

Book Review

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The genus *Lactarius*

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A large gap after the *Lactarius* monograph by Neuhoff was recently filled in by Belgian and Danish mycologists. Although the authors did not aim to make a critical revision of all North European species (here defined as the area north of Paris, the Alps and the Carpathians mountains and west of the Ural mountains), the book is not only a modern identification guide (expression used by the authors themselves). It is a critical evaluation of the *Lactarius* flora of the mentioned area based on their own fresh collections, observations and original syntheses. Each of the 97 species recognised by the authors are presented in a brief, clear and practical way. The descriptions of macro- and microcharacters are based on fresh material cited in a special chapter and deposited in herbaria (mainly C or some private herbaria). All species are depicted in colour photographs. The quality of the photographs and their reproduction is excellent in most cases and makes the book very attractive both for professional and amateur mycologists. Colour terms used in descriptions are based on colour codes by Korerup and Wanscher (1974), which is very important and practical in the case of tiny differences between related species (pileus and lamellae colour). Generally, the work is excellent concerning its scope and adequate methods of study. All facts can be checked which is not always common.

For natural reasons, there are some minor mistakes or questionable points which, however, do not principally influence the high quality of the book. The holotype of *Lactarius pilatii* Z. Schaefer was collected in the Šumava Mountains in southwest Bohemia (not Karlštejn in Central Bohemia). *Lactarius intermedius* is not included in the book. In *Lactarius decipiens* the host tree species are not mentioned. The photograph of *Lactarius subdulcis* is too pale although the dull brownish colour is stated as a distinguishing character of the species. Similarly, *Lactarius helvus* has usually more ochraceous fruitbodies (not so grey as in the photograph). Concerning this species, white milk is mentioned in the original description by Fries. In the Czech Republic, we know this species with hyaline watery milk (the same as given in the book of Heilmann-Clausen et al.). Therefore, the name *L. helvus* can not be used for the species and the name *Lactarius aquifluus* Peck should be used instead of it. The photograph of *L. trivialis* does not reflect the huge variability of that species. According to M. Beran, *Lactarius syringinus* is merely a form of *L. vietus*.

Methodologically, it would be interesting to study more macrochemical reactions, especially those of the milk (see e.g. Herink, Čes. Mykol. 10: 148-159, 1956; 11: 119-124, 1957). Similarly, the condensability of milk was not observed by the present authors - there are important differences among various species that can be used in their delimitation. In the identification keys, it would be better to use morphological and anatomical characters instead of ecological ones - in stands with mixed vegetation (mixed forests, parks) the identification would be more reliable. In key H, point 10, *Lactarius trivialis* should be included into the group of species with milk turning greenish-grey.

In our opinion, the descriptions and photographs of *L. romagnesii* and *L. ruginosus* are so similar that it is almost impossible to distinguish them. The concept of *Lactarius fulvissimus* seems to be rather broad (it is said to grow even under conifers in Central Europe) and includes e.g. *Lactarius subsericatus* (Kühner et Romagn.) ex Bon, which is a good species. The concept of *L. aurantiacus* is also extremely broad (including *Lactarius mitissimus* (Fr.: Fr.) Fr. and *Lactarius aurantiofulvus* Blum ex Bon). The species is said to grow mainly on

rich or calcareous soils. However, in the Czech Republic we collect a species of this group for instance on acid soils in spruce forests (it is identified as *Lactarius aurantiofulvus*).

On the other hand, we fully agree with synonymisation of two of Romagnesis species - *L. hemicyaneus* and *L. quieticolor* which is well documented by the published photographs. The same concerns the synonymisation of *Lactarius zonarioides* Kühner et Romagn. and *L. bresadolanus* Singer, which is in agreement with observations by M. Beran.

The debatable points mentioned above do not change the positive impression of the book. The authors have produced a practical, well-documented publication which surely will become a handbook for all mycologists dealing with this interesting genus as well as with biodiversity, ecology and mapping of agarics.

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