

A database for medicinal and aromatic plants of JK (Jammu and Kashmir) in India

Akbar Masood* and Mujtaba Shafi

Bioinformatics Centre, The University of Kashmir, Hazratbal, Srinagar, Jammu and Kashmir, India-190006;

Akbar Masood * - Email: akbar@bioinfoku.org; * Corresponding author

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Abstract:

High throughput screening of small molecules for a given drug target is achieved using plant materials of medicinal value. Therefore, it is important to document the availability and location of such medicinal plants in the form of a database. Here, we describe a web database containing information (botanical name, common name, local name, botany, chemistry, folklore medicinal use and medicinal uses) about the medicinal and aromatic plants available in JK (Jammu and Kashmir). The database is available for free in public domain.

Availability: <http://www.bioinfoku.org/db/medsearch.php>

Keywords: medicinal; aromatic; plants; Jammu and Kashmir; India; botanical name; common name; folklore

Background:

Medicinal plants documented in the literature from thick vegetations of the world are routinely used for high throughput screening in small molecular drug discovery. A large number of such plants are known to be recognized in a discrete manner. Therefore, it is important to store information related to medicinal and aromatic plants of JK in a database. This will help in the use and exploitation of the plant materials for drug discovery. Some of the plants available in this region are also known to have aromatic value. Here, we describe the development and use of a database containing information on medicinal and aromatic plants from JK.

Methodology:

Dataset:

Folklore medicinal usage and other associated data were manually collected from the inhabitants (tribal/gujjars/local clinicians) of JK through direct person to person survey for each plant species. The current dataset contains information for about 133 plant species.

Database Interface:

The database interface is designed for searching the dataset using a PHP (a programming language that allows web developers to create dynamic content that interacts with databases) server enabled script for keywords such as botanical name, local name, folklore use and medicinal use. The database is accessible for free through the internet.

Database Design:

The database is developed in MySQL on a Linux Platform and updated regularly.

Search result:

The search output for a given query (for example, diabetes) is given in Figure 1.

Utility:

The database finds utility in the selection of medicinal plant species for high throughput screening in drug discovery.

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Medicinal and Aromatic Plants | **Plants Database.** | October 6, 2005

Search for: in Botanical Names

Search for: in Local Names

Search for: in Folklore Uses

Search for: in Medicinal Uses

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Search result for diabetes

Your Search returned the following results.

Click on the plant name to see more details.

| Botanical Name | Common Name | Local Name | Botany |
|----------------------------------|-------------|-----------------|--------|
| Daucus carota | Carrot | Ghazer | Root |
| Hyoscyamus niger | Herbane | Ajwain kluasani | Seeds |

Detailed information

Botanical Name: Daucus carota

Common Name: Carrot

Local Name: Ghazer

Botany: Root

Chemistry

Per 100 g, the carrot is reported to contain 86.0 g H₂O, 0.9 g protein, 0.1 g Fat, 10.7 g carbohydrate, 1.2 g fiber, 1.1 g ash, 80 mg Ca, 30 mg P, 1.5 mg Fe, 2,000-4,300 IU Vit. A, 60 IU Vit. B1, 3 mg niacin, and 3 mg ascorbic acid. The Wealth of India (C.S.I.R., 1948-1976) reports thiamine (56-101 ug/100g), riboflavin (50-90 ug/100 g), and nicotinic acid (0.56-11 mg/100 g) among the B vitamins. Vitamin C is in a protein-ascorbic acid complex. Vitamin D, a substance with the characteristics of vitamin E and a phospholipoid of vitamin reactins corresponding to A and D and containing calcium, phosphorus and nitrogen in organic linkags, are also present. Carrots contain ca 5.27% ZMB of phytin. Sixteen percent of the phosphorus is present as phytic acid phosphorus. The lipids extracted from raw carrots are characterised by a low nitrogen content (0.33-0.72%) and by the absence or low

Figure 1: A database for medicinal and aromatic plants of JK (Jammu and Kashmir) in India. A sample output for 'diabetes' is shown

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