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Mo-Poster Session 1-PO-151 Comparison of the phytochemical composition and antioxidant activity of seeds from different *Hypericum* species

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H. perforatum is widely used in phytomedicine, among others, for the treatment of depressive episodes [1]. The aerial parts of *Hypericum* species are known for their complex spectrum of secondary metabolites [2]. Interestingly, subterraneous parts received less attention. Especially data for seeds are scant in literature. The aim of the present study was to systematically compare the seeds of two species, i. e. *H. perforatum* and *H. tetrapterum*, with regard to their metabolite profile. For this purpose, seeds were extracted with dichloromethane and methanol and analyzed by HPLC-DAD-MS^n and GC-MS. Moreover, the free radical scavenging capacity of methanolic seed extracts was quantified using the DPPH antioxidant assay. *H. perforatum* and *H. tetrapterum* yielded a fatty oil fraction amounting to 30.5% and 18.0% of the seed weight, respectively. Xanthone derivatives, *i.e.* tetrahydroxyxanthones (THX), xanthone-glycosides and xanthone-sulfonates, were assigned in the methanolic extracts of both species. For structure elucidation, one representative xanthone, namely 1,3,6,7-THX, was synthesized. Total THX contents were quantitated, resulting in 1.25 g/kg (*H. perforatum*) and 0.27 g/kg (*H. tetrapterum*). *H. perforatum* extracts (IC_{50}= 8.73 mg/L) and 1,3,6,7-THX (IC_{50}= 3.02 mg/L), exhibited good DPPH free radical scavenging activity compared to trolox (IC_{50}= 6.61 mg/L). The seeds of *Hypericum* were found to be a rich source of fatty oil and phenolic compounds exhibiting antioxidant activity, which was attributed to the remarkable xanthone contents. The results indicate, that *Hypericum* seeds might have promising potential in cosmetic and medicinal products.

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Mo-Poster Session 1-PO-152 Essential oil composition and polar fraction analysis of *Tanacetum macrophyllum* (Waldst. et Kit.) Schultz Bip.

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Tanacetum macrophyllum (Waldst. et Kit.) Schultz Bip, also known as Tansy, is a perennial herbaceous plant belonging to the Asteraceae family. This species is typical of the Balcan area but is punctually spread in other European countries as a rare species [1]. In Italy, it is found mainly within forests [1, 2]. This species is often erroneously confused with *Achillea grandifolia* Friv. [1, 2]. In this work, a comprehensive phytochemical analysis on the volatile components and polar fraction of *T. macrophyllum* growing in central Italy was carried out. Flowers and leaves were separately analyzed for the essential oil composition and were characterized by oxygenated monoterpenes (39.4%) and oxygenated sesquiterpenes (28.0%) and sesquiterpene hydrocarbons (39.3%) and oxygenated monoterpenes (25.4%), respectively. The phytochemical analysis conducted on the ethanolic extract of the total aerial parts evidenced the presence of twelve compounds: apigenin, cirsimaritin, apigenin-7-*O*-glucoside, apigenin-7-*O*-glucuronide, kaempferol-7-*O*-glucoside, kaempferol-7-*O*-glucuronide, 3,5-dicaffeoylquinic acid, 4,5-dicaffeoylquinic acid, chlorogenic acid, shikimic acid, quinic acid *and* 4-*O*-β-D-glucopyranosyl-vanillic acid. Most of these compounds were reported for the first time in the species while three of them are new phytochemicals for the *Tanacetum* genus. The presence of all these compounds provides a phytochemical rationale for the botanical classification of this species and encourages further ethno-pharmacological studies just like for *T. parthenium* [3].

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Mo-Poster Session 1-PO-153 Simultaneous HPTLC identification of Fig, Senna and P. hybridus using Ion Exchange Chromatography

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The commercial product fig film coated tablets with Senna contains fig powder and dry extracts of Senna and P. hybridus as active pharmaceutical ingredients. Until now each active ingredient was identified in a separate analysis. Therefore, a new HPTLC technique for simultaneous identification for fig, Senna and P. hybridus was developed for fig film coated tablets with Senna. Fructose, sennosides A/B and cichoric acid were chosen as suitable markers for the corresponding active ingredients fig, Senna and P. hybridus. Due to the fact that these three markers have different chemical characteristics, a pre-purification step must be performed to separate the active compounds. After extraction using a basic methanol solution, the resulting solution is applied to a cation exchange column. Using pH defined solutions, the three markers are eluted into two different fractions. After application of the fractions onto an HPTLC plate and development of the plate (mobile phase: formic acid:water:2-butanone:ethyl acetate (10:10:40:40) (V:V:V:V)), three different staining solutions are used for visualization. During the first staining, the plate is immersed in natural product reagent followed by PEG400. This step visualizes cichoric acid, which is the marker of P. hybridus, at 366 nm. The second immersion step into thymol reagent visualizes the markers fructose and sennosides A/B of fig and Senna, respectively, at Vis light and 366 nm. With this method we are, therefore, able to analyze all relevant markers on one HPTLC-Plate. These markers only elute in the corresponding fractions and no co-elution is observed. The technique allows identification of all chosen markers in newly manufactured fig film coated tablets as well as stability samples of the product. Validation of this analytical procedure shows that it is selective, specific and robust.

Mo-Poster Session 1-PO-154 Chemical Constituents from the Formosan Octocoral *Nephthea columnaris*

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In the studies on the chemical constituents of octocoral Nephthea columnaris, collected off the coast of Southern Taiwan, had led to the isolation of 11 metabolites, including ten sterols, columnaristerols A-C (**1**-**3**), litosterol (**4**), 24-methylene-cholesterol (**5**), 24-methylene-cholest-5-ene-3β,7α-diol (**6**), 5α,8α-epidioxy-24-methylcholesta-6,24(28)-dien-3β-ol (7), 4α-methylergos-