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MYCOLOGY.—*On the fungus genera Titaea, Monogrammia, and Araneomyces.*
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G. W. Martin.)

While studying genera of staurosporous Moniliaceae, a striking similarity between *Monogrammia miconiae*, *Araneomyces acariferus*, and species of *Titaea* was noted. In-

¹I wish to express my appreciation to Dr. W. L. White, of the Farlow Herbarium, for the opportunity to study the type specimen of *Araneomyces acariferus*, and to Dr. Leland Shanor, of the University of Illinois, for his cooperation in searching for the type specimen of *Monogrammia miconiae* among the Stevens collections.

vestigation into all available information has led to the reduction of *Monogrammia* and *Araneomyces*, both monotypic genera, to the synonymy of *Titaea*, with the transfer of their species to that genus. In this connection, type material of *Titaea clarkeae* Ell. and Ev. (originally published as *T. clarkei*) has been re-examined, and it has been shown to be congeneric with other species assigned to the genus.

Titaea was erected for a staurosporous fungus growing parasitically, according to Saccardo (1876), on a species of *Dimerosporium*. In addition to the type species, *T. callispora*, four others had been added prior to the two recent papers by Hansford (1944, 1946), in which five more species were described. The four older species were treated with particular reference to the morphology of their conidia by Ingold (1942) in connection with his treatment of *Tetracladium*. Ingold agreed in part with the older opinion advanced by von Höhnel (1914) that *T. maxilliformis* Rostrup was so distinct from *T. callispora* as to warrant its removal from *Titaea*. Höhnel, accordingly, erected the genus *Maxillospora* for this species, but Ingold concluded from his studies on *Tetracladium marchalianum* that the two species were congeneric and transferred Rostrup's fungus to *Tetracladium*. At that time he characterized the genus not on an ecological basis, as had been done previously, but on the morphology of its spores, which, he said, had branches arising or diverging from a central axis as in *Titaea* but differing in having a single upwardly directed cell or process arising (at some distance from the central axis) from one of the branches. This extra-axial process is somewhat hard to determine in *Tetracladium setigerum* because of the difficulty in defining the central axis in that species. Furthermore, the different morphology of this process in the species of the genus is also somewhat confusing. It would seem that *Tetracladium* as an ecological genus could be distinguished from *Titaea* more easily than on its present morphological basis; but a conclusive discussion of this matter must await study of more

forms than are presently available. With the exception of *T. marchalianum*, which has filiform processes like those of *T. clarkeae*, the spores of *Tetracladium* species have a somewhat cheiroid appearance, whereas the spores of *Titaea* have upwardly and downwardly, outwardly directed arms suggestive of no particular structure. Another feature of *Titaea* spores which separates them from those of *Tetracladium* is the fact that the central axis is 2-celled and forms an integral part of the spore, whereas in *Tetracladium* the central axis, though definable, sometimes lacks this distinctness. If these are the characteristics of *Titaea* and *Tetracladium* spores, it will be noted that there are no suitable distinctions between those of *Titaea* and *Monogrammia* or *Araneomyces*. Unfortunately, *Monogrammia miconiae* is known only from its original description and illustration (reproduced in Fig. 1, A) and was described by Stevens (1917) for a fungus occurring in association with *Hyalosphaeria miconiae* in Puerto Rico. *Araneomyces acariferus*, of which type material exists in the Höhnel collection in the Farlow Herbarium,¹ was based upon (1909) a fungus found on stromata of *Rosellinia miconiae*. The spores of this fungus are illustrated in Fig. 1, B. From the spores of both *A. acariferus* and *M. miconiae* it is obvious that they are only specifically different from other species of *Titaea*. Furthermore, both occur on foliicolous ascomycetes in tropical regions, as do almost all other species of *Titaea*; and though it is possible that future studies will provide evidence by which *Titaea* may be divided into more homogeneous groups it is felt that *Araneomyces* and *Monogrammia* should be merged under the

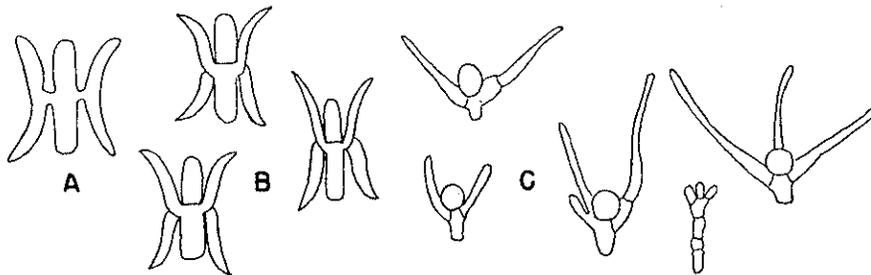


FIG. 1.—A, Spore of *Monogrammia miconiae* redrawn from Stevens (1917); B, spores of *Araneomyces acariferus* drawn from type material ($\times 1,000$); C, spores of *Titaea clarkeae* drawn from type material ($\times 750$) (reduced approximately $\frac{1}{3}$).

older name. Although there is a striking similarity between the spores of both species, there can be no evaluation of this because of the lack of material of *M. miconiae*, and it is felt that they should both be maintained as valid species of *Titaea*. The following two new combinations are therefore proposed:

Titaea acarifera (von Höhnelt) comb. nov.

Araneomyces acariferus von Höhnelt, Sitzb. Akad. Wiss. Wien **118**: 894, illus. 1909.

Titaea miconiae (Stevens) comb. nov.

Monogrammia miconiae Stevens, Trans. Illinois Acad. Sci. **10**: 202, illus. 1917.

Although well described by Ellis and Everhart (1891), *Titaea clarkeae* Ell. and Ev. is discussed here because it has been found that some specimens under this label in the North American Fungi, no. 2466, have material of hyphomycetes other than *T. clarkeae* present; and because Ingold (1942) remarked upon the lack of spore illustrations upon which to base a judgment of the species. *T. clarkeae*, though not foliicolous, is found in association with a species of *Dichaena* and possesses spores (Fig. 1, C) most like those of *T. doidgeae* Hansford in that the branches are long and filiform, but

differing from that species in other details. It possesses the 2-celled axis typical of *Titaea* of which the upper cell is globose as in the spores of *T. toddaliae*, and *T. ugandae*.

It is felt that this is a typical species of *Titaea*, and, so far as is known, it is the only species of the genus occurring in continental North America.

REFERENCES

- ELLIS, J. B., and EVERHART, B. M. *New species of fungi from various localities*. Proc. Acad. Nat. Sci. Philadelphia **43**: 76-93. 1891.
- HANSFORD, C. G. *Contributions toward the fungus flora of Uganda. V. Fungi Imperfecti*. Proc. Linn. Soc. London **155**: 34-67, illus. 1944.
- . *The foliicolous ascomycetes, their parasites and associated fungi*. Myc. Paper (C.M.I.) no. 15: 240 pp., illus. 1946.
- INGOLD, C. T. *Aquatic hyphomycetes of decaying alder leaves*. Trans. Brit. Myc. Soc. **25**: 339-417, illus. 1942.
- VON HÖHNELT, F. *Fragmente zur Mykologie (VII. Mitt.)*. Sitzb. Akad. Wiss. Wien **118**: 813-904, illus. 1909.
- . *Fragmente zur Mykologie (XVI. Mitt.)*. Sitzb. Akad. Wiss. Wien **123**: 49-155. 1914.
- SACCARDO, P. A. *Fungi veneti novi vel critici*. Nuov. Giorn. Bot. Ital., ser. 5, **8**: 181-211. 1876.
- STEVENS, F. L. *Porto Rican fungi, old and new*. Trans. Illinois Acad. Sci. **10**: 162-218, illus. 1917.