EDITORIAL NOTE

The following paper by C. R. Vossbrinck and B. A. Debrunner-Vossbrinck elaborates on taxonomy and phylogeny of the Microsporidia. This is a very topical and very complicated problem in an urgent need of solution. All extant classifications of microsporidia are based on observations of morphology, the early ones using the light microscope, the recent ones combining light and electron microscope analysis. Thus until now there have been proposed a series of systems, each of them being soon found unsatisfactory and which gave consecutively way to a new one, as necessitated by new discoveries on ultrastructure and life cycles. Among the early classifications of taxons within this group we can mention those by Stempell (1909), Léger and Hesse (1922), Poisson (1953) and Weiser (1961) – all had to cope with a relative lack of differentiating characters both in spores and proliferative stages. This shortcoming was alleviated in the following classifications thanks to features revealed by fine structural studies. The salient classifications are those by Tuzet, Maurand, Fize, Michel and Fenwick (1971), Sprague (1977) and the still most influential one by Sprague, Becnel and Hazard (1992). All these existing taxonomic outlines and arrangements, however, have to undergo considerable changes due to new facts revealed by molecular approach.

In microsporidia, this approach was pioneered by the both authors of the following paper, who, with their co-authors, used in 1987 the comparison of SSU rRNA genes to study the phylogeny of these enigmatic organisms. Since then, many papers using this approach have

appeared, dealing with phylogenetic relationships and possible taxonomic positions of various species, genera and certain groupings of genera. Nevertheless, nobody has as yet attempted to construct a molecular classification and phylogenetic relations of all microsporidia. The following classification proposed by the Vossbrincks – as one could already find in the fragmentary clades published earlier – in many points contradicts the existing schemes.

Readers might come up with comments that in the Vossbrinck paper the microsporidian classes –based on the clades– have been established in an unorthodox way; further, that e.g., using just one gene as the base of the system and omitting inclusion of morphological characters may not satisfactorily solve the problem of classification. Notwithstanding these objections and some other controversial features, we like to publish the paper, since we suppose that it can stimulate a wide discussion that may bring on a so desirable progress in microsporidian classification.

To initiate such a discussion, we invited Professor Larsson, an authority in morphological investigation and structural character states analysis in microsporidia, to prepare an opinion, and he kindly complied with our wishes. We hope that simultaneous publication of contradicting viewpoints will actually help to clear up the situation and also help to involve other voices in the debate.

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