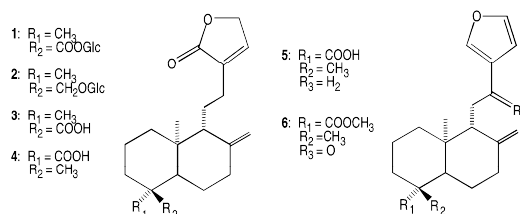


**B045 New diterpenes from freshwater macrophytes *Potamogeton lucens* and *P. pectinatus***P. Waridel<sup>a</sup>, J.-L. Wolfender<sup>a</sup>, J.-B. Lachavanne<sup>b</sup> and K. Hostettmann<sup>a</sup><sup>a</sup> Institut de Pharmacognosie et Phytochimie, Université de Lausanne, CH-1015 Lausanne, Switzerland. <sup>b</sup> Laboratoire d'Ecologie et de Biologie Végétale Aquatique, Université de Genève, ch. des Clochettes 18, 1206 Genève, Switzerland.

In order to evaluate the type of constituents produced by aquatic macrophytes, a widespread hydrophyte from Léman's Lake, *Potamogeton lucens* L. (Potamogetonaceae), was investigated and among various diterpenes two new glycosylated labdane diterpenes were isolated (**1**, **2**). LC-UV-MS analysis of the methanolic extract showed that these new compounds and various widespread flavonoids were part of its main constituents. Their aglycones were obtained by enzymatic hydrolysis with  $\beta$ -glucosidase and used as standards for LC-UV-MS profiling of dichloromethane crude extracts of *Potamogeton lucens*, *P. pectinatus*, *P. crispus* and *P. perfoliatus*. The aglycone of **1**, previously described as nivenolide (**3**), was detected in *P. lucens*. A new aglycone, the epimer of demethylpinusolide (**4**), was also characterized in *P. lucens* and *P. pectinatus*, and isolated from *P. pectinatus*. The LC-UV-MS analyses did not reveal any of the new lactone diterpene glucosides in the extracts of *P. pectinatus*, *P. crispus* or *P. perfoliatus*, but they allowed the detection of related compounds in all macrophytes. Furanoids labdane diterpenes, daniellic acid (**5**) and its 12-oxo methyl ester derivative (**6**), were also isolated from *P. pectinatus* and detected in *P. lucens* lipophilic extract by LC-UV-MS. Labdane diterpenes seem thus to be characteristic of the *Potamogeton* genus and a few previous studies have also mentioned their occurrence in other members of the Potamogetonaceae. The antialgal properties of these constituents are currently under investigation for a better understanding of their ecological significance.

**B046 Phytochemical investigation of *Vismia guineensis* by LC/UV-DAD, LC/MS-MS and LC/<sup>1</sup>H-NMR**M. Politi<sup>a</sup>, K. Ndjoko<sup>b</sup>, R. Sanogo<sup>c</sup>, J.-L. Wolfender<sup>b</sup>, K. Hostettmann<sup>b</sup> and I. Morelli<sup>a</sup><sup>a</sup> Dipartimento di Chimica Bioorganica e Biofarmacia, Università degli Studi di Pisa, via Bonanno 33, 56126 Pisa, Italy. <sup>b</sup> Institut de Pharmacognosie et Phytochimie, Université de Lausanne, CH-1015 Lausanne, Switzerland. <sup>c</sup> Département de Médecine Traditionnelle (DMT), B.P. 1746 Bamako, Mali.

*Vismia guineensis* (L.) Choisy (Hypericaceae) is a typical shrub of tropical West Africa locally called "Karidjakouma"; its bark and roots are employed in decoctions for internal and external usages in many skin diseases, such as dermatitis, leprosy, syphilis, herpes, scabies and eczemas (1, 2). In order to avoid disappearance of this widely used species, a comparative investigation of its root and leaf composition was initiated in order to evaluate the possible use of the leaves in traditional medicine. A secondary metabolite profiling of the lipophilic extracts of both leaves and roots (hexane and chloroform) was performed by means of LC/UV-DAD and LC/MS-MS. HPLC separation was carried out on a C-18 column with an acetonitrile/water gradient. The ionisation in LC/MS was achieved by APCI (Atmospheric Pressure Chemical Ionisation) in both positive and negative ion modes. The LC/UV-DAD analysis showed the presence of four classes of metabolites having specific chromophores: flavonoids, anthraquinones, vismiones and bianthrone. The molecular weights and characteristic fragments obtained by LC/MS analyses allowed the identification of different compounds by comparison with literature data. MS<sup>n</sup> experiments were carried out for the determination of characteristic fragments of the unknown structures present in the extracts. Three additional isomeric bianthrone were detected in *V. guineensis*. LC/<sup>1</sup>H-NMR was evaluated for the on-line identification of these latter isomers. Comparison between the leaf and root extracts showed that the same classes of constituents are present but only a minority of their derivatives are shared between these organs. In order to establish a definitive phytoequivalence of both organs, further pharmacological investigations are needed.

**References:** 1. Kerharo, J. O. (1974) *La Pharmacopée sénégalaise traditionnelle*. Vigot Freres. Paris. 2. Bilia, A.R. et al. (2000) *J. Nat. Prod.* 63, 16-21.