



A survey of some medicinally important plants of the family euphorbiaceae from Baramati area of Pune district of Maharashtra, India

Vaishali Jain, Ashwini Dudhal, Rupali Chitale*, Prasad Bankar

Department of Botany, PG. Research Centre, Tuljaram Chaturchand College of Arts Science and Commerce, Baramati, Maharashtra, India

Abstract

Family Euphorbiaceae is one of the largest families of flowering plants, composed of over 300 genera and 8000 species and about 195 species are found in India. In light of various Botany disciplines, the family Euphorbiaceae is assessed taxonomically and phylogenetically. The milky sap distinguishes the Euphorbiaceae family. The current study is an attempt to document different plant species belonging to the family Euphorbiaceae that are used by the local people to treat various ailments in the Baramati area. The extensive and intensive studies of the vegetation of area under study field survey was carried out for collection of plants. In this present investigation, total 26 plant species belongs to 7 genera of the family Euphorbiaceae were reported. The current study, which focuses on medicinal plants and their local uses in healthcare, may be a preliminary contribution to this area using standard research methods.

Keywords: euphorbiaceae, floral diversity, field survey

Introduction

Family Euphorbiaceae is one of the largest families of flowering plants, composed of over 300 genera and 8000 species and about 195 species are found in India. The family contains a wide variety of plants, ranging from large woody trees to climbing lianas to simple weeds that grow prostrate to the ground. (Baskey and Lal., 2019) [4]. *Euphorbia* species can be found all over the world (in both tropical and temperate climates) and range in size from small, annual or perennial herbaceous plants to woody shrubs, lianas, and trees, as well as large desert succulents. In general, chemical and pharmacological studies were conducted on *Euphorbia* species' entire plants, stems, leaves, latex, roots, and seeds. (Andrea and Judit, 2014) [1]. In light of various Botany disciplines, the family Euphorbiaceae is assessed taxonomically and phylogenetically. The milky sap distinguishes the Euphorbiaceae family. When present, the flower is unisexual (evolved), the ovary is trilocular and superior, and the placentation is axile. Gibbes (1974) summarised and reviewed the phytochemical constituents of the Euphorbiaceae plant family. He expressed an unusual interest in the stinging hairs.

Webster (1966) recognised that the seed fats of Euphorbiaceae reveal the family's heterogeneity. Evan and Kinghorn (1977) conducted a phytochemistry comparison of some *Euphorbia* species' diterpenes. Acharya *et al.* (1997) investigated ten *Euphorbia* species. Seigler and David S. (1994) identified a large number of compounds from various chemical classes from Euphorbiaceae members (Kothale K.V. *et al.*, 2011) [10].

The Euphorbiaceae family plant, according to Ali Esmail (2017) [16], contains valuable prescription drugs. Secondary metabolites, which are bio-synthetically derived from primary metabolites and are an important source of many nutrients, are abundant in plants. In the phytochemical screening of *Euphorbia hirta*, carbohydrates, terpenoids, alkaloids, hormones, tannins, proteins, fats, oils, gums,

mucilages, glycoside, saponin, coumarin, cardiac glycosides, anthroquinones, flavanoids, and phenolic compounds were discovered. (Duh *et al.*, 1999; Dragland *et al.*, 2003; Wang, 2003; Wu *et al.*, 2004). (Bijekar and Gayatri, 2014) [5].

Jatropha gossypifolia (Euphorbiaceae) has anticancer, hepatoprotective and pesticidal activity. (Sosa *et al.*, 2002; Panda *et al.*, 2009). *Chrozophora tinctoria* is used in dyeing (Paolo, 2006), (Shahwar *et al.*, 2010) [17]. *Euphorbia tithymaloides* reported to have activity to minimize nematode damage in mushrooms. (Srivastava and Soni, 2019) [18].

Dried leaves of *Euphorbia heterophylla* were used for extraction with three different solvents namely petroleum ether (60-80°C), butanol and ethanol. (falodun A *et al.*, 2003) [6].

The antifungal, antibacterial, antiulcer and antitumor properties of extracts of leaves of *Acalypha hispida* have been established (Ejechi and Soucey, 1999; Adesina *et al.*, 2000; Gutierrez-Lugo *et al.*, 2002), (Onocha *et al.*, 2011) [15].

India a land of enormous alters in soil along with weather condition is an idyllic position meant for the gardening of great number of plants with medicinal properties and which can be used in cosmetics, agrochemical and perfumery also in pharmaceutical industries (Nag Aushi *et al.*, 2018) [12]. Most medicinal plants are being formulated into Pharmaceutical dosage forms like tablets, creams, ointments, syrups and lotions. (Lakshmi and Vaidya, 2018) [11].

The various parts of the plant (leaves, roots, seeds and seed and seed oil) are widely used in a variety of ailments in traditional system of medicine such as Ayurveda, Unani and Siddha (Arulraj P. *et al.*, 2017) [3]. The aim of present research is, to determine the preliminary phytochemical constituents, antimicrobial activity of Ethanol, Methanol,

