



THE SEPARATION OF SCIENTIFIC AND PRACTICAL MYCOLOGY: WHAT SHOULD BE DONE ABOUT CITIZEN TRAINING?

A tudományos és gyakorlati gombászat szétválása: mi legyen a terepi képzésekkel?

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The taxonomy of fungi has undergone several radical changes. The methodology remained fundamentally unchanged, based on morphological characteristics. However, modern molecular classification, based primarily on DNA structure, has brought about seismic shifts in the taxonomy of fungi. The "old" methodology made it possible that "amateurs" could follow the process using minimal habitat knowledge, basic chemicals, and a microscope. In contrast, the DNA-based classification demands significant expertise and complex laboratory infrastructure. Moreover, this approach has led to the identification of new species that cannot be distinguished using "classical" methods.

These new findings create challenges regarding the usability and interpretation of older scientific literature, as well as in the training of mushroom market experts and interested amateurs, as well as in the field of nature conservation, too. The number of people interested in fungi is growing year by year, accompanied by a rise in the volume of courses, camps, and other field-based educational activities at various levels. While descriptions based on clear morphological characteristics remain effective in educational materials for enthusiasts of plants (e.g., orchids) and animals (e.g., butterflies, birds), new approaches to public education are required when it comes to fungi – particularly macrofungi.

An effective approach in the training of market experts is to teach problematic taxa as species groups. A prime example of this is the *Lactifluus volemus* s.l. (weeping milk cap) species group. In the recently published "Képes gombakalauz", 26 of the 327 featured taxa – 8% of the total – were presented in this manner. While works covering a larger number of species (such as "Székelyföld gombái") do include recently distinguished species, they note that these cannot be unequivocally identified based on morphological characteristics alone. A greater challenge arises with citizen science data-collection networks, where such problematic taxa must either be omitted entirely or require verification by an expert following specimen collection. Regarding protected mushrooms, the latest draft regulation lists both the new and the old names. However, the separation of species remains an issue here as well, as it is necessary to clarify exactly which of them is the protected one. The *Hypsizygus ulmarius* – *H. tessulatus* species group serves as a good example of this.

In conclusion, it is very gratifying that a modern fungi system is finally taking shape; however, resolving the issues stemming from the flaws of the "old" systems will require a great deal of ingenuity and effort. This is one of the tasks for the near future.