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LUCENINS IN THE LIVERWORT *PLAGIOCHILA ASPLENIOIDES*

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Key Word Index—*Plagiochila asplenioides*; Hepaticae; Jungermaniales; flavone-*C*-glycosides; lucenins.

Plant and source. Plagiochila asplenioides (L.) Dum. Plant material was collected near Klagenfurt, Austria. Voucher specimens are deposited in the Herbarium of the Fachrichtung Botanik, Universität des Saarlandes, Saarbrucken. *Previous work.* On flavonoid-*C*-glycosides in different species of liverworts: *Hymenophytum flabellatum* [1], *Madotheca platyphylla* (L.) Dum. [2–4], *Marchantia foliacea* [5].

Plant part examined. Gametophytic and sporophytic tissues. 60 g of air-dried material were extracted first with $CHCl_3$ and then with 80% MeOH. The lucenins were separated and isolated by Sephadex LH 20 column chromatography, by repeated one dimensional PC on Whatmann 3 MM and TLC on microcrystalline cellulose. Eluents for column chromatography were: MeOH (70% up to pure MeOH) and a mixture of MeOH and tert. BuOH (9:1). Solvents for PC and TLC were 15 and 40% HOAc; BAW (*n*-BuOH–HOAc–H_2O 4:1:5, upper phase).

Identification of the lucenins was by the following methods: chromatographic behaviour with several solvents on cellulose and polyamide plates; comparison by chromatography with authentic samples;* fluorescence in UV (254 nm and 350 nm); colour reactions with NH_3, Naturstoffreagenz A [6]. Benedicts reagent [7], $Pb(CH_3COO)_2$-$Pb(OH)_2$ [8]; hydrolysis for 8 hr with 2 N HCl under reflux (partial destruction of the flavone, no new flavonoid component or free sugar), UV spectra in MeOH and with the common shift reagents [9]; MS of the permethylated (PM) [10] and perdeuteriomethylated (PDM) compounds (in contrast to the underivatized compounds [11] these PM- and PDM-lucenins show M^+-peaks).

Compounds. Several different isomers of luteolin-6,8-di-*C*-glucoside; according to the chromatographic comparisons these include lucenin 1 (luteolin-6-*C*-xylosyl-8-*C*-glucoside), lucenin 2 (luteolin-6,8-di-*C*-glucoside), and lucenin 3 (luteolin-6-*C*-glucosyl-8-*C*-xyloside). Further work on identification of the sugar moiety of the isomers is in progress.

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* This work has been done by Miss Bouillant in the laboratory of Prof. Chopin, Lyon.

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