



Phytochemical investigation of leaves and fruits extracts of *Chamaerops humilis* L.

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Abstract

The major aim of this work is the research of the bioactive compounds isolated from the *Chamaerops humilis* L. From this perspective, phytochemical study was undertaken on this western Mediterranean plant. Phytochemical Screening based on tests of colouration and precipitation were undertaken by three solvents with different polarities such as water, ethanol and diethylether. The tests carried out on leaves and fruits show presence of tannins, flavonoids and saponins. However, less presence of steroids and essential oils was observed. The selective extraction of tannins allowed us to obtain 0.351% and 0.098% yields for the leaves and fruits respectively. Separation on column chromatography conducted to a major fraction of tannins and a major compound from defatted pericarp fruits hexanic extract.

Key words: *Chamaerops humilis* L., Leaves, Fruits, Phytochemical screening, Extraction.

1. Introduction

Historically, plants have provided a source of inspiration for novel drug compounds, as plant derived medicines have made large contributions to human health and well being. According to the World Health Organization (WHO) in 2008, more than 80 % of the world's population relies on traditional medicine for their primary healthcare needs [1]. Nearly, all cultures and civilizations from ancient times to the present day have depended fully or partially on herbal medicine because of their effectiveness, affordability, availability, low toxicity and acceptability [2].

The family Arecaceae comprises of 200 genera and 3000 species [3-4]. *Chamaerops humilis* L. is a medicinal plant which belongs to the Arecaceae family. It is frequently found in the North Africa especially occidental Mediterranean area [3, 5-7]. *Chamaerops humilis* can grow up between 1 to 1.5 m in mean height. But, this plant can reach 9 to 10 m of height in the protected areas. All varieties of this plant produced a single inflorescence consisting of a spadix, surrounded by a long and slender greenish yellow spathe (Figure 1).

Traditional medical practices survey carried out in Western Algeria (Tlemcen department) and Morocco revealed that *Chamaerops humilis* L. is taken as stipe or leaf extracts for the treatment of diabetes, digestive disorders, spasm, toning and gastrointestinal disorders diseases [8-10]. Besides, it plays an important role in the Algerian ecosystems [10]. Several studies have been shown the beneficial effects of *Chamaerops humilis* against chronically diseases such as cancer, ulcer, kidney stones [11-17]. Moreover, Farah Gaamoussi et al. showed that An aqueous concoction made from the leaves of *Chamaerops humilis* (L.) (dwarf fan palm), is used in the Moroccan traditional medicine for the treatment of diabetes, as well as a number of other diseases.