

BOOK REVIEW

THE GENUS *LESQUERELLA* (CRUCIFERAE) IN NORTH AMERICA¹

It is quite satisfying and even reassuring in these times to encounter a substantial taxonomic work unencumbered by flights of fancy. It seems commendable for the authors to state on page 33, "We see little to be gained by putting our own speculations concerning a detailed phylogeny into print." The gift of imagination is good if rightly used but it is no substitute for hard work and relentless probing after facts which are both so well exemplified in the attractive, informative and impressive volume under review.

In their introduction the authors explain that, for more than thirty years, collecting and field studies of *Lesquerella* have been carried on by the senior author. They state that this treatment includes sixty-nine species and twenty-nine infraspecific taxa but excludes some dozen species of South America. It is obviously too much to have asked of the present authors that they studied these exotic species with anything like the detail and care given to the North American areas, their study embracing the examination of 9000 sheets, the study of wild populations, the experimental culture of some taxa, the determination of chromosome numbers and the examination of type material.

Following the introduction is a discussion of the limits of the genus, understandably an important consideration in the Cruciferae. The extent of their coverage of *Lesquerella* is indicated by merely listing the remaining topics treated in the first thirty-five pages, breeding system, interspecific hybridization, chemical information of systematic value, the type species and subdivisions of the genus, chromosome numbers, pollen, trichomes, taxonomic characters and evolution within the genus.

¹Rollins, Reed C. and Elizabeth A. Shaw. The Genus *Lesquerella* (Cruciferae) in North America. pub. date 6 June 1973. Harvard University Press, Cambridge, Massachusetts. X pp 1-288, illustr., \$18.00.

It is of interest to note that an aneuploid relationship was found to occur frequently between species of *Lesquerella*. Also in some cases infraspecific polyploidy was found to occur accompanied by evolutionary changes and sometimes not. The following statement by Rollins and Shaw on p. 12 would seem to suggest a reasonable taxonomic handling of this kind of problem, "If no significant and readily detectable morphological physiological or ecological changes have followed the event of chromosome complement multiplication within a species then there is little justification for insisting that the taxonomy merely reflect the ployploid picture."

Scanning electron microscope photographs strikingly illustrate the types of pollen and details of the variety of trichomes in *Lesquerella*. Indeed the book throughout is well illustrated with readily accessible plates, figures and maps. Particularly in the main body of the treatment, beginning on p. 36, and dealing with the taxonomy of the group, it is refreshing to note the uncrowded handling of taxa and the convenient juxtaposition of illustrations, descriptive material and discussions.

It is of particular importance to call attention to the fact that many new combinations and a number of new species are published by Rollins and Shaw in this work.

The use by Rollins and Shaw of two important infraspecific categories, those of subspecies and variety seems to work out realistically though the authors don't seem to explain in all cases what their reasons are for preferring one or the other rank.

There are unresolved questions raised by the authors but they seem in this treatment to have done all they might have done with *Lesquerella* at this time.

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Hodgdon, Albion R. 1973. "BOOK REVIEW: THE GENUS LESQUERELLA (CRUCIFERAE) IN NORTH AMERICA." *Rhodora* 75, 622–623.

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