

B107 Iridoids isolated from *Pterocephalus sanctus* DecneAdel Kamal Zaki^a, Ahmed Hussein^a and Christina Kamperdick^b^aChemistry of Medicinal Plants Lab., National Research Center, Dokki, Egypt. ^bInstitute of Chemistry, National Center for Natural Science and Technology, Hanoi, Vietnam.

Continuing our studies on some endemic medicinal plants growing in South Sinai, Egypt (1), we investigated *Pterocephalus sanctus*, belonging to Dipsacaceae family (2), which is a very rare wild plant growing in Saint Catherine mountain. As far as we know, this is the first report of phytochemical studies of the plant.

We investigated the 80 % aqueous methanol extract of *P. sanctus* herb (600 g). The obtained extract (25 g) was defatted and subjected to column chromatography over Silicagel eluted with hexane and a gradient by addition of ethyl acetate. The fraction Fr-V, (6 g) eluted with 75% ethyl acetate was further separated by Silicagel flash column chromatography eluting with a gradient increase of methanol in ethyl acetate. Four fractions were collected (Fr-V-a; Fr-V-b Fr-V-c Fr-V-d). Fraction (Fr.-V-c) was further purified over Sephadex LH-20 eluted with 20% aqueous ethanol. The obtained fraction P-1 (2.15 g) was rechromatographed over flash Silicagel chromatography eluted with a gradient of methanol in chloroform (5-20%). Two major fractions were collected, P-1a (0.5 g) and P-1b (50 mg). Fraction P-1a showed two main spots in TLC and was subjected to Silicagel column chromatography using 10% methanol in chloroform. Pure substance A (34 mg) was obtained and was identified as swerosid by analysis of the 2D-NMR spectra (H,H-COSY, HMQC, HMBC) and comparison with NMR data of sweroside-6'-O-glucoside (3). The other pure substance B (41 mg) was identified as loganin by means of the 2D-NMR spectra (H,H-COSY, HMQC, HMBC) in comparison with reference data (4).

This is the first report of isolation and identification of two iridoids, swerosid and loganin, from *P. sanctus*.

References: 1. Adel Kamal Zaki et al. (2000) Book of Abstracts of Natural Products Research, the Netherlands, 779. 2. Tackholm (1974), Cited in "Student Flora of Egypt" Beirut. 3. R.X. Tan, et al. (1996) Phytochemistry 42: 1305. 4. T.T. Thuy et al. (1999) Journal of Chemistry, 37: 64-69.

B108 New abietane and seco-abietane diterpenoids from the herb of *Salvia candelabrum*G. Janicsák^a, J. Hohmann^b, P. Forgo^c, D. Rédei^b, I. Máté^{a, b} and T. Bartók^d^aInstitute of Ecology and Botany of the Hungarian Academy of Sciences, Alkotmány str. 2-4., H-2163 Vácrátót, Hungary.^bDepartment of Pharmacognosy, University of Szeged, Eötvös str. 6., H-6720 Szeged, Hungary. ^cDepartment of Organic Chemistry, University of Szeged, Eötvös str. 6., H-6720 Szeged, Hungary. ^dCereal Research Non-Profit Company, Alsó Kikötő str. 6., H-6726 Szeged, Hungary.

Salvia candelabrum Boiss. (Lamiaceae) is a herbaceous species, native to South Spain and is used in the traditional medicine as febrifuge. Previous phytochemical studies on the aerial parts have yielded the abietane candelabrone (1), and 3,4-seco rearranged abietane diterpenes, candesalvones A and B (2) besides triterpenes, β -sitosterol and essential oil. Our recent study on 11 European *Salvia* species revealed pronounced antioxidant activity of the extract of *S. candelabrum* in both enzyme-dependent and enzyme-independent systems of lipid peroxidation. Phytochemical analysis of the active extract showed the presence of potent antioxidant agents e.g. rosmarinic acid, caffeic acid and flavonoids. However, the total amount of phenolic compounds was found to be definitely higher than the sum of these constituents. In order to characterise further compounds of *S. candelabrum*, the methanolic extract of the aerial parts was investigated in detail.

The plant material was collected from the experimental field of the Institute of Ecology and Botany of the H.A.S., Vácrátót, Hungary. The methanolic extract of the herb was subjected to open column chromatography on polyamide and on silica gel, and then fractionated repeatedly by preparative TLC to afford five compounds. The structures were established by ESI-mass spectroscopy and advanced two-dimensional NMR methods, including ^1H NMR, JMOD, ^1H - ^1H COSY, NOESY, HSQC and HMBC experiments. The present paper reports on the isolation and structure elucidation of three new 3,4-seco-abietane and one new abietane diterpenes along with the known candelabrone. The chemical names of the new compounds are as follows: 12-hydroxy-7,11,14-trioxo-3,4-seco-4(18),8,12-abietatrien-3-oate; 11,14-dihydroxy-12-methoxy-7-oxo-3,4-seco-4(18),8,11,13-abietate traen-3-oic acid; 11,12,14-trihydroxy-7-oxo-3,4-seco-4(18),8,11,13-abietatetraen-3-oate; 3,7,11,14-tetraoxo-8,12-abietadiene-12-ol.

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References: 1. Cañiguer, S. et al. (1988) Phytochemistry 27: 221-4. 2. Mendes, E. et al. (1989) Phytochemistry 28: 1685-90.