

Variation in the Composition of the Essential Oil of *Senecio Filaginoides* Dc

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Introduction

The gender *Senecio* (*Asteraceae*) it is one of the richest in species of the angiospermas. *Senecio filaginoides* is very frequent in arid areas, extending from the region of the Fluna until the county of Santa Cruz. It is a hemispheric bush of 0,50 m of height, densely rarnoso, with cylindrical shafts, albo-tomentosos, hojosos until the alternating ápice.Hojas, fineares, whole or with some isolated tooth, tomentosas in both expensive ones or almost glabras in old copies. The chapters are discoides, prepared in summits dense corimbiformes, in the ends of the branches. 1 involve cylindrical fiared, caliculado, shorter than the flowers with 8 to 13 bráctreas involve them. The flowers are yellow, isomorfas, hermaphrodite, with corofia tubulosa. Aquenios densely papiloso-pubescentes. Abundant white papus (Goatherd, 1971) [1].

It is a very variable species in density of the indumento, size of the leaves, height of the 1 involve and bractreas number involves them.

Descripto two varieties *S. filaginoides* is had var DC. *filaginoides* and *S. filaginoides* var. *lobulatus* (Hook. Et Arn.) Goatherd those that differ for the presence in the second variety of 1-3 couples of teeth or short lobes for leaf.

In spite of being a very abundant species in the south of our country, we don't have knowledge of antecedents referred to the study of the essential oil and their properties to evaluate their eventual industrial use.

The present work this guided to determine the chemical composition of the essential oils of *Senecio filaginoides* and to detect if there are differences among the varieties and in different state fenológico.

Experimental

The work was carried out on a population located in Comodoro Rivadavia's proximities.

Copies of both varieties were marked for studies morfoanatómicos, fenológicos and chemical. They were carried out collections of branches non significadas, young and mature leaves of copies in vegetative and reproductive state.

The collected material dried off during 24 hours and then she was carried out the extraction of the essential oil for the distillation method for haulage with vapor of water. They were carried out three extractions of those that a yield average of 0,9% was obtained. The yield this expressed as ml of essential oil by each 100 g of vegetable.

For the determination of the composition of the oil a gassy chromatography Konik 3000 HRGC was used, provided of a column RTX 1 (30m, 0,53 mm, 1 um) and a detecting FID. The following program of temperatures was used: Initial temperature at 50°C during 2 minutes, then up to 200°C during 7 minutes, at 10°C per minute. The analyses of CG-EM were carried out in the Department of Chemistry and Engineer Chemistry of the UNS, in a gas chromatograph Hewlett Packard HP 6890 with detecting EM.

The compound identification of the different ones was achieved through the use of standard chromatography databases belonging to the CG-EM and pertinent bibliography.

The spectra UV was carried out, using nail polish remover like pay, in a spectrophotometer of diode arrangement Hewlett Packard 8452 in a range of wave longitudes understood between 190nm and 820nm.

The refraction index was carried out in a refractometer of ABBE PZO it marks WARSZAWA model RL2.

Results and Discussion

Through the chromatography analysis you can detect that the composition of the essential oil is very complex, having some few majority compounds but with a great number of compound minority.

Until the present components have been identified that represent in their composition 63,91% for *Senecio filaginoides* var *filaginoides* and 53,73% for *Senecio filaginoides* var *lobulatus*. A Majority Compound Tr = 20,5 that it represents 25% for the first one and 32,5% for the second are without determining since it doesn't correspond to the patterns that we possess and their spectrum of mass is not in the database neither in the bibliography consulted [2,3,4]. You began their separation to be able to carry out their identification.

The percentual composition of the essential oil of the *Senecio filaginoides* var *filaginoides* according to the different states fenológicos and *Senecio filaginoides* var *lobulatus*.

	<i>Senecio filaginoides</i> var. <i>filaginoides</i> Vege- tative state	<i>Senecio filaginoides</i> var. <i>filaginoides</i> Reproductive state	<i>Senecio filaginoides</i> var. <i>lobulatus</i> Repro- ductive state
α - pinene	9	13,15	0,46
β - pinene	5,6	6,2	4,8
β - Terpinene	3,5	6,74	4,13
α - Terpinene + <i>p</i> - Cimene	41,67	39,5	41,22
<i>R</i> -Silvestrene	1,34	4,45	0,32
β - Carene	0,37	0,12	0,25
Spathulenol	0,47	0,26	1,05
Guaiol	0,38	0,23	1,50

In the chart II the data of refraction index and wave wavelength are included where the absorption is maximum.

	<i>Senecio filaginoides</i> var. <i>Filaginoides</i> Vegetative state	<i>Senecio filaginoides</i> var. <i>filaginoides</i> Reproductive state	<i>Senecio filaginoides</i> var. <i>lobulatus</i> Reproductive state
<i>Im</i> _{ax} (nm)	342 y 360	340 y 360	334
n_D^{20}	1,4978	1,4942	1,4928

References and Notes

1. Goatherd, A. *Flora Patagónica: Compositac*; Maevia N. Correa, Ed.; Scientific collection-INTA: Buenos Aires, 1971; VIII (7), pp 242-243.
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