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**Phytochemical Investigation of *Calotropis procera* Flower
Extract**

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Abstract

Calotropis procera (Asclepiadaceae) a widely growing plant has been reported to possess number of medicinal properties and other purposes. Plants play a significant role in the indigenous system of medicines to combat diseases. *Calotropis procera* are widely used in traditional medicine to treat various ailments. Phytochemical screening of flower extracts of *C. procera* indicated the presence of alkaloids, carbohydrates, tannin and phenolic compound, reducing sugar, flavonoids, glycoside, saponin, protein and amino acids, fats and oils and triterpenoids and steroids.

Key- Words: *Calotropis procera*, Phytochemical, Bioactive chemicals

Introduction

Plants have been a rich source of medicines because they produce wide array of bioactive molecules, most of which probably evolved as a chemical defence against predation or infection (Ramaprabha et al, 2012). Medicinal plants have no doubt remained the major source of traditional medicine worldwide (Goyal et al, 2011). Plants have a long therapeutic history over thousands of years and still considered to be promising source of medicine in the traditional health care system (Shahid et al, 2013).

Calotropis procera belongs to family Asclepiadaceae. These plants are commonly known as Giant milk weeds or Swallow- worts. They are drought-resistant, salt tolerant to a relatively high degree. *C. procera* is an erect, tall, large, soft-wooded, evergreen much branched and perennial shrubs with milky latex throughout. *C. procera* have antioxidant, antimicrobial and cytostatic properties (Kumar et al, 2006). It is estimated that only 1 percent of 2,65,000 flowering plants on earth have been studied exhaustively for their chemical composition and potential against important medicinal value (Cox et al, 1994). Here an attempt has been made to investigate the chemical present in flower of *C. procera* for curing various diseases.

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Material and Methods

Plant material

Calotropis procera [flowers] collected in January 2013 from Rewa. The plant material was identified at the field using standard keys and descriptions. Its botanical identity was further confirmed at Pinnacle Biomedical Institute, Bhopal, India.

Method of extraction

Solvent – Petroleum ether, Methanol: Method – Maceration

Procedure

Plant part (leaf, stem and flower) powder was weighed 500 gm and kept in a container in contact with pet ether for seven days, with vigorous shaking at regular interval. Material was filtered a first with muslin cloth and then with filter paper. Filtrate was collected and dried in water bath till no further reduction in mass of extract was observed. Dried extract was weighed and packed in air tight container. And the marc was air dried then kept in a container in contact with methanol for seven days, with vigorous shaking at regular interval. Material was filtered a first with muslin cloth and then with filter paper. Filtrate was collected and dried in water bath till no further reduction in mass of extract was observed. Dried extract was weighed and packed in air tight container.

Phytochemical Screening

Phytochemical Screening was carried out using standard methods to detect the bioactive compounds like alkaloids, Carbohydrates, tannins, phenols, Reducing Sugar's, Triterpenoids and steroids, Protein and amino acid, Fats and oils, flavonoids, saponins (Trease et al, 1989).

Results and Discussion

The result of Phytochemical screening of petroleum ether and methanol flower extract of *C. procera* revealed the presence of alkaloids, Carbohydrates, tannins, phenols, Reducing Sugar's, Triterpenoids and steroids, Protein and amino acid, Fats and oils, flavonoids, saponins (Table 1). The presence of these components in this species indicates its medicinal potential. Tannins have been reported to have antibacterial potential due to their basic character that allows them to react with proteins to form stable water soluble compounds thereby killing bacteria by directly damaging its cell membrane (Manisara et al, 2012). The caustic flowers and milky juice were considered to improve digestion, catarrh and increase appetite. Flowers powdered form is used in cold, cough and asthma. They are also reported for its hepatoprotective activity, antipyretic, analgesic, antimicrobial properties and larvicidal activity (Chavda et al, 2013). Crushed leaves and flowers paste are used to treat cholera (Verma et al, 2010). The present work reports the Phytochemical properties of *C. procera* with the view to further substantiate the earlier claims by various researchers on its potential use in traditional medicine (Kawo et al, 2009).

Table 1: Phytochemical Screening of *Calotropis procera* Flower

| Phytochemicals | Petroleum ether extract | Methanol extract |
|----------------------------|-------------------------|------------------|
| Alkaloids | + | - |
| Carbohydrates | - | + |
| Reducing Sugar's | - | + |
| Flavonoids | - | + |
| Glycoside | + | + |
| Tannin and Phenol | - | + |
| Saponin | + | + |
| Protein and amino acid | + | + |
| Fats and oils | + | + |
| Triterpenoids and steroids | - | + |

(+) indicates presence; (-) indicates absence

Conclusion

Calotropis procera flower extract made in methanol and petroleum ether contains different secondary metabolites with biological activity that can be of therapeutic index. Phytochemical screening of crude extract shows the presence of alkaloids, Carbohydrates, tannins, phenols, reducing Sugar's, triterpenoids and steroids, Protein and amino acid, Fats and oils, flavonoids, saponins. The consequences of this work has clarified that many active bioconstituents of *Calotropis procera* consist effective qualities in its tending action. Therefore it should be exploited by scientists in development of human medicines and drugs.

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