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Gamalei, Y.V.: **Transportnaya Sistema Sosudnykh Rastenii**. [Transport System of Vascular Plants.] – Publishing House of Saint-Peterburg State University, Saint-Peterburg 2004. ISBN 5-288-03343-9. 422 pp., 28.57 roubles.

The book summarizes recent knowledge on transport systems in plants from the level of membrane transport to the long-distance xylem and floem transport. Emphasis is given to the anatomy and function of leaf conductivity elements, especially to minor leaf terminal veins. However, separate extensive chapters deal also with mechanisms of intra- and inter-cellular transport of water and solutes, with ontogeny of conducting elements, evolution of xylem and floem elements in dicots, the role of transport system in regulation of plant growth, and development and effects of environmental factors (irradiance, temperature, air humidity, water stress, nutrition, salinity, atmospheric pressure) on development of transport systems. One of nine chapters summarizes experimental practices used in water and assimilate transport studies, mainly techniques of flux manipulation. The concluding section represents comparative study of transport systems in dicots of different biomes.

The book brings interesting and inspiring concepts.

Some of them might be new for scientists oriented mostly on English-written literature. Fusion of categories denoting heterobaric or homobaric leaves with symplastic or apoplastic floem-loading leaves, is an example of such concept. Almost one thousand papers, chapters in books, and monographs are referenced through the book. Most of them (about one third) originate from the nineties but also those of interesting historical value and more recent ones from 2000-2002 are included. Unfortunately, papers of at least several renown scientists working in the field of stem and leaf hydraulics for more than ten years are missing (for example N.M. Holbrook or J.S. Sperry).

The book is completed by an explanatory index of fundamental terms and a list of abbreviations. It makes the book useful for students specialized in plant transport systems. With a rather broad field of study, the book is on the edge of a specialized scientific monograph and a textbook.

J. ŠANTRŮČEK (*České Budějovice*)