of TLC separations, with marker compounds, of some 230 medicinal plant extracts. The book in fact is a thin layer chromatography atlas and is a veritable *tour-de-force* in this analytical technique. It is an essential reference for anyone needing to check the quality (and absence of adulteration) of common drug preparations.

There is a useful text, to go with the splendid colour pictures, which includes a description of the key chemical constituents of each and every plant extract and also shows the chemical formulae in many cases. Basic information on TLC techniques, absorbents, solvents and spray reagents is also provided. Although primarily intended for use in pharmacognosy, this book will be of value to any phytochemist concerned in separating the secondary metabolites of plant extracts. In spite of its hefty price, it is well worth adding this beautifully illustrated atlas to the laboratory shelf.

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Medicinal and Aromatic Plants, Volume IX: edited by Y. P. S. BAJAJ, Volume 37 in the *Biotechnology in Agriculture and Forestry* Series, Springer, Berlin, 1996, 415 pp., DM 428. ISBN 3-540-60597-5.

The ninth volume in this popular series on the phytochemistry of medicinal plants contains 24 essays, describing the experimental conditions needed to induce secondary product synthesis in the tissue or cell culture of a variety of higher plants. There is some concentration on pigment synthesis, with chapters on anthocyanins (*Aralia cordata*, *Petunia hybrida* and *Populus* spp.), betalains (*Portulaca* spp.), naphthoquinones (*Onosma paniculatum*) and blue colours (*Clerodendron trichotomum*, *Mentha* spp.). There are several chapters on the production of such phenolics as tannins (*Liquidambar*), flavonoids (*Cephalocereus*) and coumarins (*Coronilla*). There is an interesting chapter on attempted colchicine production in the novel source *Sandersonia aurentiaca*, but sadly the yields from culture do not yet match those of the whole plant or those from the classical source, *Colchicum*. Another novel discovery (to me) reported in a chapter on the culture of liverwort (*Marchantia polymorpha*) cells is that suspension cultures produce unexpectedly large amounts of arachidonic and eicosapentaenoic acids.

The rest of the book deals with various terpenoids and ranges from monoterpenes (*Mentha*) through diterpenoids (*Scoparia*) to phytosterols (*Agave*), ecdysteroids (*Serratula*) and brassinosteroids (*Catharanthus*) and there is even a chapter on rubber. There is therefore likely to be something of interest for nearly every phytochemist, and this book can be recommended as a useful addition to any well stocked plant science library.

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Light as an Energy Source and Information Carrier in Plant Physiology, edited by R. C. JENNINGS, G. ZUCCHELLI, F. GHETTI and G. COLOMBETTI, Plenum Press (NATO ANSI Symposium Series), 313 pp., 1996, $95. ISBN 0-306-45383-5.

What a pity that the lively discussion that follows many interesting contributions at international scientific conferences so rarely finds its way into the proceedings these days. This worthy and densely packed (313 pages of 10 pt, closely spaced, and by no means copiously illustrated) volume of conference proceedings would surely have benefitted from this humanizing element. The proceedings, from a NATO Advanced Study Institute held in Volterra, Italy, in 1994 cover (mostly) photobiological aspects of photosynthesis and of photomorphogenesis. No attempt is made by the editors to divide the book into sections and the chapters vary greatly in style of presentation and in the level at which they are aimed. In general, the photosynthesis chapters are very detailed and cover rather narrow fields, the other chapters being broader in coverage.

Though the idea of combining the photobiology of these two phenomena is a good one in theory, there is in practice rather little overlap between the two fields.