



Phytochemistry Vol. 100

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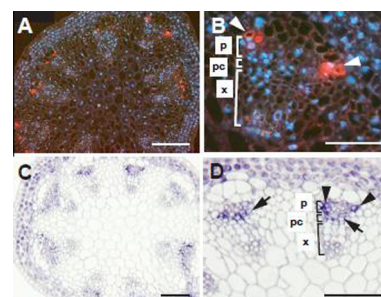
PROTEIN BIOCHEMISTRY AND PROTEOMICS

Antibodies against CKI1_{RD}, a receiver domain of the sensor histidine kinase in *Arabidopsis thaliana*: From antigen preparation to *in planta* immunolocalization

pp 6–15

Petra Borkovcová, Blanka Pekárová, Martina Válková, Radka Dopitová, Břetislav Brzobohatý, Lubomír Janda, Jan Hejátko*

Polyclonal antibodies raised against receiver domain of sensor histidine kinase CKI1 from *Arabidopsis* are of sufficient specificity and sensitivity to recognize CKI1 protein in both bacterial and plant expression systems.



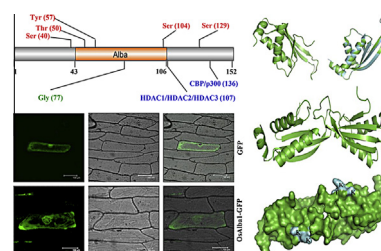
MOLECULAR GENETICS AND GENOMICS

OsAlba1, a dehydration-responsive nuclear protein of rice (*Oryza sativa* L. ssp. *indica*), participates in stress adaptation

pp 16–25

Jitendra Kumar Verma, Saurabh Gayali, Suchismita Dass, Amit Kumar, Shaista Parveen, Subhra Chakraborty, Niranjana Chakraborty*

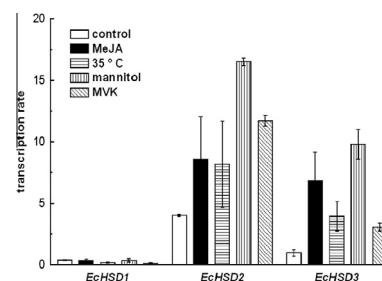
Screening of the dehydration-responsive nuclear proteome of indica rice identified an Alba-family protein, designated OsAlba1, distantly related to the archaeal DNA/RNA-binding Alba protein. We describe, for the first time, the complete sequence of *OsAlba1*, its genomic organization, and possible function/s.


Identification and stress-induced expression of three 3 β -hydroxysteroid dehydrogenases from *Erysimum crepidifolium* Rchb. and their putative role in cardenolide biosynthesis

pp 26–33

Jennifer Munkert, Mona Ernst, Frieder Müller-Uri, Wolfgang Kreis*

Three individual cDNAs (*EcHSD1*, *EcHSD2*, *EcHSD3*) encoding functional 3 β -hydroxysteroid dehydrogenases (3 β HSD) were isolated from *Erysimum crepidifolium* leaves. Various forms of stress enhanced transcription of *EcHSD2*, *EcHSD3* but not *EcHSD1*.

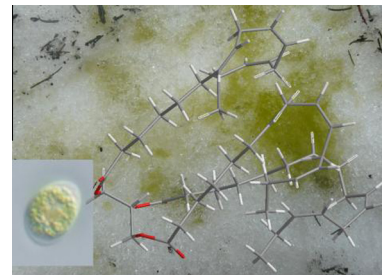


ECOLOGICAL BIOCHEMISTRY**Lipidomic profiling of snow algae by ESI-MS and silver-LC/APCI-MS**

pp 34–42

Tomáš Řezanka*, Linda Nedbalová, Lenka Procházková, Karel Sigler

The development is described of methods enabling a rapid determination of total lipids of algae by lipidomic analysis and detailed identification and quantification of a complex mixture of natural TAGs by silver-LC/APCI-MS and NARP-LC/APCI-MS. This approach can readily identify, both qualitatively and semiquantitatively, triacylglycerols containing 16:3 and 16:4 acids in the molecule. We conclude that the genus *Chloromonas* is a major producer of C16 PUFAs mostly contained in TAGs. Since more detailed studies in this field have been stymied by the shortage of 16:3 and 16:4 FAs, we decided to study the alga *Chloromonas* as a potential biotechnological source of C16 PUFAs.

**Characterization and heterologous expression of a PR-1 protein from traps of the carnivorous plant *Nepenthes mirabilis***

pp 43–50

Franziska Buch, Yannick Pauchet, Matthias Rott, Axel Mithöfer*

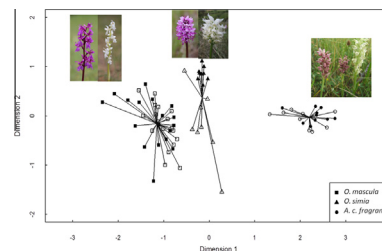
Carnivorous *Nepenthes* plants catch prey or additional nutrients. The digestive fluid contains hydrolytic enzymes as well as defensive proteins such as PR-1 protein to suppress microbial growth.

**Floral scent emitted by white and coloured morphs in orchids**

pp 51–59

L. Dormont*, R. Delle-Vedove, J.-M. Bessi re, B. Schatz

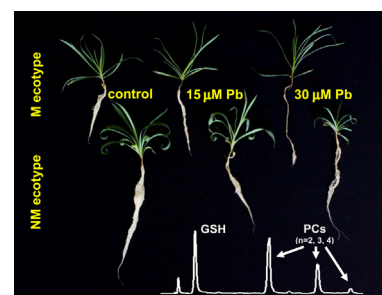
Floral volatiles emitted by white- and coloured-flowered morphs of *Orchis mascula*, *Orchis simia*, and *Anacamptis coriophora fragrans* were not different between white and coloured morphs, except for *O. simia*.

**Accumulation and tolerance of lead in two contrasting ecotypes of *Dianthus carthusianorum***

pp 60–65

Małgorzata Wójcik*, Anna Tukiendorf

Growth parameters, Pb accumulation as well as thiol peptide and organic acid concentrations were determined in metalliferous (M) and nonmetalliferous (NM) ecotypes of *Dianthus carthusianorum* cultivated hydroponically in the presence of Pb.



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