Preface

The present book is a kind of monument. A long development is culminating in this volume which is a model case of a key to biodiversity in blue-greens. In our days, books of this kind are rather rare. Just now, biotaxonomy is at a turning point. Continuity is not guaranteed. Classical studies – i.e. characterizing different categories of biodiversity on all levels – are no longer appreciated by many younger (and also older) biologists. It is considered obsolete. However, modern research (genomics etc.) depends on classical knowledge. Biology as a whole is endangered to result in fussiness lacking solid fundaments. Those who still know the bridge connecting yesterday’s knowledge with actual modern studies form an endangered minority. They need books like this one.

Jiří Komárek, eminent specialist of algae and cyanoprokaryota with worldwide experience, was lucky to complete the manuscript in late autumn, 2012. Jiří is a good friend of mine. We met first in 1967 on occasion of the 3rd “Symposium über Fragen der Cyanophyceen-Systematik in Kastanienbaum (Schweiz)”. These meetings were organized as workshops in a field station then owned by “EAWAG (Eidgenössische Anstalt für Wasserversorgung, Abwasserreinigung und Gewässerschutz), annexed to Eidgenössische Technische Hochschule Zürich”. This is a state institution established by the Swiss Confederacy. President Otto Jaag (1900–1978) initiated the meetings, assisted by his staff members (Heinz Ambühl, Marianne Bosli-Pavoni, Beatrix Egli, Alfons Zehnder) on the shore of Vierwaldståtter See (Lake of Lucerne) in the small settlement Kastanienbaum. The idea resulted from a private discussion on one of the Austrian lakes during the limnologists’ congress in Vienna 1959. Edith Kann (1907 – 1987), Austrian gymnasium teacher and steadfast student of benthos blue-greens in streams, rivers and lakes of Austria, suggested to meet somewhere in an appropriate environment with nice vegetation of algae and blue-greens. The participants collected material during field trips. After return to the microscopes in the laboratory, all studied the collected samples together in long sessions. Usually we arranged for each of the meetings to deal with a general topic (taxon, biotope). Jiří Komárek was well prepared to join this group of specialists from several countries, mainly central European ones and those from nearby neighborhoods (Austria, Belgium, Czechoslovakia, Denmark, Finland, France, East and West Germany, Greece, Poland, Sweden, Switzerland, Yugoslavia). Later, colleagues from Brazil, Great Britain, India, Italy, Spain and the U. S. A. complemented the group. The cooperators never formed a special society. Nevertheless, we had some kind of fellow feeling.

The Austrian specialist Lothar Geitler (1899–1990) was the “Spiritus Rector” (chair person). This was so in spite of the fact that he never attended any of the meetings. However, we all were deeply impressed by Geitler’s path breaking contributions. After the pioneer studies by Küting, Thuret, Bornet, Flahault, Cohn, Kirchner, Lemmermann and further authors in Italy, Britain and Scandinavia, it was Geitler who summarized and supplemented the whole of traditional taxonomy of blue-greens for Süßwasserflora, Rabenhorst’s Kryptogamenflora, and Natürliche Pflanzenfamilien. He also wrote a splendid review of cytology of blue-greens as one of the volumes of Handbuch der Pflanzenanatomie. Furthermore, in Fortschritte der
Botanik / Progress in Botany he gave annual surveys of what was on in blue-green research and did it for many years, later supported by Elisabeth Tschermak-Woess. We formed a small scientific sect, we had our bible (Geitler in Rabenhorst), and – as usual among sectarians – we were convinced to be the orthodox group of research in taxonomy of blue-greens. We experienced a situation after World War II. Our ideas may be characterized as revival of what was before the late 1930s. Thus, we drifted into isolation with our being aware of this. When the books of the British by the group around Gordon Elliott Fogg (and students and followers) came out we became aware that we were far from catching up with modern scientific standards. Later, we were deeply impressed when Roger Stanier with his wife Germaine Cohen-Bazire and their students arrived from California to subject our group to an examination of our ideas and methods. This meeting started with disagreeing with each other, it was some kind of clashing. But our confrontation gradually shifted to mutual impact to one another. Importance of field and culture work was reevaluated. To my opinion, we made a large step forward.

My friend Jiří Komárek was always right in the middle of all these discussions. He was deeply involved, and this concerned his mode of thinking as well as his field and laboratory work. On one hand, he retained a traditional way of doing scientific research by working according to the conviction of the need of extensive familiarity with as much insight in blue-green biodiversity as possible. On the other hand, he worked hard to practice modern research methods and tools. He was well aware of the importance of reviews like that of Lewin, Whitton and many others.

As a result of this hard work through decennia of extensive studies in many countries and with many cooperators and students we now have in hand a marvelous book, this last volume on blue-green taxonomy dealing with the group that shows the highest grade of cellular differentiation. These specialized cells are integrated to form some kind of multicellularity in prokaryotes, thus making blue-greens model organisms for studies on types of organization of the different living beings. For full evaluation of studies on this topic good taxonomy is an indispensable prerequisite. Well-considered taxonomy therefore is very valuable for the whole of biology. This importance is often underestimated. But Jiří Komárek is to be credited for a very fine service to bioscience in general.

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