INTRODUCTION

The British biologist Norman Myers coined the term "biodiversity hotspot" in 1988. He described them as a biogeographic area by characterizing their brilliant steps of plant endemism and grave levels of habitat loss. Further, Conservation International (CI) joined ‘Myers hotspots criteria’ in 1989-1996, and they made one organization for the reassessment of the hotspots concept and in 2005 they have in print an efficient posh Hotspots Revisited: Earth's Biologically Richest and Most Endangered Earthly Ecoregions. According to the CI report, there is the total of thirty-five biodiversity hotspots in the world, amongst them, four are in India. Mainly these three biodiversity hotspots are situated in the Himalaya, Indo-Burma, Sundaland, and the Western Ghats. A Total of 17000-18000 flowering plant species, 8000 medicinal plants, are documented in folk and Ayurveda, Unani, Siddha, and Homoeopathy. Herbs are the immense reserve base for the conventional medication & herbal industry and also it admits livelihood and health safety to a great section of Indian population. India has the greater natural ecosystem from past two decades, near has been a marvelous augment in the applications of natural medicines; though there is still a noteworthy deficiency in the research of medicinal plants and it has the great resources of medicinal plants which are noteworthy to human beings in many ways. According to the WHO, herbs are used as the best resource to get a diversity of bioactive compounds in the development of different drugs, those are effective as an antimicrobial, antituberculosis, antioxidant, anticancerous, anti-inflammatory, antidiabetic, anthelmintic, hepatoprotective activity, larvicidal activity. By taking the above background in the present review total of three medicinal plants revealed with their critical information.

In the present study a total of three medicinal plants were under study and their information is as follows.

CRITICAL REVIEW ON BOMBAX CEIBA, ALOE VERA AND XIMENIA AMERICANA

Rohit Shankar Mane, Ankala Basappa Vedamurthy

Department of Biotechnology and Microbiology, Karnatak University, Dharwad, Karnataka, 580003, India

ABSTRACT

Therapeutic plants are extensively increased in scenery with their efficient therapeutic properties. India has the greater natural ecosystem from past two decades, near has been a marvelous augment in the applications of natural medicines; though there is still a noteworthy deficiency in the research of medicinal plants and it has the great resources of medicinal plants which are noteworthy to human beings in many ways. The medicinal plants such as Bombax ceiba, Aloe vera and Ximienia Americana are well known to cure several diseases therefore used in different Ayurvedic drugs, those are effective as an antimicrobial, anti-inflammatory, antioxidant, anticancerous, anti-diabetic, anthelmintic, hepatoprotective activity, larvicidal activity. By taking the above background in the present review total of three medicinal plants revealed with their critical information.

Key words: Aloe vera, Bombax ceiba, ecology, ethnobotany, pharmacology, Ximienia americana.
It is extensively originated in moderate Asia, Africa, Australia and tropical Asia. In India, it can be originated at altitudes up to 1500m. It is usually seen within the arid and wet deciduous forests and also by rivers of peninsular India. It is a huge light-eater and rapidly rising tree. It grows finest on bottomless gramy loams, especially in valleys, within the parts that are receiving 50 to 460 cm. The morphology is shown in Figure 1. The dissimilar pieces of B. ceiba similar to all parts are revealed to hold various curative behaviors in pharmalogical surveys. In February, B. ceiba begins plummeting every one of its foliage. It is time for blossoming and follows an amazing exhibit of great silky red flowers at the tips of naked branches. In May, white cottony strands, from opened fruits, float downward, settling on the ground, houses and whatever else is in their mode. It displays spiky twigs orderly in horizontal tiers which are rough, straight and spiny with buttress roots. The body parts of the plant contain different chemicals. Bark contains lupeol, saponins, tannins, gums and trihydroxyflavone-3-O-β-D-glucopyranosyl(1→4)-α-L-rhamnopyranoside, hexacosanol, shamimicin; Seeds contain palmitic acid; roots contains lactone, Hemigossypol-6-methyl; flowers contains polysaccharides; Leaves contain a flavonols, C-glycoside shamimin and Xanthone. The plant has different medicinal activities such as anti-inflamatory, antidiabetic, anti-diarrheal, anti-helminthic activities, treating leprosy, muscular injury, wounds, asthma, birth control, sexual diseases.  

**ALOE VERA**

The plant comes under the Asphodelaceae family. It is a shrubby. It is perennial. It is xerophytic and succulent. It is pea green coloured plant. It mainly founds in the dry regions of the world. These dry regions are nothing but the regions from America, Asia, Africa and Europe. Inside India, the plant is found in Maharashtra, Gujarat, Andhra Pradesh, Tamil Nadu and Rajasthan. It has leaves and these leaves are fleshy and triangular in nature. The leaves are jagged with edges. It consist yellow tubular flowers. It also consist fruits that contain frequent seeds. The morphology is shown in Figure 2. Leaves are made up of three layers. Inner layer is made up of clear gel; middle layer is made up of latex while outer layer is made up of cells. The outer layer is thick in nature due to carbohydrates and proteins.  

**Taxonomy**

- **Kingdom:** Plantae  
- **Division:** Magnoliophyta  
- **Class:** Magnoliopsida  
- **Order:** Malvales  
- **Family:** Bombacaceae  
- **Genus:** Bombax  
- **Species:** ceiba  

**Subdivision:** Angiospermae  
**Class:** Monocotyledoneae  
**Genus:** Aloe  
**Species:** Barbadensis Mill  
**Synonyms:** Aloe, Musabbar, Kumari  

The plant contains nataoins and barbaloins. These two aloins are important in the view of medicinal applications. Natatoins gives picric acids and oxalic acids in the presence of nitric acid. It will not give a red coloration after reaction. Barbaloins gives aloetic acid and chrysammic acid in the presence of nitric acid. Barbaloins yields yellow coloured prismatic crystals. *Aloe vera* produces six antiseptic agents. These agents are active against all pathogens and nothing but cinnamonic acid, lupeol, phenols and sulphur, salicylic acid and urea nitrogen. Lupeol and salicylic acid present in the juice are two very effective pain-killers. It has antiinflamatory property. This property was acclaimed by three fatty acids and these fatty acids are nothing but the campesterol, cholesterol and β-sitosterol. It is highly active in the action of scrapes, burns, abrasions, cuts, rheumatoid arthritis, allergic
reactions, rheumatic fever, ulcers, acid indigestion, and many more inflammatory conditions of the digestive system. It also shows β- sitosterol and it is also powerful anti-cholesterol agent. It helps to lower damaging cholesterol levels.6-9.

**XIMENIA AMERICANA**
The Ximenia americana tree belongs to the Olacaceae family. It is mainly originated in Jabal, Marra and Radom which comes under Darfur. It is made up of leaves, bark and fruits. They have numerous uses in local medicine.10 The leaves and twigs extracts are used to cure fever, cold, as a mouth wash for tooth aches and as a laxative and an eye lotion.11 The leaves are used for headaches and poison antidote.12 The morphology is shown in Figure 3.

**Figure 3: Leaves, stem, roots and seeds of Ximenia americana**
The plant contains big bulgy roots. These roots are used in the treatment of skin aches, headaches, and hemorrhoids, sexually transmitted diseases, sleeping thickness, leprosy, guinea worm and oedema. It is rich in fruits. Fruits are used in the treatment of constipation. It consist bark. The dried bark transformed into powder and used to treat skin ulcers. The plant is rich in hydrocyanic acid. In the bark of the plant contains approximately 17% oils is obtained. The heartwood and flowers also contain essential oils. Plant parts contain different constituents used in folk medicines.13 It was reported that X. americana seed oil contains acids. The most important ingredients of the volatile oil were benzaldehyde, hydroxy benzyl cyanide and isophorone.13 Stem of the plant consist steroids, triterpenoids, oleoanolic acid, 3-oxo-oleanolic acid and sesquiterpenoids which were proved by ethanolic and methanolic extract.12 A large number of sesquiterpene are large number of constituents of higher plants. Terpenoids and lipophilic aromatic compounds were involved in the liverworts biological activities. Steroids and diterpenes are the secondary bioactive compounds of the plant. Another important secondary metabolite is triterpenoids and this has great potential in applications. Plant chemically made up of saponins, glycosides, flavonoids, tannins, phenolics, alkaloids, quinones and terpenoids. These all above secondary bioactive compounds employed in different biological activities such as, antimicrobial, antifungal, antancer, antineoplastic, antitrypanosomal, antihemumatic, antioxidant, and analgesic, and moluscicide, pesticide also having hepatic and hematological effects.10-13.

**CONCLUSION**
Present review article aimed to provide ill-intentioned, invasive, deleterious selected plants information to the readers. The knowledge about these three medicinal plants was insufficient in the literature; however this article will help to reveal more about the same plants. The ethanopharmaceutical and pharmacological studies revealed different aspects of Bombax ceiba, Aloe vera and Ximenia americana therefore present study may helpful to create awareness in society about the plants. And the article will help to clear different myths about plants and it will help to upgrade the same plants in the pharmaceutically vital list of medicinal plants. Further, the same plants may helpful in the drug discovery and drug development therefore one can use present data.

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