



Chemical composition of the essential oil of *Piper regnellii*, *Piper umbellatum* and *Piper xylosteoides* from Rio Grande do Sul

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Plants are rich natural sources of compounds capable of performing the various pharmacological actions. This feature, combined with its great chemical diversity, makes vegetable products excellent raw materials for the synthesis of new drugs. Morphological variations can occur within the same species depending on their adaptation to different locations and climates. Knowledge of the chemical composition can also assist in its botanical classification. Among the plant secondary metabolic products most promising, and easier access to the research of active compounds, are the volatile or essential oils, which have been regarded as the largest group of natural products and potential source of biologically active substances (1). Piperaceae family belongs to Piperales order and is one of the earliest families of Angiosperms. *Piper* and *Peperomia* are the largest genera, respectively with 265 and 166 species. Among the species of Piperaceae are included several varieties of peppers, with economic and medicinal importance (2). *Piper* genus comprises about 2000 species and only 12% were studied from the chemical point of view (3). Thus, the objective of this work is the analysis of the chemical composition of the volatile oil from leaves of *Piper regnellii*, *P. umbellatum* and *P. xylosteoides* native populations of Rio Grande do Sul. The aerial parts of the species were collected in Três Cachoeiras. A voucher specimen was deposited in the Herbarium of the Universidade Federal do Rio Grande do Sul (ICN). The oil from the leaves was obtained by hydrodistillation, using the Clevenger-type apparatus for 4 h. Chemical analysis was carried out by gas chromatography coupled to mass spectrometry (GC/MS). Identification of compounds was based in comparison of retention indices and mass spectra with authentic samples and data from literature (4). The yield of volatile oil from leaves of *P. regnellii* was 0.5 %, for *P.umbellatum* was 0.1 % and *P. xylosteoides* was 0.1 %. The major compounds identified in the leaves of *P. regnellii* were the arylpropanoids dill apiole (16.7 %) and apiole (42.0 %). For *P. umbellatum* were the sesquiterpenes β -caryophyllene (25.2 %), germacrene D (36.4 %) and bicyclogermacrene (12.2 %) and for *P. xylosteoides* were the sesquiterpenes β -caryophyllene (10.4 %), bicyclogermacrene (38.2 %) and *trans*- γ -bisabolene (14.4 %).

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