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Caracterización fitoquímica de extractos etanólicos e hidrolatos de Gliricidia *sepium* y *Solanum aphyodendron*

Phytochemical Characterization of Ethanolic and Hydrolate Extracts of *Gliricidia sepium* and *Solanum aphyodendron*

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Presentación Poster 16

ABSTRACT

The study of secondary metabolites found in plants is of great importance due to their biotechnological potential [1]. In the township of Santa Cecilia, Pueblo Rico, Risaralda, a participatory workshop was held with the community to select medicinal plants for traditional use. During this workshop, two plant species stood out for their relevance: the "matarratón" (*Gliricidia sepium*) and the "sauco amargo" (*Solanum aphyodendron*). The present research focuses on the phytochemical characterization of ethanolic and hydrolate extracts of these species, which were obtained through ultrasound-assisted extraction and hydrodistillation, respectively [2;3]. Ethanolic extracts were analyzed using thin layer chromatography (TLC) for the characterization of phytochemical nuclei, including alkaloids, tannins, phenols, flavonoids, coumarins, anthraquinones, sterols, terpenes, saponins, and triterpenes [4]. For hydrolates, a headspace solid-phase microextraction (HS-SPME) and subsequent analysis by gas chromatography coupled to mass spectrometry (CG-EM) were performed, and these data were analyzed using molecular networks using the platform: Global Natural Products Social Molecular Networking (GNPS), where different molecular families such as terpenes and alcohols were grouped [5]. Ethanolic and hydrolate extracts of "matarratón" and "sauco amargo" reveal a wide diversity of compounds, confirming the potential of these species as a source of bioactive molecules known for their antioxidant, antibacterial, and antifungal properties [6-8].

Key words:
Medicinal plants, volatile compounds, TLC, HS-SPME-GC-MS, Phytochemical profile.

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RESUMEN

El estudio de los metabolitos secundarios que se encuentran en las plantas es de gran importancia debido a su potencial biotecnológico [1]. En el corregimiento de Santa Cecilia, Pueblo Rico, Risaralda, se llevó a cabo un taller participativo con la comunidad para seleccionar plantas medicinales de uso tradicional. Durante este taller, destacaron dos especies vegetales por su relevancia: el matarratón (*Gliricidia sepium*) y el sauco amargo (*Solanum aphyodendron*). La presente investigación se centra en la caracterización fitoquímica de extractos etanólicos e hidrolatos de estas especies, estos se obtuvieron a través de una extracción asistida mediante ultrasonido y mediante hidrodestilación, respectivamente [2;3]. Los extractos etanólicos se analizaron mediante cromatografía de capa delgada (CCD) para la caracterización de núcleos fitoquímicos, incluyendo alcaloides, taninos, fenoles, flavonoides, cumarinas, antraquinonas, esteroles, terpenos, saponinas y triterpenos [4]. Para los hidrolatos, se realizó una microextracción en fase sólida en espacio de cabeza (HS-SPME, por sus siglas en ingles) y un posterior análisis mediante cromatografía de gases acoplada a espectrometría de masas (CG-EM) y estos datos fueron analizados mediante redes moleculares usando la plataforma: Global Natural Products Social Molecular Networking (GNPS), donde se lograron agrupar diferentes familias moleculares como terpenos y alcoholes [5]. Los extractos etanólicos e hidrolatos de matarratón y sauco amargo revelan una amplia diversidad de compuestos, confirmando el potencial de estas especies como fuente de moléculas bioactivas conocidas por sus propiedades antioxidantes, antibacterianas y antifúngicas [6-8].

Palabras clave:
Plantas medicinales, Compuestos volátiles, CCD, HS-SPME-GC-MS, Perfil fitoquímico.

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