

ARTICLE

Enumeration of Family Fabaceae from Sechu Tuan Nalla Wildlife Sanctuary, Chamba District, Himachal Pradesh (India)

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ARTICLE INFO

Article history

Received: 22 April 2022

Accepted: 11 May 2022

Published Online: 17 May 2022

Keywords:

Himalaya

Pangi valley

Astragalus

ABSTRACT

An account of 20 species under 11 genera of the family Fabaceae is presented based upon a thorough study of the collected specimens and field surveys in this paper from Sechu Tuan Nalla Wildlife Sanctuary, Chamba district, Himachal Pradesh. Of these, five taxa are reported first time from the Chamba district of the state. The updated nomenclature of the species, local name if any, a brief description of the plant, flowering and fruiting period, distribution in the study area, habitat and ecology and specimen examined have been provided.

1. Introduction

The Sechu Tuan Nalla Wildlife Sanctuary, a high-altitude sanctuary that lies in Sechu valley, a minor sub-valley of the major Pangi valley is located at the extreme northwest end of Chamba district of Himachal Pradesh. The wildlife sanctuary is located in the inner Trans Himalayan region between two great mountain ranges i.e. The Great Himalayan Range and Pir Panjal Range in the Chamba district of Himachal Pradesh. The sanctuary is situated within the geo-coordinates of North Lat. 33°10'55" N & Long. 76°43'24" E East Lat. 32°57'31" & Long. 76°46'38" E, South Lat. 32°49'49" N & Long. 76°45'00" E West Lat. 32°54'18" & Long. 76°31'22" E

(Figure 1A-C). It is one of the innermost valleys of the Great Himalayas. It is bounded by the interstate boundary of Jammu and Kashmir in Northern and Lahaul-Spiti district (Himachal Pradesh) on the North-eastern and South-eastern sides.

Due to inaccessibility and difficult geographic conditions, this area had not been included in the earlier floristic surveys of the Chamba district [1-6]. Therefore, as such, no literature or any kind of comprehensive published document about the floristic diversity of the sanctuary is available for reference and use by forest officials and various other government agencies. Hence, an attempt has been made to document the members of the family Fabaceae from the study area.

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DOI: <https://doi.org/10.30564/jbr.v4i2.4651>

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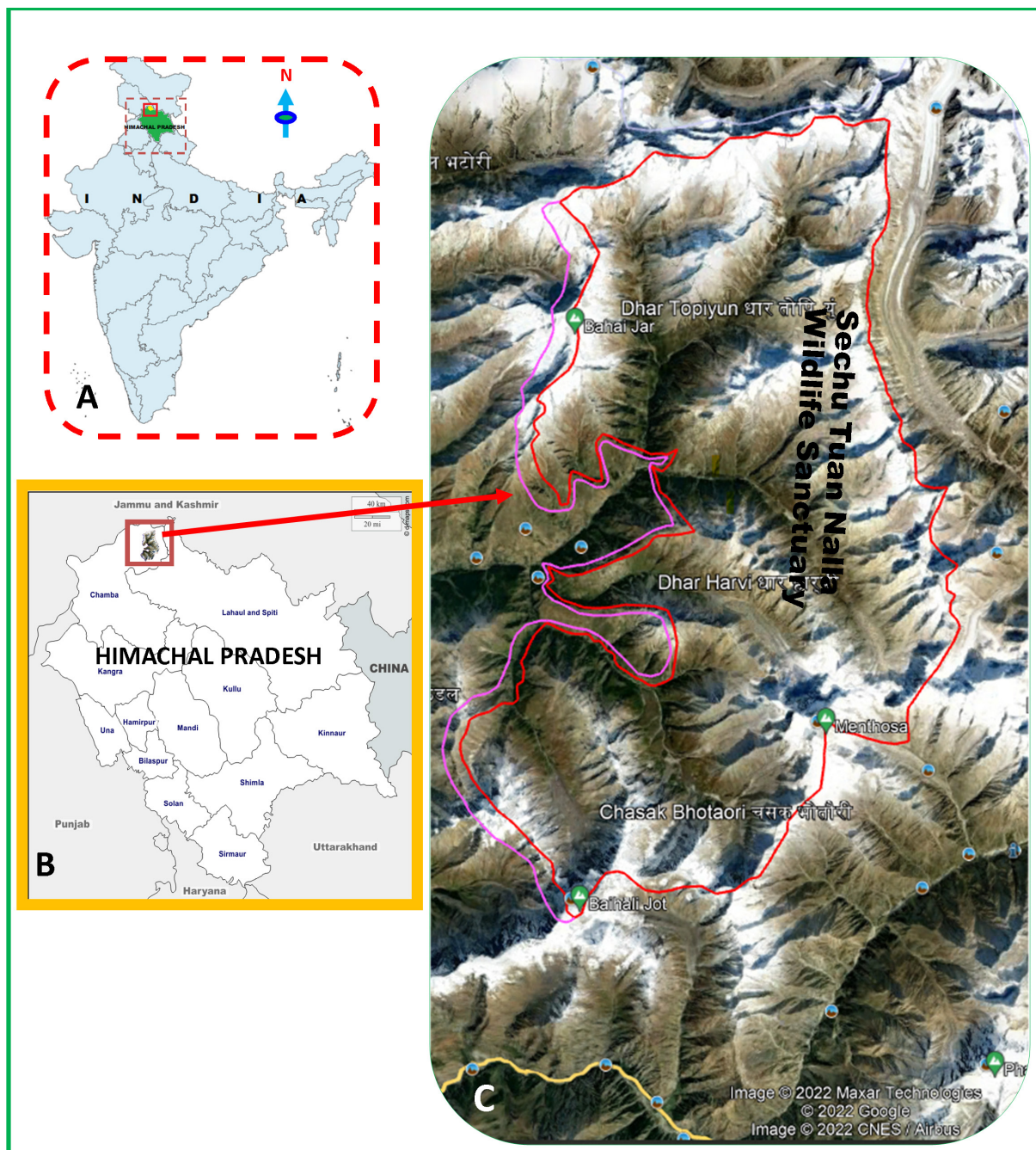


Figure 1. Map for the localization of the area in India and in the district. A) Himachal Pradesh in India; B) Chamba district and Sechu Tuan Nalla Wildlife Sanctuary in Himachal Pradesh India; C) Sechu Tuan Nalla Wildlife Sanctuary (Red colour indicates the boundary of the sanctuary, and the area between purple and red outline is eco-sensitive zone of the sanctuary)

2. Materials and Methods

During the field surveys of Sechu Tuan Nalla Wildlife Sanctuary, Chamba district, Himachal Pradesh the author collected members of the family Fabaceae for assessment of the floristic diversity of the sanctuary. The collected specimens were processed and preserved as suggested by Jain & Rao^[7]. Later on, the specimens were identified and an attempt has

been made to bring out a systematic account of the family Fabaceae from the study area. Updated nomenclature of the species, local name if any, a brief description of the plant, flowering and fruiting period, distribution in the study area, habitat and ecology and specimen examined have been provided. The specimens are deposited in the herbarium of Botanical Survey of India, Northern Regional Centre, Dehradun (BSD).

3. Results and Discussions

This study revealed that the sanctuary inhabits 20 species under 11 genera of the family Fabaceae. All the reported genera fall under the subfamily Papilionoideae DC. as proposed by The Legume Phylogeny Working Group^[8]. Genera and species are arranged alphabetically.

Enumeration

(1) ASTRAGALUS L., Sp. Pl. 2: 755. 1753.

1) Astragalus chlorostachys Lindl. in Trans. Hist. Soc. 7: 249. 1828; Sanjappa, Legum. India 85. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 225. 2003; H. Singh & M. Sharma, Fl. Chamba 258. 2006; Deroliya & al., Ann. For. 69. 2019.

Perennial herbs, to 1.2 m tall; stems much branched, stipules free, lanceolate. Leaves imparipinnately compound. Flowers pale yellow or pinkish-white, dense, in axillary, pedunculate racemes. Pods turgid, glabrous.

Flowering & Fruiting: July-September.

Distribution in Sanctuary, habitat and ecology: Common, on moist rocky slopes between 2800 m- 3100 m.

Specimen examined: Harbi Dhar, *P. Kumar* 127310; Sechu Dhar, *P. Kumar* 127744; Along Triund Nalha towards Chogalu Dhar, *P. Kumar* 128192.

2) Astragalus coluteocarpus subsp. **chitralensis** Wenn., Mitt. Bot. Staatssamml. München 30: 52.1992; Kumar & Sane, Legum. South Asia: Checkl. 225. 2003; Podlech & Zarre, Tax. Rev. gen. Astragalus (Legum.) Old World 1: 247. 2013; L.B. Chaudhary, Rev. gen. Astragalus L. (Leguminosae-Papilionoideae) India 52. 2018. *A. coluteocarpus* var. *glaber* Ali, Kew Bull. 1958: 304. 1958; Sanjappa, Legum. India 86. 1992.

Perennial herbs or small shrubs; nearly 2 m high, stems erect, leaves 8 cm-18 cm long, imparipinnately compound. Inflorescence 5 cm-20 cm long, axillary, long peduncled raceme, many-flowered. Flowers c. 15 mm long, pale yellow and maroon-purple in some parts of corolla and calyx. Pods young 10-15 × 1.5-2 mm, stipitate, oblong, pointed at both ends, glabrous.

Flowering & Fruiting: July-September.

Distribution in Sanctuary, habitat and ecology: Not common, only few individuals found in Betula forest, under partly shady moist slopes at elevation between 3230 m-3701 m. (Figure 2A)

Specimen examined: Sidhani Dhar, *P. Kumar* 132531; On way to Sechu from Murch, near bridge, *P. Kumar* 127575; Topiyun Dhar, *P. Kumar* 127656; Along Triund Nalha towards Chogalu Dhar, *P. Kumar* 128161.

3) Astragalus himalayanus Klotz., B. Reise Pr. Wad-

dem. 160, t. 4. 1862; Sanjappa, Legum. India 89. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 230. 2003; Deroliya & al., Ann. For. 70. 2019.

Annual herbs, ascending or suberect, 25 cm-55 cm high; stems slender, well branched, pubescent. Leaves imparipinnately compound. Flowers purplish, in axillary, pedunculate racemes. Pods c 1 cm long, unilocular, pubescent.

Flowering & Fruiting: June-September.

Distribution in Sanctuary, habitat and ecology: Common, on open grassy slopes, open forest area along river, sandy places, open dry slopes in Pine forest, alpine scrub, moist open slopes and dry sandy river beds between 2800 m-4000 m.

Specimen examined: Eco-sensitive Zone near Tuan, *P. Kumar* 127140; Along Triund Nalla towards Chogalu Dhar, 127200; Harbi Dhar, *P. Kumar* 127314; Pepe Nalla, Chasakh Bhatari, *P. Kumar* 127474; Along Sindhmarh Nalla upwards, *P. Kumar* 127619; Topiyun Dhar, 127668; Along Triund Nalha, *P. Kumar* 127841; Sidhani Dhar, *P. Kumar* 127970; Eco-sensitive zone, around Hillu and Tuan villages, *P. Kumar* 128056.

4) Astragalus malacophyllus Benth. ex Bunge, Astrag. 1:36. 1868. 2:61. 1969; Sanjappa, Legum. India 91. 1992.

Perennial herbs; stems branched from base. Leaves imparipinnately compound. Flowers in an axillary peduncled raceme, yellow. Pods c. 11 mm-13 mm long, silky, sessile.

Flowering & Fruiting: May-August.

Distribution in Sanctuary, habitat and ecology: Not common on open grassy slopes up to 3800 m.

Specimen examined: Towards North of Bhatari Seri along Sindhmarh Nalla, *P. Kumar* 127554.

Note: Podlech & Zarre^[9], Kumar & Sane^[10], and Deroliya *et al.*^[11], have treated this species as synonym under the *A. rhizanthus* Royle ex Benth, however Chaudhary^[12], considered it as two separate species.

5) Astragalus melanostachys Benth. ex Bunge, Astrag. 1:21. 1868. 2:22. 1869; Sanjappa, Legum. India 91. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 234. 2003; Deroliya & al., Ann. For. 70. 2019.

Perennial herbs, to 15 cm-55 cm tall; stems branched, branches many from the base. Leaf imparipinnately compound. Flowers in an axillary pedunculate raceme. Pods sessile, globular or ovoid.

Flowering & Fruiting: June-August.

Distribution in Sanctuary, habitat and ecology: Not common, in moist gassy places near stream up to 3408 m.

Specimen examined: Along Triund Nalha towards Chogalu Dhar, *P. Kumar* 128119.

6) Astragalus rhizanthus Royle ex Benth. in Royle, Ill. Bot. Himal. Mount. 200. 1835; Sanjappa, Legum.

India 93. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 239. 2003; Deroliya & al., Ann. For. 71. 2019.

Perennial herbs; rootstock woody; aerial stem almost absent or reduced with crowded internodes. Leave; imparipinnately compound. Flowers yellow in clustered, sessile or shortly peduncled racemes; Pods 1.2 cm-2.0 cm long, sessile, densely silky.

Flowering & Fruiting: June-July.

Distribution in Sanctuary, habitat and ecology: Common, on dry river beds and grassy slopes in alpine areas between 2900 m-4000 m. (Figure 2B)

Specimen examined: Pepe Nalla, Chasakh Bhattori, P. Kumar 127437; Pepe Nalla, Chasakh Bhattori, P. Kumar 127473; Pepe Nalla, Chasakh Bhattori, P. Kumar 127498; Sidhani Dhar, P. Kumar 128006; Eco-sensitive zone, around Hillu and Tuan villages, P. Kumar 128046.

7) *Astragalus tecti-mundi* subsp. *orientalis* Podlech in Sendtnera 7: 178. 2001; Kumar & Sane, South Asia Legum.: Checkl. 242. 2003. *Astragalus frigidus* (L.) A. Gray in Proc. Amer. Acad. Arts 6: 219. 1864; Sanjappa, Legum. India 87. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 242. 2003; Deroliya & al., Ann. For. 70. 2019.

Perennial herbs, to 30 cm-55 cm high; stems erect, simple, glabrous. Leaf imparipinnately compound. Inflorescence an axillary pedunculate raceme. Pods c. 2.2 cm-2.7 cm long, pubescent, unilocular, stiptate.

Flowering & Fruiting: July-September

Distribution in Sanctuary, habitat and ecology: Occasional, in alpine meadows and moist places along streams between 3500 m-3900 m. (Figure 2C)

Specimen examined: Along Sindhmarh Nalla upwards, P. Kumar 127617; Along Triund Nalha towards Chogalu Dhar, P. Kumar 132513.

(2) *CICER* L., Sp. Pl. 1: 738. 1753.

Cicer microphyllum Royle, Ill. Bot. Himal. Mount. 200. 1835; Sanjappa, Legum. India 113. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 140. 2003; Deroliya & al., Ann. For. 73. 2019.

Jangli Mattar

Perennial herbs; stems ribbed, zig-zag, branched. Leaves pinnate. Inflorescence 1-2 flowered; flowers purple or white. Pod 22 mm-29 mm long, beaked.

Flowering & Fruiting: June-August.

Distribution in Sanctuary, habitat and ecology: occasional, in sandy places 2900 m-3600 m.

Specimen examined: Topiyun Dhar, P. Kumar 127658; Sechu Dhar, P. Kumar 127717; Harbi Dhar, P. Kumar 127839.

Uses: Fruits are eaten raw.

(3) *HEDYSARUM* L., Sp. Pl. 2: 745. 1753.

1) *Hedysarum astragaloides* Benth. in Hook.f., Fl. Brit. Ind. 2: 146. 1876; Sanjappa, Legum. India 183. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 266. 2003; Lal & al in J. Jpn. Bot. 89: 233. 2014; Deroliya & al., Ann. For. 76. 2019.

Perennial herbs, to 60 cm tall; stems erect. Leaves compound; leaflets 22-30, 1.7-2.3 cm long, narrowly ovate to elliptic, obtuse, mucronate, glabrescent above, pubescent below. Inflorescence a dense raceme; flowers yellowish. Pod stipitate, 1-2 jointed, joints oblong, membranous, wing crisped on the lower side and obscure above.

Flowering & Fruiting: June-August.

Distribution in Sanctuary, habitat and ecology: occasional, in moist alpine grassy slopes 3400 m-3826 m. (Figure 2D) Endemic to India [Western Himalayas (Himachal Pradesh, Jammu & Kashmir, Uttarakhand)].

Specimen examined: Pepe Nalla, Chasakh Bhattori, P. Kumar 127422; Eco-sensitive zone, around Hillu and Tuan villages, P. Kumar 128057; Along Triund Nalha towards Chogalu Dhar, P. Kumar 128128.

2) *Hedysarum microcalyx* Baker in Hook.f., Fl. Brit. India 2: 147. 1876; Sanjappa, Legum. India 184. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 267. 2003; Deroliya & al., Ann. For. 76. 2019.

Perennial herbs, tufted, spreading, to 55 cm high; stems branched, grooved, Leaves imparipinnately compound. Flowers purple, in racemes. Pods 2-3-jointed, long-stipitate, membranous, entire, both sutures distinctly margined.

Flowering & Fruiting: July-October.

Distribution in Sanctuary, habitat and ecology: occasional, along streams and in moist places in thickets between 2700 m-3700 m. (Figure 2E) Endemic to India [Western Himalayas (Himachal Pradesh, Jammu & Kashmir, Uttarakhand)].

Specimen examined: Towards North of Bhattori Seri along Sindhmarh Nalla, 127557; Way to Sidhani Dhar, P. Kumar 127775.

Note: In spite of the fact that it is a purely high-altitude species, in literature it is also shown to distributed in Punjab (altitude range 150 m-550 m).

(4) *LATHYRUS* L., Sp. Pl. 2: 729. 1753.

1) *Lathyrus emodii* (Wall. ex Fritsch) Ali in Biologia. 11(2): 4. 1965; Sud. Kumar & P.V. Sane, Legum. South Asia 415. 2003; Deroliya & al., Ann. For. 77. 2019. *Orobis emodii* Wall. ex Fritsch in Sitzungsber. Akad. Wissensch. Wien. Math.-Naturw. Classe. 104: 489. 1896. *Lathyrus laevigatus* subsp. *emodii* (Wall. ex Fritsch) Ohashi in H. Hara & al., Enum. Fl. Pl. Nepal 2: 123.

1979; Sanjappa, Legum. India 201. 1992.

Perennial herbs, to 90 cm high; stems suberect, branched. Leaves petioled, pinnately compound; Flowers cream or pink, turning yellow, in axillary racemes. Pods c 6 cm × 0.8 cm, cylindrical, glabrous.

Flowering & Fruiting: July-September

Distribution in Sanctuary, habitat and ecology: not common in moist shady places in forest up to 2918 m.

Specimen examined: Sidhani Dhar, P. Kumar 128001.

2) Lathyrus humilis (Ser.) Fisch. ex Spreng., Syst. Veg. 3: 263. 1826; Sanjappa, Legum. India 201. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 416. 2003; Deroliya & al., Ann. For. 77. 2019. *Orobis humilis* Ser. in DC., Prodr. 2: 378. 1825. *Lathyrus ovatus* Royle ex Benth. in Royle, Ill. Bot. Himal. Mts. 1: 200. 1835.

Perennial herbs; stems suberect, branched. Leaves paripinnately compound. Flowers purple to slightly blue, 2-6-flowered, in racemes. Pods c 5 cm × 0.5 cm, cylindrical, glabrous.

Flowering & Fruiting: June-July.

Distribution in Sanctuary, habitat and ecology: Occasional, in partly shady places in forest up to 2881 m. (Figure 2F)

Specimen examined: Sechu Dhar & Eco-sensitive Zone, P. Kumar 127939; Sidhani Dhar, P. Kumar 127991.

(5) LESPEDEZA Michx., Fl. Bor.-Amer. 2: 70, t. 39. 1803.

Lespedeza juncea (L.f.) Pers., Syn. Pl. 2:318. 1807; Sanjappa, Legum. India 203. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 211. 2003; H. Singh & M. Sharma, Fl. Chamba 280. 2006; Deroliya & al., Ann. For. 78. 2019. *Hedysarum junceum* L.f., Decas prima Pl. t.4. 1762. *Lespedeza aitchisonii* Ricker in Lingnan Sci. J. 20:199. 1942.

Undershrub, up to 1 m tall; stems branched. Leaf trifoliolate. Inflorescence 2-4-flowered pedunculate umbel; flowers pale yellow or pink. Pod 2.5 mm-3.0 mm long, silky.

Flowering & Fruiting: July-September.

Distribution in Sanctuary, habitat and ecology: occasional, on dry open slopes between 2900 m-3400 m.

Specimen examined: Harbi Dhar, P. Kumar 127328; Along Triund Nalha towards Chogalu Dhar, P. Kumar 128169.

(6) LOTUS L., Sp. Pl. 2: 773. 1753.

Lotus corniculatus L., Sp. Pl. 775. 1753; Sanjappa, Legum. India 205. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 291. 2003; H. Singh & M. Sharma, Fl. Chamba 281. 2006; Deroliya & al., Ann. For. 78. 2019

(publ. 2022).

Perennial herbs, prostrate, ascending or decumbent, variable; stems branched. Leaves petioled, 5-foliolate. Flowers pale-yellow or orange, 3-6-flowered, in peduncled umbels. Pods c 3 cm × 0.4 cm, cylindrical, straight, glabrous.

Flowering & Fruiting: July-September.

Distribution in Sanctuary, habitat and ecology: common, on open dry and sandy slopes between 3000 m-3900 m. (Figure 2G)

Specimen examined: Eco-sensitive Zone near Tuan, P. Kumar 127133; Pepe Nalla, Chasakh Bhatari, P. Kumar 127493.

(7) MEDICAGO L., Sp. Pl. 2: 778. 1753.

1) Medicago falcata L., Sp. Pl. 779. 1753; Sanjappa, Legum. India 209. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 403. 2003; Deroliya & al., Ann. For. 78. 2019.

Perennial herbs up to 80 cm long; stem erect or procumbent. Leaves compound. Inflorescence a peduncled raceme. Pods 8 mm-11 mm long, c. 2.5 mm broad, nearly straight to crescentic.

Flowering & Fruiting: March-August.

Distribution in Sanctuary, habitat and ecology: occasional, on open slopes up to 3006 m. (Figure 2H)

Specimen examined: Eco-sensitive Zone near Tuan, P. Kumar 127106.

2) Medicago lupulina L. Sp. Pl. 779. 1753; Sanjappa, Legum. India 209. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 404. 2003; H. Singh & M. Sharma, Fl. Chamba 282. 2006; Deroliya & al., Ann. For. 78. 2019.

Annual or perennial herbs, up to 60 cm long; stems prostrate or ascending. Leaves compound. Inflorescence an axillary, pedunculate raceme; flowers yellow. Pods 2 mm-3 mm, curved.

Flowering & Fruiting: July-September.

Distribution in Sanctuary, habitat and ecology: occasional on moist slopes up to 3606 m.

Specimen examined: Along Jamboo Nalha, P. Kumar 127936.

(8) OXYTROPIS DC., Astragalogia 24, 66; 19, 53.1802.

Oxytropis lapponica (Wahl.) Gay, Flora 10: 30. 1827; Sanjappa, Legum. India 205. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 256. 2003; Deroliya & al., Ann. For. 79. 2019. *Phaca lapponica* Wahl. Veg. Helv. 131. 1813. *Oxytropis lapponica* var. *xanthantha* Baker in Hook.f. Fl. Brit. India 2: 137. 1876.

Perennial herbs, to 8 cm-30 cm tall; rootstock woody; aerial stem with 2 or more apparent internodes. Leaves compound. Flowers in many flowered racemes; flowers pale purple. Pod cylindrical, stipitate inflated, unilocular.

Flowering & Fruiting: June-September.

Distribution in Sanctuary, habitat and ecology: common, in moist open slopes near glacier, alpine grassy, open dry and sandy slopes between 2700 m-4000 m.

Specimen examined: Sechu Dhar, *P. Kumar* 127282; Pepe Nalla, Chasakh Bhattori, *P. Kumar* 127405; Along Sindhmarh Nalla upwards, *P. Kumar* 127578; Along Sindhmarh Nalla upwards, *P. Kumar* 127612; Topiyun Dhar, 127694; Harbi Dhar, *P. Kumar* 127833; Along Triund Nalha, 127880, 128198; Sidhani Dhar, *P. Kumar* 127978, 132545; Eco-sensitive zone, towards Sidhani bia Mujh village, *P. Kumar* 128024; Eco-sensitive zone, around Hillu and Tuan villages, *P. Kumar* 128042.

(9) THERMOPSIS R. Br., Hort. Kew., ed. 2, 3: 3.1811.

Thermopsis barbata Royle, Ill. Bot. Himal. Mts. 1: t. 32. 1834; Sanjappa, Legum. India 261. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 403. 2003; Deroliya & al., Ann. For. 83. 2019.

Annual or perennial herbs, tufted, to 20 cm high; stems stout, branched from base. Leaves shortly petioled, trifoliolate. Flowers deep purple, showy, crowded, in axillary and terminal racemes. Pods linear-oblong, hairy.

Flowering & Fruiting: July-September.

Distribution in Sanctuary, habitat and ecology: occasional, on moist open slopes up to 3500 m. (Figure 2I)

Specimen examined: Along Triund Nalha towards Chogalu Dhar, *P. Kumar* 128178.

(10) TRIFOLIUM L., Sp. Pl. 1: 764. 1753.

Trifolium repens L., Sp. Pl. 767. 1753; Sanjappa, Legum. India 263. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 412. 2003; H. Singh & M. Sharma, Fl. Chamba 291. 2006; Deroliya & al., Ann. For. 83. 2019.

Perennial herbs, trailing, glabrous; stems slender, prostrate, branched. Leaves petioled, trifoliolate. Flowers white, fragrant, many-flowered, clustered, in pedunculate, globose racemes forming heads. Pods minute, linear, included, 3-4-seeded.

Flowering & Fruiting: July-September.

Distribution in Sanctuary, habitat and ecology: common, in moist places, 3000 m-3200 m. (Figure 2J)

Specimen examined: Sechu Dhar, *P. Kumar* 127291; Harbi Dhar, *P. Kumar* 127835.

(11) TRIGONELLA L., Sp. Pl. 1: 776. 1753.

Trigonella emodi Benth. in Royle, Ill. Bot. Himal.

Mts. 1: 197. 1835; Sanjappa, Legum. India 264. 1992; Sud. Kumar & P.V. Sane, Legum. South Asia 413. 2003; Deroliya & al., Ann. For. 84. 2019.

Kuchona

Perennial herbs, erect or ascending; stems much branched. Leaves pinnately trifoliolate. Flowers yellow, in axillary pedunculate condensed racemes. Pods c 1.4 cm × 0.2 cm, linear-oblong, straight, glabrous, veins prominent.

Flowering & Fruiting: July-September.

Distribution in Sanctuary, habitat and ecology: common, in moist places sandy river beds 2900 m-3600 m.

Specimen examined: Sidhani Dhar, *P. Kumar* 127996; Eco-sensitive zone, around Hillu and Tuan villages, *P. Kumar* 128058; Along Triund Nalha towards Chogalu Dhar, *P. Kumar* 128148.

Uses: Young shoots are used as vegetable.

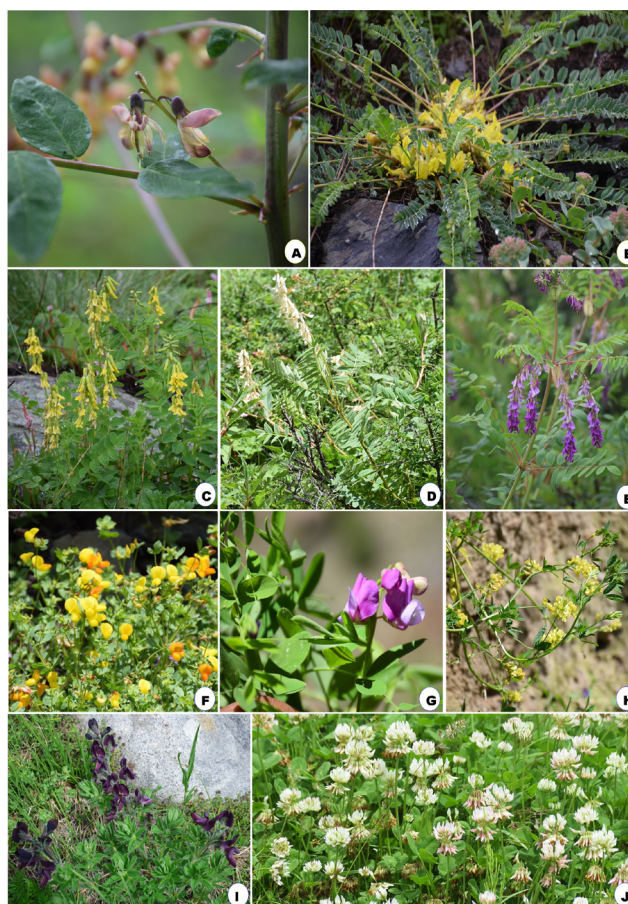


Figure 2. Field photographs: A) *Astragalus coluteocarpus* subsp. *chitralensis* Wenn.; B) *Astragalus rhizanthus* Royle ex Benth.; C) *Astragalus tecti-mundi* subsp. *orientalis* Podlech; D) *Hedysarum astragaloides* Benth. in Hook.f.; E) *Hedysarum microcalyx* Baker; F) *Lathyrus humilis* (Ser.) Fisch. ex Spreng.; G) *Lotus corniculatus* L.; H) *Medicago falcata* L.; I) *Thermopsis barbata* Royle; J) *Trifolium repens* L.

4. Conclusions

This study reveals that Sechu Tuan Nalla Wildlife Sanctuary harbours a considerable number of taxa of the family Fabaceae, which is 2.98 percent of the total taxa of Fabaceae of the state ^[6], whereas it is 24.39 percent of the total taxa of Fabaceae of the district Chamba ^[1,9]. Two species namely *Hedysarum astragaloides* Benth. and *H. microcalyx* Baker are endemic to North-West Himalayas. Five taxa viz., *Astragalus coluteocarpus* subsp. *chitralensis* Wenn., *A. melanostachys* Benth. ex Bunge, *A. tecti-mundi* subsp. *orientalis* Podlech, *Hedysarum microcalyx* Baker, and *Oxytropis lapponica* (Wahl.) Gay are reported first time from Chamba district, Himachal Pradesh.

Acknowledgement

The authors express their gratitude to the Director, Botanical Survey of India, Kolkata and Former Scientist-in-charge (Dr. S.K. Srivastava and Dr. Kumar Ambrish).

Conflict of Interest

Authors declare no conflict of interests.

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