenae integratae, terminales vel laterales, hyalinae, parietibus crassis, globosae vel ampulliformes, 4.8-5.5 μm longae 3-4 μm crassae, gregariae usque caespitosae, structuras sporodochiis similes formantes. Conidia acrogena, solitaria, holoblastica, heteromorpha: 1./ cylindrica, recta vel parum inclinata, 2-septata, crasse tunicata, apice rotundata, basi truncata, cellula apicali et centrali atrobrunnea, cellula basali hyalina vel subhyalina, 16-25.6 × 3.2-4.8 μm; 2./ obclavate, subhyalina, 5-7 septata, basi truncata, sursum attenuata, 40-57.6 × 3.2-4 μm; 3./ allantoidea usque reniformis, hyalina, aseptata, tenuitunicata, levis, 4.8-6.2 × 2-3 μm.

Holotypus: Hungaria, montes Börzsöny-hegység, prope pag. Kismaros ad ripam rivuli Morgó-patak, in ligno putrido; 12.IV.1988., leg. Á. RÉVAY et J. GÖNCZÖL, (BP 664 Fn.).

Colonies slow-growing on cornmeal agar, dark brown to black, densely aggregated sporodochia formed in the 4-6 mm diam central part, surrounded by zones of

scattered sporodochia and very sparse aerial mycelium. Mycelium immersed, composed of branched, septate, subhyaline, 2-3 μm wide hyphae. Conidiogenous cells integrated, terminal or lateral, hyaline, thin-walled, ampulliform to globose, 4.8-5.5 × 3-4 μm, gregarious to caespitose, forming sporodochia-like structures. Conidia acrogenous, solitary, holoblastic of three different forms: 1./ cylindrical, straight or slightly curved, 2-septate, thick-walled, with a rounded apex and a truncate base, the apical and central cells dark brown, the basal cell hyaline or subhyaline, 16-25.6 × 3.2-4.8 μm; 2./ obclavate, subhyaline, 5-7 septate, base truncate, gradually tapering into a long 1 μm wide apical beak with rounded tip, 40-57.6 × 3.2-4 μm; 3./ allantoid or reniform, hyaline, one-celled, smooth, thin-walled, 4.8-6 × 2-3 μm.

Specimen examined: Hungary, Mts. Börzsöny-hegység, near the village Kismaros, at the stream Morgó-patak, on decaying wood; 12.IV.1988., Á. RÉVAY and J. GÖNCZÖL, (BP 664 Fn.).

CONSTANTINESCU and SAMSON (1982) accepted six species. Subsequently the following 5 additional species of *Triadelphia* have been described: *T. stilboidea* Mercado & Castaneda (1983), *T. hungarica* Révay (1987), *T. australiensis* B. C. Sutton (1989), *T. diversa* Tzean & Chen (1989) and *T. queenslandica* Matsushima (1989); and a new combination *T. uniseptata* (Berk. & Br.) P. M. Kirk (1983) was proposed.

The cylindrical conidia of *Triadelphia morgóensis* are most similar to those of *Triadelphia diversa*. Nevertheless there are some noticeable differences between the two species. While the "a" conidium type of *T. diversa* possesses septa covered with broad dark bands, this characteristic is lacking in the case of conidia of *T. morgóensis*. The cylindrical conidia of the two species differ in conidial size; whereas in *T. diversa* conidia "a" are 13.7-24 × 4-8 μm, in *T. morgóensis* they are thinner, 16-25.6 × 3.2-4.8 μm. *T. morgóensis* did not produce "b", "d" and "f" conidial types. The allantoid "e" conidia of *T. morgóensis* are one-celled while those of *T. diversa* are 1-septate.

Triadelphia stilboidea, which is characterized by peculiar synnemata conidiophores, tretic conidiogenous cells and two kinds of conidia, is probably not closely related to *T. heterospora*, the type species of *Triadelphia*, or to other species presently referred to this genus.

Key to *Triadelphia* species

1. a. More than one conidial form are present 3
   b. Only one conidial form is present 2
2. a. Conidia clavate, 12.5-16 × 6.5-10.5 μm ..... *T. uniseptata*
   b. Conidia clavate, 8.5-10 × 4.5-6 μm ..... *T. australiensis*
3. a. At least one conidial form is broadly obclavate, fusiform ellipsoidal, with black band at the septa 4
   b. Not as above 9
4. a. Conidia fusiform-ellipsoidal, without acerose end cells ..... *T. alabamensis*

b. Conidia broadly obclavate or fusiform-ellipsoidal with acerose end cells 5
5. a. Cylindrical conidia absent 6
b. Cylindrical conidia present 7
6. a. Fusiform-ellipsoidal conidia 32-36 × 8-10 μm ..... *T. hungarica*
b. Fusiform conidia 30-42 × 12-18 μm ..... *T. queenslandica*
7. a. Allantoid or reniform conidia absent ..... *T. inquinans*
b. Allantoid or reniform conidia present 8
8. a. Clavate conidia absent ..... *T. heterospora*
b. Clavate conidia present ..... *T. diversa*
9. a. Acicular to obclavate conidia present, cylindrical conidia 1-septate 10
b. Acicular to obclavate conidia present, cylindrical conidia 2-septate 11
10. a. Cylindrical conidia 6.5-14 × 2.5-4 μm, clavate conidia present ..... *T. romanica*
b. Cylindrical conidia 9-12 × 3-3.5 μm, clavate conidia absent ..... *T. pulvinata*
11. a. Cylindrical conidia brownish, 9-19 × 3-5 μm ..... *T. loudetiae*
b. Cells of the cylindrical conidia differently pigmentated, 16-25.6 × 3.2-4.8 μm ..... *T. morgóensis*

A c k n o w l e d g e m e n t : The author is grateful to Dr S. TÓTH (University of Agricultural Sciences of Gödöllő, Hungary) for correcting the Latin diagnosis.

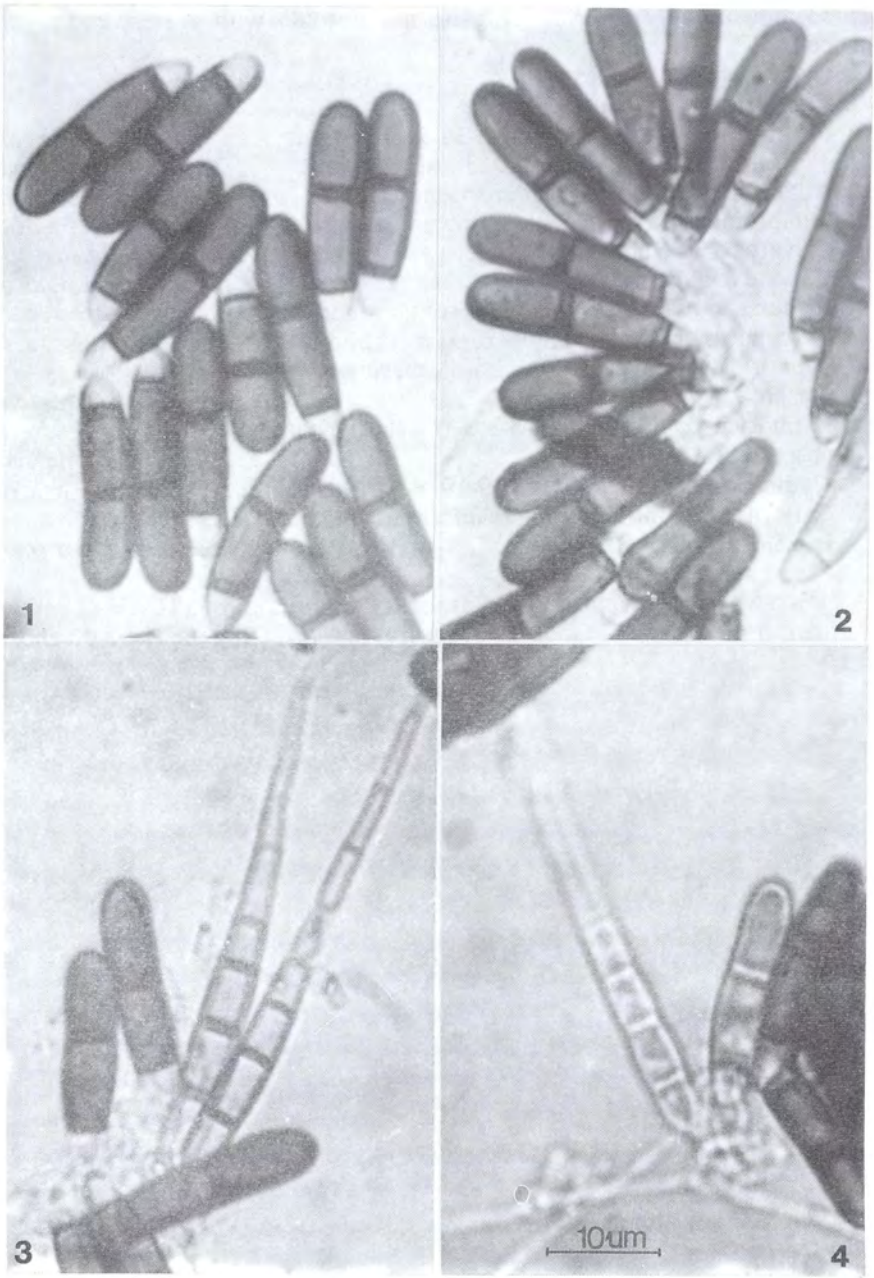


Plate I.
1-2. Cylindrical (type a) conidia of *Triadelphia morgóensis*
3-4. Cylindrical and obclavate (type c) conidia of *Triadelphia morgóensis*

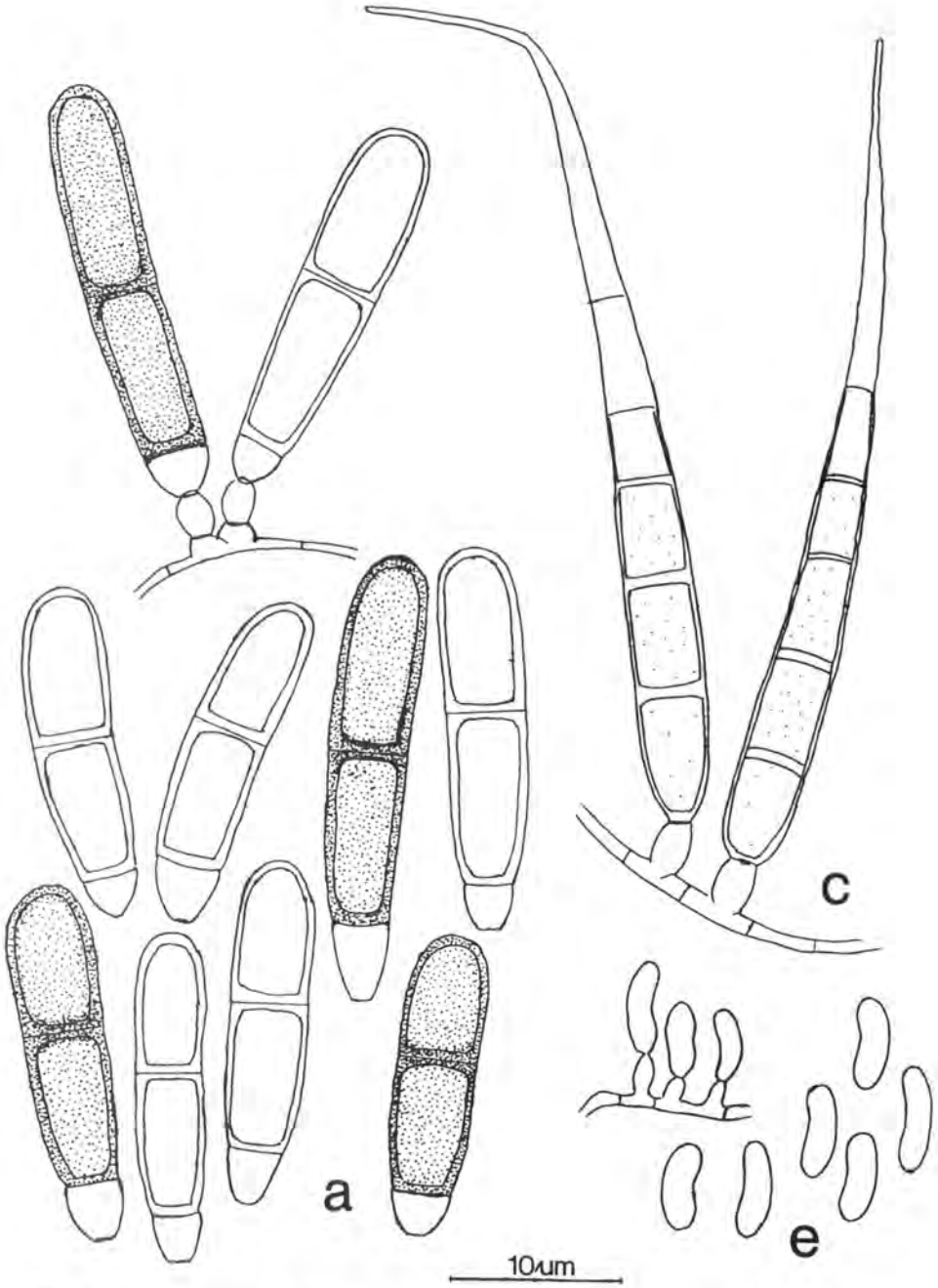


Fig. 1. The three conidial types (a,c,e) of *Triadelphia morgóensis*

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