RESEARCH ARTICLE

Taxanomic study of family *Asteraceae* from ShishiKoh Valley, Chitral, Pakistan

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The current study pronounces the taxonomic revision of the family *Asteraceae* from the proposed area, Shishi Koh Valley, District, Chitral KPK, Pakistan. After surveyed total of 23 plant species (13. 93% of the total 165 spp. by Stewart in 1972) per 17 genera were identified, described and classified from Shishikoh Valley. The results revealed that all the collected species belong to herbs and *Artimisia* was dominant genera with high number of species 4 (17. 39%) followed by *Lactuca* 3 species (13. 04%), *Tegetes* 2(8. 69%) and the remaining genera contains 1(4. 34%) species in each.

Keywords: Chitral; Shishikoh Valley; Taxonomy of *Asteraceae*

Introduction

Vegetation distribution and scattered in proposed study area and their taxonomic revision is termed as flora. In taxonomic pyramids the location of plants species are calculations. The entire cultivated as well as wild plant species studied from research area termed as flora (Ali, 2008). Surplus floristic variability and high arid region, express the unique and supreme nature of Chitral District, Pakistan (Stewart 1972, 1982). The earth is represent high dominated and great diversity of flora determines as autotrophic organism. Reproduction through flower and fruits in plants species show evolutionary succession (Stebbins, 1974; Regal, 1977). Anyway the normally estimated major connections between developmental success of angiosperm and its diverse upsets preceded endangered (Crepet & Niklas, 2009). In all field of biodiversity the taxonomy is considerably weakened (Smith et al., 2008a; Pyšek & Richardson, 2010). The Hindukush Himalaya is 3500 sq. km covered area, region of magnificent elevated diversity on the biosphere. Laying between five international significant floristic region (Myers, 2001; Shinwari, 2010). The researcher chalked out recently the decline of flora of Kashmir through satellite imagery technique (Shaheen and Shinwari, 2012). In Chitral the endemic species Delphinium nordhagenii collected and categorized in 2012 as critical endangered (CR) (Ali et al., 2012). However floristic complexity and additional mechanism may cause such type of destruction (Stützel and Trovó, 2013). Different zone of different district have been followed by uneven research work and made collection of vegetation (Malik et al., 2013; Amjad et al., 2013) unfortunately no proper comprehensive floristic studies carried out after Stewart 1972 (Khan et al., 2015). Chitral District, KPK, Pakistan show different type of vegetation and various type of documentation may carried out A unique land of Pakistan, Chitral District floristically very important and show various zone for plant documentation thus the different valleys show different type of documentation by different worker such as (Rashid awan et al., 2001) prepared documentation of 35 significant medicinally plants from entire Chitral, (Siraj et al., 2006) predicted 75 important medicinal taxa from booni chitral, (Farukh et al., 2007) collected 111 taxa, (Ali and Qaiser, 2009) added 83 medicinal plants in literature from entire Chitral, (Khan et al., 2011) added 31 important medicinal plant species from Chitral Gole National Park (CGNP), (Mukarram et al., 2012) introduced 82 medicinal taxa from Mastuj valley District Chitral, (Zahida et al., 2013) added 20 therapeutic taxa from Booni valley, District Chitral, (Asad et al., 2014) collected about 62 medicinal plant taxa from Bumborate valleyDistrict Chitral, (Hadi et al., 2014) made collection of 31 weed plants from Rech valley district Chitral, (Hadi & Ibrar, 2014) added 9 taxa into letature from Bumborate valley District Chitral and at last (kifayat et al., 2017) made collection of plants species from mukhow valley, District Chitral. However Wali and Siraj in 2017 made collection of 29 species belong with 21 genera and 4 families. But the projectedworks not enough for the studyarae, the current study designed to find out the diversity of Asteraceae from study area which has not being studied previously.

Materials and Methods

Study area

The study expanse is positioned in the main district of Khyber Pakhtunkhwa(KP), Chitral, Pakistan, along with 20% of the regional landscape is shelter. Chitral is internationally familiar due to its beauty, attraction and recreation spot through the country. Hindukush mountain of province Khyber pakhtunkhwa covered with a most attractive spot of Chitral. Shishikoh valley (study area) is sited toward the north east of Drosh Tehsil of District Chitral, Khyber Pakhtunkhwa, Pakistan and associated to Azodam Drosh which is about 3.1Km away from Drosh Bazaar. A uncomfortable jeepable road is link at Azodam joint to the study area along with latitude 35°35. 255° N and 71°48. 466’ E longitude. Administratively the Shishikoh Valley, District Chitral has a vigorous Union Council (UC) in Tehsil Drosh. The zone is additional divided into 33 villages, which are been located along the valleys. Entire estimated inhabitants of the valley are 14, 925 (AKHS, 2014). Map of Chitral is shown in Figure 1.
The Shishikoh valley, District Chitral showed great taxonomic diversity. The climatic condition of the area is tough, harsh and arid by habitats the area show all the major groups of plant species which are dominantly exemplified in the region of Chitral. The dominated plants species in the proposed area being characterize by angiosperms and gymnosperms (dicots and monocot). The composition of flora are greatly varies in different sites of study area. The last valley of Shishikoh valley is Madaklasht having maximum altitudinal range of 2800m show greatly increase the diversity of plants. Similarly the plants diversity record has likewise been described by Ali and Qaiser1986 and Ali 2000 and 2008 from numerous districts of Pakistan. A total of 23 plant species belonging to the 17 genera were collected, described and classified from the research area through proper survey. The results revealed that genera Artimisia was dominant genera represented by 4 species with (17. 39%) followed by Lactuca 3 species (13. 04%), Tegetes 2(8. 69%) and the remaining genera contain 1(4. 34%) species in each. Genera Artimisia was the dominant genera of the family with respect to number of species in the current taxonomic investigation which shown in Table. 1 The study reveals the 1st time documentation plants taxa (Asteraceae) from Shishikoh valley District, Chitral. According to each researcher the Asteraceae is dominat throughout Chitral within each spot.

In current study 2 species Seraphidium chitralense (Podlech) Y. R. Ling. and Anaphalis chitralensis Qaiser & Rubina Abid are considered endemic taxa for District Chitral, collected 1st time from the study area. Anthemis cotula L., Allardia tomentosa Decne., Anaphalis chitralensis Qaiser & Rubina Abid, Helianthus annuus L. are collected from high elevation Madak lasht, above 8000ft from the study area followed by Circium falconeri (Hook. f. ) Petr. from kashendal Shishikoh and 2 species of Tagetes are collected from the elevation of 6000ft. However the remaining species may be found in the elevation of less than 6000ft. The graph (figure 2) represent the percentage of generic representationof Asteraceae in the study area where Artimisia show high nume of genera with 17. 39% followed by Lactuca 13. 04% and Tagetes with 8. 69%. While the remaining genera with 4. 34% in each. In all over Chitral the researcher observed family Asteraceae in which the Artimisia genus is common and the inhabitant totally depend on this plants for the purpose of fuel, medicine and grazing all these anthropogenic activities may cause destruction of population of this plant taxa in the proposed area.

In the concern area anthropogenic activities, soil erosion, over grazing and habitat destruction may play important role in plant destruction. According to recent work, previous work and current report the area may face vegetation pressure due to the pharmaceutical pressure and other requirement of life resources. These species regressions may necessary to be controlled and maintenance for their existence and conservation of their resources. It is stated that Shishikoh valley display dangerous regions particularly high elevated valleys up to the alpine zone of Madaklasht demand nonstop efforts, so far plant investigation is considered, that more new taxa could be discovered.
Table 1. Floristic list show the diversity of plant taxa of Asteraceae in the research area.

<table>
<thead>
<tr>
<th>Generic name</th>
<th>Botanical name</th>
<th>Local name</th>
<th>Locality</th>
<th>Altitude in ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaphalis</td>
<td>Anaphalis chitralensis Qaiser &amp; Rubina Abid</td>
<td>Zooba</td>
<td>Madak Lasht</td>
<td>± 8360</td>
</tr>
<tr>
<td>Anthemis</td>
<td>Anthemis cotula L.</td>
<td>Gangali shirisht</td>
<td>Madak Last</td>
<td>± 8390</td>
</tr>
<tr>
<td>Artemisia</td>
<td>Artemisia scoparia Waldst. &amp; Kit</td>
<td>Zhaa dron</td>
<td>Shishi</td>
<td>± 4315</td>
</tr>
<tr>
<td></td>
<td>Artemisia biennis Wild.</td>
<td>Mazheeni</td>
<td>Muz Deh</td>
<td>± 4840</td>
</tr>
<tr>
<td></td>
<td>Artemisia maritima L.</td>
<td>Droon</td>
<td>Muzdeh</td>
<td>± 4840</td>
</tr>
<tr>
<td></td>
<td>Artemisia perviflora Roxb.</td>
<td>Kharkhalich</td>
<td>Shishi</td>
<td>± 4320</td>
</tr>
<tr>
<td>Circa</td>
<td>Circa falconeri (Hook. f. ) Petr.</td>
<td>Chanchir</td>
<td>Kashindel</td>
<td>± 6000</td>
</tr>
<tr>
<td>Carthamus</td>
<td>Carthamus tinctorius L.</td>
<td>Poam</td>
<td>Shishi</td>
<td>± 4313</td>
</tr>
<tr>
<td>Centaurea</td>
<td>Centaurea calcitrapa L.</td>
<td>Ishparozkohoo</td>
<td>Shishi</td>
<td>± 4345</td>
</tr>
<tr>
<td>Cousinii</td>
<td>Cousinii thomsonii C. B. Clarke</td>
<td>Istoor Zokhoo</td>
<td>Shishi</td>
<td>± 4320</td>
</tr>
<tr>
<td>Echinops</td>
<td>Echinops corinigers DC. Porodr.</td>
<td>Blansiri</td>
<td>Shishi</td>
<td>± 4334</td>
</tr>
<tr>
<td>Helianthus</td>
<td>Helianthus annuus L.</td>
<td>Yorot mukhnokorak</td>
<td>Madak Lasht</td>
<td>± 8395</td>
</tr>
<tr>
<td>Lactuca</td>
<td>Lactuca virusa L.</td>
<td>Khalbaw thespuk</td>
<td>Pursat</td>
<td>± 4630</td>
</tr>
<tr>
<td></td>
<td>Lactuca crambifalia (Bunge) Boiss.</td>
<td>Keleem josh</td>
<td>Pursat</td>
<td>± 4635</td>
</tr>
<tr>
<td></td>
<td>Lactuca sativa L.</td>
<td>Keleem</td>
<td>Shishi</td>
<td>± 4315</td>
</tr>
<tr>
<td>Saussurea</td>
<td>Saussurea jacea Frilz Berger</td>
<td>Mroi joshoo</td>
<td>Madak Lasht</td>
<td>± 8292</td>
</tr>
<tr>
<td>Sonchus</td>
<td>Sonchus asper (L.) Hill</td>
<td>Gulan</td>
<td>Shishi</td>
<td>± 4320</td>
</tr>
<tr>
<td>Taraxacum</td>
<td>Taraxacum officinale Weber</td>
<td>Phovo</td>
<td>Birga Nisar</td>
<td>± 5440</td>
</tr>
<tr>
<td>Tagetes</td>
<td>Tagetes minota L.</td>
<td>Gul sambar</td>
<td>Kashindel</td>
<td>± 6000</td>
</tr>
<tr>
<td></td>
<td>Tagetes erecta L.</td>
<td>Gul samber</td>
<td>Kashindel</td>
<td>± 6000</td>
</tr>
<tr>
<td>Allardia</td>
<td>Allardia tomentosa Decne.</td>
<td>Ponar</td>
<td>Madak Lasht Ghari</td>
<td>± 8925</td>
</tr>
<tr>
<td>Seriphidium</td>
<td>Seriphidiumchitralense (Podlech) Y. R. Ling.</td>
<td>Droon thespuk</td>
<td>Shishi</td>
<td>± 4321</td>
</tr>
<tr>
<td>Cichorium</td>
<td>Cichorium intybus L.</td>
<td>Khasti</td>
<td>Shishi</td>
<td>± 4305</td>
</tr>
</tbody>
</table>

Figure 2. Graph show the percentage representation of the genera of selected Family.

Conclusion

Valley is unexplored yet, therefore need constantly effort on the investigation of the valley and urgently needed conservation of threatened species into nurseries. The area may need to introduce and developed a monitoring program against deforestation and other anthropogenic activities. The life resources which are the basic needs of the valley, should be properly upgraded by providing all the basic needs of the valley and the people should be familiarized with plants and their importance.
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References

Citation: