

SL15 New antiproliferative kaurane-type diterpenes from *Parinari sprucei*

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In the course of our investigations on Latin American medicinal and food plants, we have been studying many Venezuelan species belonging to the Chrysobalanaceae with the aim of isolating as many secondary metabolites as possible, for better phytochemical and chemotaxonomic characterization of the family, and for subjecting the isolated compounds to biological screening on the basis of their structural relationships with similar metabolites or known drugs (1, 2).

In this context we selected *Parinari sprucei* Hook. f., a tree up to 20 m in height growing in the Amazon forest of Venezuela, whose fruits are edible and constitute part of the diet of the Indians living in the region of Cataniapo river, where the plant was collected (3). The genus *Parinari* is phytochemically not deeply investigated: only few species were studied leading to the identification of some nor-kaurene and ent-kaurene diterpenes (4, 5). In this work we report the isolation, by modern chromatographic methods (Sephadex LH-20 and SPE column, HPLC), and structural characterization of twelve new kaurane-type diterpenes from the leaves of *P. sprucei* by means of high resolution 1D- and 2D-NMR (COSY-DQF, TOCSY, HSQC, HMBC, ROESY, and NOESY) experiments, as well as by ESI-MS analysis. Since some kaurane diterpenes exhibited cytotoxic activity (6, 7) pure compounds obtained were tested for evaluating their antiproliferative activity using three continuous cell lines: J774.A1, WEHI-164, and HEK-293. The cell viability was assessed through an MTT conversion assay (8). Some diterpenes showed good activity in comparison with 6-mercaptopurine used as reference compound.

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SL16 Significance of medicinal plants in Northeast Brazilian health care – Farmácia Viva

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Health care organisation in Brazil reflects the social structure of the country. High technology private care is available to the rich whereas the vast majority must make do with inadequate public care. Financial resources are concentrated on the hospital sector of the few big cities and only 15% of public health funds are left for primary health care. The majority of the population depends on self-medication. Medicinal plants are used in Brazil traditionally and there is widespread knowledge of therapeutically relevant species, knowledge which is in danger of being lost or mixed with perverted versions of popular medicine currently in fashion. A confusing number of simultaneous plant names and the vast variety of adulterants and substitutes lead to high risk of erroneous application of certain species. These risks are demonstrated by three examples of often used local plants: *Plectranthus barbatus* Andr., *Cymbopogon citratus* Stapf. and *Mentha x villosa* Huds. In Northeast Brazil the comprehensive and integrated pharmaceutical-social program "Farmácia Viva", ('living pharmacy') was created to help underprivileged people correctly and effectively use those plants whose medicinal properties have been validated through scientific study. The intention is to support communities in preparing their own natural medicine for primary health care under technical supervision. Selected local plants are analysed for their active principles and therapeutic relevance and plant monographs are elaborated. Those plants which meet the specific needs of a distinct area are selected. Health professionals and laypersons in the communities are oriented and supervised in the cultivation and harvest of plants as well as the preparation and application of the phytotherapeutics. Direct contact and exchange with local people provides additional empirical data to encourage new scientific studies. The "Farmácia Viva" project is presented as an exemplary program to deal with the lack of governmental primary health care in Northeast Brazil and to link scientific pharmaceutical expertise with traditional and popular knowledge of medicinally relevant plants as a source for further scientific studies.

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