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Cover: The critically endangered *Lilium polyphyllum* in watercolour and acrylics. © Aishwarya S Kumar.



An updated checklist of non-marine molluscs of the western Himalaya

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Abstract: This paper presents the first comprehensive checklist of the non-marine molluscs from the western Himalaya, a region of high biodiversity and endemism. Based on faunistic surveys during 2019–2023 and published records, the paper reports 242 species belonging to 101 genera and 45 families of gastropods and bivalves, of which 168 species are endemic to the region. The paper also provides new distribution records and taxonomic notes for some species. Among the notable findings are the first records of *Limax mayae*, *Oxyloma* sp., *Odhneripisidium kuiperi*, *Thiara aspera* from India, and *Bensonies jamuensis*, *Euaustenia cassida*, *Stagnicola* sp. from the western Himalaya. The paper presents some species with substitutional illustrations and literature from the region for the past two centuries. Additionally, the paper also discusses the threats that non-marine molluscs face in the western Himalaya and suggests some conservation measures to protect them. The authors hope this paper will serve as a baseline for future studies on the diversity, distribution, ecology, and conservation of non-marine molluscs in the western Himalaya.

Keywords: Biodiversity, conservation, endemic, gastropods, India, *Limax mayae*, malacofauna, non-marine, Pir Panjal range.

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Author contributions: HA led the entire field sampling, data collection and preparation of the manuscript. IA and NAA gave study conceptualization, design, manuscript review, editing and supervision. Their significant contributions were crucial for the improvement of the overall quality of the manuscript.

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INTRODUCTION

Molluscs are the second largest phylum after arthropods in terms of the number of species described. To date, close to 100,000 species have been reported in marine, freshwater, and terrestrial ecosystems (Molluscabase 2023). Molluscs are widely distributed in a variety of habitats and have diverse ecological roles and functions (Strong et al. 2008). They are also indicators of environmental quality and health (von Rintelen & Hauser 2017). However, the identification and systematic positioning of many non-marine molluscs is challenging due to their morphological similarity and high variability. Despite this, a regional checklist is a significant first step towards understanding the region's rich biodiversity. The present study aimed to compile a list of non-marine molluscs in the western Himalayan region. For this study, we have covered the west of the Kali Gandaki River of Nepal, the northwestern Indian Himalaya, and northern Pakistan. We considered the northern limit of western Himalaya from south of the Hindukush-Kunlun Mountain ranges and Kali Gandaki River as the southernmost limit. Thus, the western Himalaya includes the region south of Hindukush, Karakoram, Ladakh, Zaskar Range, Pir Panjal Range, Dhauladhar Range, western parts of Great Himalaya, and Shivalik Ranges (Ramakrishna & Mitra 2002) (Figure 1).

In the western Himalaya, variations in altitude and climatic conditions create diverse habitats that include alluvial grasslands, subtropical forests, conifer mountain forests and alpine meadows. This biodiversity hotspot contains a rich and diverse assemblage of non-marine molluscs. The region has a long history of human exploration, scientific research, and conservation in four major biomes: alpine, temperate, subtropical, and arid. The alpine biome covers the highest elevations, where vegetation is sparse and adapted to cold and dry conditions. The temperate biome covers the middle elevations, where coniferous, and broadleaf forests dominate. The subtropical biome covers the lower elevations, where moist and evergreen forests thrive. The arid biome covers the northwestern parts of the region, where desert and shrub-steppe vegetation prevail. The region hosts many endemic and threatened species of animals.

The study conducted a comprehensive review of existing literature spanning the past two centuries, critically analysing each species with original descriptions from the region (see Table 2) and meticulously recording details such as type localities and distribution. In addition to previously published records, the research

compiled a list of non-marine molluscs collected from Pir Panjal Range in Jammu & Kashmir, India, between 2019 and 2023. To maintain systematic consistency, the work followed the classification system established by Bouchet et al. (2017) for gastropods and Bouchet et al. (2010) for bivalves, ensuring that species were accurately placed within their respective genera and families whenever possible.

The history of molluscan studies: The history of malacological research in the western Himalaya is quite rich and fascinating but also fragmented and incomplete. The early explorers and collectors of non-marine molluscs faced many challenges and hardships in their expeditions to the remote and rugged terrain of the region. Despite these challenges, they contributed immensely to the knowledge of the diversity and distribution of molluscs, which are often overlooked and neglected in conservation efforts. The rich diversity of non-marine molluscs of the western Himalaya was explored mostly by pioneering 19th Century European malacologists. As per available literature, the first species of terrestrial mollusc from the western Himalaya was *Macrochlamys vesicula* (Benson, 1838) and *Clausilia elegans* Hutton, 1837, collected by Captain Thomas Hutton to the Burenda pass (Burzil pass) in 1836 (Hutton 1837; Hutton & Benson 1838). The first comprehensive inventory of non-marine molluscs from the region was made by Thomas Thomson (Woodward 1856), and later, an exhaustive collection reported by Ferdinand Stoliczka (Nevill 1878b) during his several Yarkand expeditions. Apart from these major expeditions, there are several scattered literatures available from the region on the molluscs (Benson 1837; Hutton & Benson 1838; Theobald 1862, 1878, 1881; Nevill 1878a; Hora 1928; Hora et al. 1955; Rajagopal & Rao 1968, 1972; Agarwal 1976; Kaul et al. 1980; Dutta & Malhotra 1986; Sajan et al. 2019, 2020, 2021). Some of the works are part of large compilations of literature from adjoining regions as well (Benson 1857; Benson 1863; Nevill 1878b; Godwin-Austen 1899; Rao 1989; Dey & Mitra 2000; Tripathy & Mukhopadhyay 2015; Tripathy et al. 2018). Recent work on the survey of malacofauna diversity from the region is at a much smaller scale and very site-specific (Sharma et al. 2009, 2015; Mir & Bakhtiyar 2022; Uttam et al. 2022) and records of molluscs are mainly concerned on ecological studies especially of freshwater molluscs. Several systematic checklists were compiled and published by Ramakrishna & Mitra (2002), Mitra et al. (2004), Ramakrishna et al. (2010), and Tripathy et al. (2018) for malacofauna of the whole of India with passing reference to the western Himalaya. No major

publications on terrestrial snails appeared in the past century until 13 species reported from the Kashmir valley by Rajagopal & Rao (1972) and thereafter Biswas et al. (2015) appeared on non-marine molluscs after a gap of about 40 years. Recently, Sajan et al. (2021) redescribed *Carychium indicum* from the hills surrounding the Great Himalayan National Park in the Kullu District of Himachal Pradesh, India. Even though the study of the western Himalaya terrestrial gastropods is still in its infancy, there is a need for at least a provisional checklist as a starting point for further study.

The main objective of this study is to compile an updated list of malacofauna of the western Himalayan region. Such documentation and compilation are important for the assessment of the ecological status of the region as it is undergoing unprecedented changes due to unplanned development in infrastructure, extensive exploitation of natural resources, increased population and climate change (Saad et al. 2019).

MATERIAL AND METHODS

The western Himalaya, a region with a rich biodiversity, complex topography and climate, is the focus of this study. It spans India, Nepal, Pakistan, and Afghanistan. This study reviewed the literature on the

diversity and distribution of non-marine molluscs in this region for the last two centuries recording the distribution, habits, and habitats of each mollusc species from the literature. The study also conducted monthly field surveys in the Poonch and the Rajouri districts of the Pir Panjal range of western Himalaya from March 2019 to February 2023. The surveys collected molluscs from various aquatic and terrestrial habitats using different methods such as hand-picking, sieving, netting and trapping. The specimens were preserved in ethanol and stored at the Freshwater Ecology and Conservation Laboratory, ATREE Bengaluru. The specimens were identified based on their morphological characters using the most recent literature and online databases such as MolluscaBase and WoRMS. This study aimed to collect and present distribution data of different species in the region, especially for hard-to-distinguish species, to facilitate accurate identification of species from a specific area and to compare current and past diversity for conservation purposes.

RESULTS

This compilation from primary field surveys and the published literature reports 242 species of non-marine molluscs from western Himalaya belonging

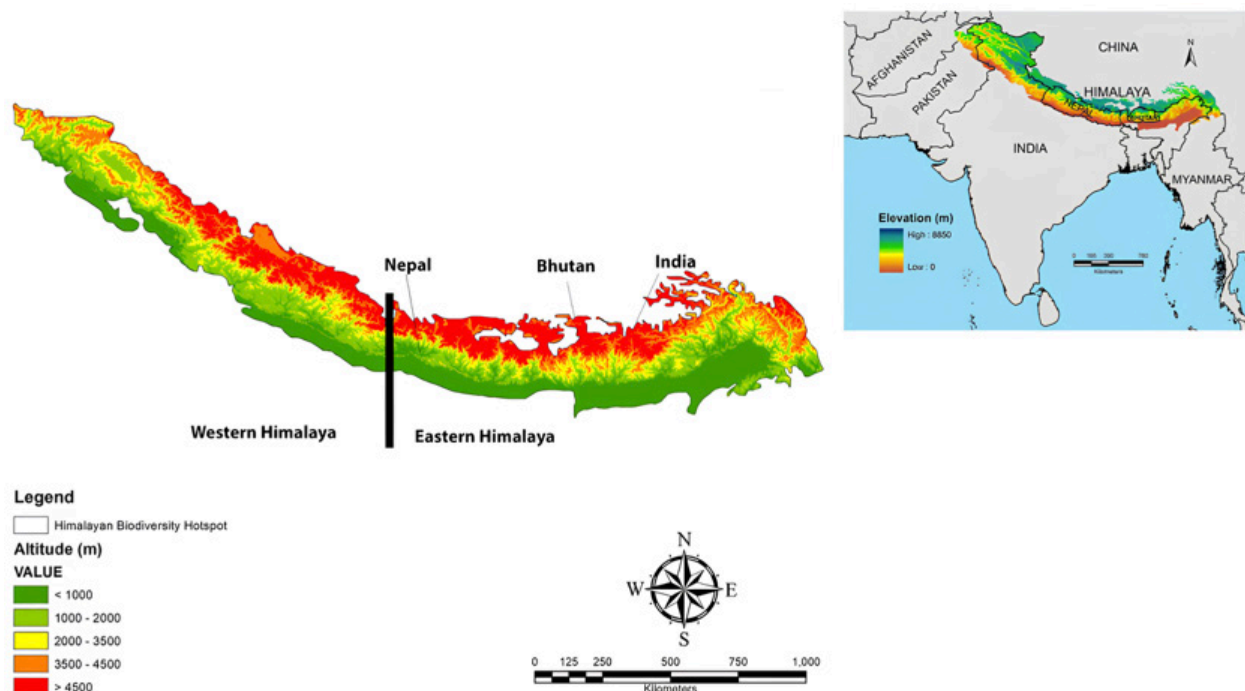


Figure 1. Digital elevation map of the Himalayan biodiversity hotspot showing eastern and western Himalaya. Inset: The Himalayan biodiversity hotspot.

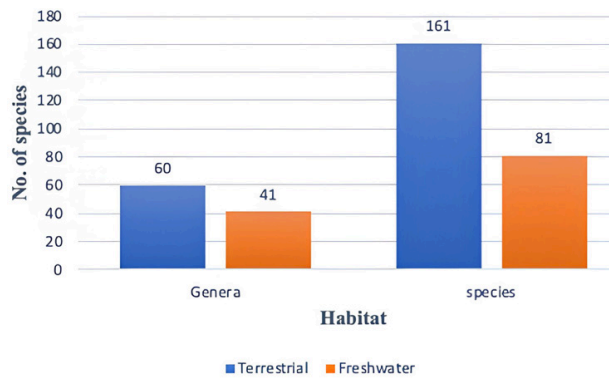


Figure 2. The number of genera and species reported from land and freshwater molluscs from the western Himalayan region.

to 101 genera and 45 families (Figure 2). Of these, 81 species are freshwater molluscs and 161 are terrestrial molluscs. Among non-marine molluscs, 217 species are gastropods and 25 are bivalves. The four families, namely, Ariophantidae, Enidae, Planorbidae, and Lymnaeidae, contribute 45 percent of all the species reported from the western Himalayan region (Table 1). The endemism in molluscan fauna in the western Himalayan region is around 70 percent. The complete list of species with distribution in the western Himalaya is given below. The introduced species forms a small proportion of the total molluscan fauna in the western Himalaya, e.g., *Deroceras laeve*, *Euconulus fulvus*, *Lissachatina fulica*, and *Physella acuta* (Table 4).

DISCUSSION

The estimated number of non-marine molluscs in southern Asia is around 1,705 species, of which around 1,500 terrestrial species in 140 genera and 210 freshwater species in 53 genera, including 150 species of gastropods and 67 species of bivalves (Chandra et al. 2017). Our compilation lists a total of 45 families, 101 genera, and 242 native species, belonging to 81 freshwater and 161 land molluscs species. The western Himalaya, part of the Palaearctic realm, the largest biogeographic realm of the Earth, is home to rich temperate coniferous, broadleaf, and mixed forests. This region has molluscan fauna of both Palaearctic and Indo-Malayan, making the fauna very interesting in terms of biogeography. The malacofauna from the region present unique species like *Helisoma* sp., *Biomphalaria* sp. from Jammu (Uttam et al. 2022), *Segmentina* sp., *Pseudosuccinea columella* from Kashmir (Mir & Bakhtiyar 2022) *Limax mayae*, *Oxyloma* sp., *Thiara aspera*, and *Stagnicola* sp. reported in this

Table 1. List of terrestrial and freshwater molluscs of western Himalaya.

	Family	No. of genera	No. of species	Percentage
Terrestrial				
1	Achatinidae	5	8	3.30
2	Agriolimacidae	1	1	0.41
3	Alycaeidae	1	1	0.41
4	Anadenidae	1	4	1.65
5	Ariophantidae	9	45	18.59
6	Camaenidae	5	8	3.30
7	Cerastidae	1	1	0.41
8	Chronidae	1	5	2.06
9	Clausiliidae	1	4	1.65
10	Cochlicopidae	1	1	0.41
11	Cyclophoridae	1	1	0.41
12	Diplommatinidae	1	3	1.23
13	Ellobiidae	2	2	0.82
14	Enidae	6	30	12.3
15	Euconulidae	1	1	0.41
16	Ferussaciidae	1	1	0.41
17	Gastrocoptidae	4	5	2.06
18	Helicarionidae	2	2	0.82
19	Limacidae	1	2	0.82
20	Parmacellidae	1	1	0.41
21	Plectopylidae	1	1	0.41
22	Pupillidae	2	10	4.13
23	Pyramidulidae	1	2	0.82
24	Streptaxidae	1	1	0.41
25	Succineidae	3	6	2.47
26	Truncatellinidae	2	3	1.23
27	Valloniidae	1	6	2.47
28	Veronicellidae	1	1	0.41
29	Vertiginidae	1	4	1.65
30	Vitrinidae	1	1	0.41
Freshwater				
31	Ampullariidae	1	1	0.41
32	Cyrenidae	1	3	1.23
33	Erhaiidae	1	1	0.41
34	Sphaeriidae	5	11	4.54
35	Unionidae	3	11	4.54
36	Bithyniidae	2	10	4.13
37	Pomatiopsidae	1	1	0.41
38	Bulinidae	1	1	0.41
39	Lymnaeidae	9	16	6.61
40	Pachychilidae	1	1	0.41
41	Physidae	1	1	0.41
42	Planorbidae	9	17	7.02
43	Thiaridae	3	4	1.65
44	Valvatidae	1	1	0.41
45	Viviparidae	2	2	0.82

Table 2. List of old names used in the literature with its new name and country.

Old names	New names, City, State, Country
Adampur	Udhampur, Jammu & Kashmir, India
Avantipura	Awantipora, Pulwama, Jammu & Kashmir, India
Badakshan	Badakhshan, Baltistan, Afghanistan
Bagh Punch	Bagh, Poonch Division, Pakistan
Bagie	Bagi Village, Himachal Pradesh, India
Dudh lekh, Nepal	Dudh lekh, Suderpashchim, Nepal
Burenda Pass	Burzil pass, Gilgit-Baltistan, Pakistan
Cashmire	Kashmir, Jammu & Kashmir, India
Chandanwari	Chandanwari, Pahalgam, Jammu & Kashmir, India
Changligali	Changli Gali, Abbottabad, Pakistan
Chillianwalla	Chillianwala, Punjab province, Pakistan
Dakhinkhund	Dainkund, Dalhousie, Himachal Pradesh, India
Dras	Drass, Ladakh, India
Faggu	Fagu, Himachal Pradesh, India
Gunji,	Gunji, Uttarakhand, India
Gurwal	Garhwal, Uttarakhand, India
Hattu	Hatu, Himachal Pradesh, India
Iskardo	Skardo, Gilgit-Baltistan, Pakistan
Islamabad	Islamabad town, Jammu & Kashmir, India
Jamu Hills	Jammu (Trikuta) Hills, Jammu & Kashmir, India
Jawi valley	Tawi valley, Jammu & Kashmir, India
Jhilum	Jhelum River, Jammu & Kashmir, India
Jummoo; Jamu	Jammu, Jammu & Kashmir, India
Karimabad	Karimabad, Gilgit-Baltistan, Pakistan
Kemaon	Kumaon, Uttarakhand, India
Khilanmarg	Khilanmarg, Jammu & Kashmir, India
Kulu	Kullu, Himachal Pradesh, India
Kunawur	Kunawur, Himachal Pradesh, India
Landor	Landour, Uttarakhand, India
Liti pass	Liti pass, Uttarakhand, India

Old names	New names, City, State, Country
Mahassu	Mahasu, Himachal Pradesh, India
Masuri	Mussoorie, Uttarakhand, India
Mataian	Matayen, Kargil, Ladakh, India
Mohu pass	Banihal pass, Jammu & Kashmir, India
Muri; Mari	Murree, Rawalpindi, Pakistan
Nag Tiba	Nag Tibba, Uttarakhand, India
Nagkunda	Narkanda, Himachal Pradesh, India
Naukuchia Tal	Naukuchiatal, Uttarakhand, India
Nayni Tal; Nynee Thai	Nainital, Uttarakhand, India
Nubra	Nubra, Ladakh, India
Pakli Valley	Pakhli Valley, Punjab province, Pakistan
Pankong	Pangong Tso (Lake), Ladakh, India
Panjal valley	Pir Panjal range, Jammu and Kashmir, India
Rampur, Barmula	Rampur, Baramulla, Jammu & Kashmir, India
Salt range	Pothohar Plateau, Punjab province, Pakistan
Sariya Tal	Sariyatal, Uttarakhand, India
Shypion	Shopian, Jammu & Kashmir, India
Simla	Shimla, Himachal Pradesh, India
Sonmarg	Sonamarg, Jammu & Kashmir, India
Soper	Sopore, Jammu & Kashmir, India
Tajwas marg	Thajiwas Glacier, Jammu & Kashmir, India
Takht-i-Suleiman	Shankaracharya Hill, Jammu & Kashmir, India
Tandāli	Tandali, Tikra, Himachal Pradesh, India
Tandiani	Thandiani, Abbottabad, Pakistan
Tangitar	Tangdhar, Jammu & Kashmir, India
Tsoral lake	Tsokar lake, Ladakh, India
Wakha	Wakhan, Kargil district, India
Whartu; Hattu	Hatu, Himachal Pradesh, India
Tribeni Ghat	Triveni Ghat, Rishikesh, Uttarakhand or Triveni Ghat, Hoogly, West Bengal, India

work for the first time from the Pir Panjal region shows the rich diversity of molluscs from the western Himalaya (Table 3). Thus, there is a high probability of finding new species or new records in this region if extensive surveys are undertaken.

According to the recent IUCN Red List (2019), molluscs represent 34 percent of all species and 40 percent of animal species extinction globally. Despite this, a small proportion of non-marine molluscs have been evaluated. In India, only 200 and odd freshwater molluscs were evaluated for the Red List status (Budha et al. 2010; Aravind et al. 2011). There is a need to assess the conservation status of land molluscs from this region. However, the main knowledge gaps that hindered the

conservation assessment were a lack of taxonomic inventory, especially in unexplored areas, information about current and historical distributions and population sizes, and basic ecological information. Implementation of integrative taxonomy, ecological and distributional studies, exploration of areas and groups are yet largely ignored, development of researcher networks and improvement of public and political awareness and concern about these important and diverse animals are necessary actions for the conservation of non-marine molluscs in the region to have any chance of success.

Threats and conservation challenges

The western Himalayan region faces a myriad of

Table 3. Number of families, genera, and species reported by different studies.

References	No. of family	No. of genera	No. of species
Present work	13	27	39
Agrawal (1976)	9	12	15
Annandale & Prashad (1920)	1	1	1
Annandale & Rao (1925)	7	8	11
Auffenberg & Fakhri (1995)	1	1	1
Battish & Sharma (2002)	1	1	3
Benson (1849)	2	2	2
Benson (1857)	1	1	2
Benson (1863)	2	2	2
Benson (1864)	3	3	3
Bhat (2020)	1	1	1
Biswas et al. (2015)	6	8	8
Bößneck et al. (2016)	1	1	1
Budha (2016)	11	21	29
Budha et al. (2015)	11	14	19
Budha et al. (2017a)	1	1	1
Budha et al. (2017b)	1	1	1
Budha & Naggs (2005)	1	1	1
Budha & Naggs (2008)	1	1	1
Chaudhary (2017)	10	14	16
Davis & Rao (1997)	1	1	1
Gerber & Bössneck (2009)	1	4	4
Glöer & Bössneck (2013)	2	2	5
Godwin-Austen (1899)	2	2	3
Godwin-Austen (1914)	2	2	2
Gude (1914)	15	30	47
Hanley & Theobald (1876)	14	17	29
Heynemann (1863)	1	1	1
Hlaváč (2004)	1	1	1
Hora (1928)	1	1	1
Hutton & Benson (1838a)	6	12	15
Hutton & Benson (1838b)	6	9	13
Hutton (1834)	4	4	4
Hutton (1837)	2	2	2
Kuzminykh & Schileyko (2005)	1	1	2
Kuznetsov & Schileyko (1997)	3	3	3
Kuznetsov & Schileyko (1999)	1	1	2
Mir & Bakhtiyar (2022)	7	12	12

References	No. of family	No. of genera	No. of species
Nesemann & Sharma (2005)	1	2	2
Nevill (1878a)	13	16	20
Nevill (1878b)	15	25	41
Nevill (1885)	4	4	6
Nordsieck (1973)	1	1	1
Odhner (1963)	1	1	1
Páll-Gergely et al. (2015)	1	1	1
Pfeiffer (1846a)	4	4	5
Pfeiffer (1849)	1	1	2
Pfeiffer (1854)	1	1	1
Pokryszko et al. (2009)	4	5	13
Prashad (1922)	5	9	9
Prashad (1928)	1	1	1
Preston (1915)	6	10	13
Rajagopal & Rao (1972)	6	10	12
Rajagopal (1973)	1	1	1
Ramakrishna et al. (2010)	20	34	81
Reeve (1848)	1	1	2
Reeve (1849)	4	4	7
Reeve (1862)	2	2	2
Sajan et al. (2019)	1	1	1
Sajan et al. (2020)	1	1	1
Sajan et al. (2021)	1	1	1
Schileyko & Balashov (2012)	1	1	1
Schileyko & Kuznetsov (1998a)	1	1	2
Schileyko & Kuznetsov (1998b)	1	1	1
Schileyko & Frank (1994)	2	2	2
Rao (1989)	10	17	23
Subba & Ghosh (2001)	3	6	6
Subba & Ghosh (2008)	1	1	1
Theobald (1862)	1	1	1
Theobald (1878)	23	35	51
Theobald (1881)	8	14	23
Uttam et al. (2022)	7	8	8
Wiktor (2001b)	1	1	1
Wiktor (2001a)	1	1	3
Wiktor & Auffenberg (2002)	3	3	3
Wiktor & Bössneck (2004)	1	1	1
Woodward (1856)	10	17	19

pressing threats and conservation challenges, including rapid population growth, uncontrolled development, unplanned urbanisation, agricultural expansion and climate change-induced alterations in land use and land cover (LULC) (Mondal & Zhang 2018), as well as the construction of dams (Sati et al. 2020). While

previous studies have observed plant species migrating to higher altitudes due to global warming, snails as model systems to assess climate change impacts remain largely unexplored. The Himalayan region's vulnerability to climate change is particularly pronounced (Tewari et al. 2017), with estimates indicating a potential warming

Table 4. List of introduced species reported from the western Himalayan region from various studies.

	Family	Species	References
1	Euconulidae	<i>Euconulus fulvus</i> (Müller, 1774)	Theobald 1878: p. 141
2	Agriolimacidae	<i>Deroceras laeve</i> (Müller, 1774)	Wiktor & Auffenberg 2002: p. 12
3	Thiaridae	<i>Mieniplotia scabra</i> (Müller, 1774)	Rao 1989: p. 96
4	Physinae	<i>Physella acuta</i> (Draparnaud, 1805)	Uttam et al. 2022: p. 356
5	Achatinidae	<i>Lissachatina fulica</i> (Bowdich, 1822)	Budha & Naggs 2005: p. 19

rate of 0.5°C by the end of the 21st Century (Sabin et al. 2020). Additionally, changes in land use and land cover, exemplified by significant natural forest reductions, threaten biodiversity. Urbanisation, pollution, and habitat loss are compounding concerns with potential repercussions for non-marine molluscs. The invasion of aquatic species, such as plants, further imperils aquatic ecosystems, as evidenced by declines in native species in Dal Lake due to pollution, urbanisation and the proliferation of invasive aquatic species, including fish and macrophytes (Kumar et al. 2022). These complex challenges underscore the urgent need for research and conservation efforts to safeguard the fragile ecosystems of the western Himalayan region.

Future direction

In the realm of mollusc research in the western Himalayan region, recent studies have been notably localised, with a scarcity of large-scale landscape-level investigations. Given the ongoing transformations in the Himalayan region, it is crucial to explore molluscan diversity, considering their heightened vulnerability to climate variations and changes in land use and land cover, as emphasised by Kardong et al. (2016). To address these pressing concerns, comprehensive transboundary surveys, increased funding for local institutions, and the development of human resources are imperative. Strikingly, none of the terrestrial mollusc species in the western Himalaya have undergone IUCN Red List assessments. In contrast, the freshwater molluscs have been evaluated as part of the Biological Surveys and Assessment Program (BSAP) and the rapid bioassessment methods for freshwater molluscs assessment program, with none of the species falling under the categories of critically endangered, endangered or vulnerable from this region. However, to gain a precise understanding of habitat utilisation and population status, it is essential to embark on ecological and long-term studies. Many species necessitate internal examinations or molecular analysis for accurate identification and species delimitation, as highlighted in the past (Wiktor & Auffenberg 2002).

Furthermore, some species exhibit endemism to specific small regions (as noted by Godwin-Austin in 1899, p. 242), and whether this pattern reflects reality or is a sampling artefact requires scrutiny. Habitat loss and degradation pose potential threats to many species, underscoring the significance of a comprehensive understanding of natural resources and their diversity before scientific exploitation and conservation efforts, as emphasised by the United Nations in 2022. This study seeks to establish foundational data on the malacofauna of the region through both morphological and molecular methodologies, aiming to assess distribution patterns, phylogenetic relationships, and conservation statuses. The existing literature on this subject is antiquated, incomplete, and dispersed, highlighting the pressing need for a comprehensive taxonomic revision, as well as an exploration of the distribution and ecology of freshwater and terrestrial molluscs in this region.

Species List

Terrestrial Molluscs

Phylum Mollusca

Class Gastropoda

Subclass Caenogastropoda

Order Architaenioglossa

Superfamily Cyclophoroidea

Family Cyclophoridae

Subfamily Cyclophorinae

Genus *Cyclophorus* Montfort, 1810

1. *Cyclophorus fulguratus* (Pfeiffer, 1854)

Distribution: Gulmi District, Nepal (Subba & Ghosh 2001: p. 60), Philippines, Thailand, and Vietnam.

Family Diplommatinidae

Genus *Diplommatina* Benson, 1849

2. *Diplommatina costulata* Benson, 1849

Distribution: Sub-western Himalaya, India (Benson 1849b: p. 194; Gude 1921: p. 307); Landour, Uttarakhand, India (Hanley & Theobald 1876: p. 49), southern and southeastern Asia.

3. *Diplommatina folliculus* (Pfeiffer, 1846)

Distribution: Shimla, Himachal Pradesh, India (Pfeiffer 1846b; p. 83), Landour, Himachal Pradesh, India (Hanley & Theobald 1876: p. 56); Nainital, Uttarakhand, India (Ramakrishna et al. 2010: p. 86), Philippines, and Nepal.

4. *Diplommatina huttoni* Pfeiffer, 1854

Distribution: Western Himalaya, India (Pfeiffer 1854: p. 157); Mussoorie, Uttarakhand, India (Hanley & Theobald 1876: p. 55; Gude 1921: p. 319; Ramakrishna et al. 2010: p. 88).

Family Alycaeidae

Genus *Dicharax* Kobelt & Möllendorff, 1900

5. *Dicharax strangulatus* (Pfeiffer, 1846)

Distribution: Landour, Uttarakhand, India (Hanley & Theobald 1876: p. 38); Mussoorie, Uttarakhand, India (Godwin-Austen 1914: p. 337); The Great Himalayan National Park, Manali, Uttarakhand, India (Sajan et al. 2020: p. 523), Shivapuri-Nagarjun National Park, Nepal (Budha et al. 2015: p. 5).

Subclass Heterobranchia

Order Stylommatophora

Superfamily Plectopyloidea

Family Plectopylidae

Genus *Endothyrella* Zilch, 1960

6. *Endothyrella nepalica* Budha & Páll-Gergely, 2015

Distribution: Dhaulagiri zone, Baglung and Myagdi Districts, Nepal (Páll-Gergely et al. 2015: p. 47).

Superfamily Streptaxoidea

Family Streptaxidae

Subfamily Enneinae

Genus *Gulella* Pfeiffer, 1856

7. *Gulella bicolor* (Hutton, 1834)

Distribution: Kumaon, Uttarakhand, India (Hutton 1834: p. 86), Kashmir, India (Theobald, 1878: p. 147), Angola, Botswana, Lesotho, Mozambique, Namibia, South Africa, Caribbean, South America, Seychelles, Australia, Nicaragua, Brazil, Dominica, and Nepal (Budha et al. 2015: p. 17).

Superfamily Achatinoidea

Family Achatinidae

Subfamily Achatininae

Genus *Lissachatina* Bequaert, 1950

8. *Lissachatina fulica* (Bowdich, 1822)

Distribution: Baglung and Myagdi Districts, Nepal (Budha & Naggs 2008: p. 19); Gulmi District, Nepal

(Budha & Naggs 2005: p. 19), eastern Africa, Brazil, Cuba, Ecuador, western Africa, Argentina, South America, Venezuela, Philippines, China, Taiwan, West Indies, Florida, Bhutan, Nepal, Italy, Salvador, Indonesia, Sri Lanka, Caribbean, Thailand, and India.

Remark: One of the worst invasive species with pan-tropical distribution.

Subfamily Glessulinae

Genus *Glessula* Martens, 1860

9. *Glessula huegeli* (Pfeiffer, 1842)

Distribution: Kashmir, India (Hanley & Theobald 1876: p. 33; Gude 1914: p. 38; Ramakrishna et al. 2010: p. 162).

10. *Glessula paupercula* (Blanford & Blanford, 1861)

Distribution: Solan District, Himachal Pradesh, India (Agrawal 1976: p. 139), India: Tamil Nadu, Madhya Pradesh, Kerala.

Subfamily Rishetiinae

Genus *Rishetia* Godwin-Austen, 1920

11. *Rishetia rishikeshi* Budha & Naggs, 2017

Distribution: Jhawalepakho Community Forest, Ridi, Gulmi District, Nepal (Budha et al. 2017a: p. 146).

Subfamily Subulininae

Genus *Allopeas* Baker, 1935

12. *Allopeas gracile* (Hutton, 1834)

Distribution: Jhelum valley, India (Theobald 1878: p. 146); Bilaspur District, Himachal Pradesh, India (Agrawal 1976: p. 139); Kashmir, India (Gude 1914: p. 356); Jhelum District, Salt range, Pakistan (Annandale & Rao 1925: p. 394), Myanmar, America, Tanzania, Malaysia, Sri Lanka, Indonesia, Borneo, Brazil, Malaysia, Vietnam, Cambodia, Indonesia, Tanzania, Iraq, Florida, Nepal, and India: Assam, Arunachal Pradesh, West Bengal, Andaman & Nicobar.

13. *Allopeas latebricola* (Reeve, 1849)

Distribution: Landour, Uttarakhand, India (Reeve 1849: pl. 80, no 572; Hanley & Theobald 1876: p. 34; Gude 1914: p. 358; Ramakrishna et al. 2010: p. 181).

Genus *Zootecus* Westerlund 1887

14. *Zootecus chion* (Pfeiffer, 1857)

Distribution: Chandak, Pir Panjal range, Jammu & Kashmir, India (Present study), Pakistan, Afghanistan, and India: Maharashtra, Uttar Pradesh.

Remarks: First time reported from the region.

15. *Zootecus insularis* (Ehrenberg, 1831)

Distribution: Outer hills, Kashmir, India (Theobald 1878: p. 146; Gude 1914: p. 368; Ramakrishna et al. 2010: p. 184); Salt range, Pakistan (Annandale & Rao 1925: p. 394); Chandak, Pir Panjal range, Jammu and Kashmir, India (Present study), Pakistan, Qatar, Israel, Sudan, Egypt, and Oman.

Remarks: Found in an agriculture field under a shady swamp area.

Family Ferussaciidae**Genus *Cecilioides* Férussac, 1814****16. *Cecilioides balanus* (Reeve, 1850)**

Distribution: Kashmir, India (Nevill 1878a: p. 162; Gude 1914: p. 374; Ramakrishna et al. 2010: p. 146).

Superfamily Arionoidea**Family Anadenidae****Genus *Anadenus* Heynemann, 1863****17. *Anadenus altivagus* (Theobald, 1862)**

Distribution: Narkanda, Himachal Pradesh, India (Theobald 1862: p. 489); Changla Gali, Abbottabad District, Pakistan (Nevill 1878b: p. 21; Gude 1914: p. 473). Thandiani & Murree, Pir Panjal range, Pakistan (Theobald 1881: p. 47); Shimla, Himachal Pradesh, India (Godwin-Austen 1882: p. 48); Dalhousie, Himachal Pradesh, India (Hora 1928: p. 357; Wiktor 2001a: p. 26); Khilanmarg, Jammu and Kashmir (Rajagopal and Rao 1972: p. 213); Bagh, Poonch Division, Pakistan (Wiktor & Auffenberg 2002: p. 10); Dunga Gali, Abbottabad District, Pakistan (Wiktor 2001a: p. 5), China, and India.

18. *Anadenus banerjeei* Rajagopal, 1973

Distribution: Kumaon, Uttarakhand, India (Rajagopal 1973: p. 416); Gunji village, Pithoragarh District, Uttarakhand, India (Ramakrishna et al. 2010: p. 342).

19. *Anadenus giganteus* Heynemann, 1863

Distribution: Shimpti village, Uttarakhand, India (Heynemann 1863: p. 140); Kumaon, Uttarakhand, India (Godwin-Austen 1882: p. 48; Gude 1914: p. 474); western Himalaya, India (Ramakrishna et al. 2010: p. 343); Garhwal, Uttarakhand, India (Wiktor 2001a: p. 24); western Nepal, Nepal (Kuzminykh & Schileyko 2005: p. 113), India and Nepal.

20. *Anadenus nepalensis* Wiktor, 2001

Distribution: Hills of Darchula and Dolpa Districts, Nepal (Budha et al. 2015: p. 28); Ghundruk, Kaski District, Nepal (Wiktor 2001a: p. 14; Kuzminykh & Schileyko 2005: p. 113).

Superfamily Chondrinoidea**Family Truncatellinidae****Genus *Columella* Westerlund, 1878****21. *Columella nymphaepratensis* Hlaváč & Pokryszko, 2009**

Distribution: Raikhot Gah, Diamir, and Skardu districts, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 425).

Genus *Truncatellina* Lowe 1852**22. *Truncatellina babusarica* Auffenberg & Pokryszko, 2009**

Distribution: Babusar Pass, Gilgit District, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 428).

23. *Truncatellina himalayana* (Benson, 1863)

Distribution: Shimla, Himachal Pradesh and Mussoorie, Uttarakhand, India (Benson 1863: p. 428; Hanley & Theobald 1876: p. 41; Gude 1914: p. 41); Pir Panjal range, Kashmir, India (Theobald 1878: p. 146); Kashmir, India (Ramakrishna et al. 2010: p. 125); Khobang, Annapurna range, Nepal (Kuznetsov & Schileyko 1997: p. 429); Gilgit District, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 429).

Superfamily Clausilioidea**Family Clausiliidae****Subfamily Phaedusinae****Genus *Cylindrophaedusa* Boettger, 1877****24. *Cylindrophaedusa cylindrica* (Pfeiffer, 1846)**

Distribution: Tandiani, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 48); Landour, Uttarakhand, India (Hanley & Theobald 1876: p. 12; Ramakrishna et al. 2010: p. 143); Murree, Pir Panjal Range, Pakistan (Nevill 1878b: p. 19); Dharamshala, Himachal Pradesh, India (Theobald 1878: p. 147); Nainital, Uttarakhand and Shimla, Himachal Pradesh, India (Gude 1914: 338); Dadeldhura District, Nepal (Budha et al. 2015: p. 14).

25. *Cylindrophaedusa farooqi* (Auffenberg & Fakhri, 1995)

Distribution: Malam Jabba, Northwest Frontier Province, Pakistan (Auffenberg & Fakhri, 1995: p. 89).

26. *Cylindrophaedusa martensiana* (Nordsieck, 1973)

Distribution: Lamjung, Myagdi and Mustang Districts, Nepal (Nordsieck 1973: p. 67).

27. *Cylindrophaedusa waageni* (Stoliczka 1872)

Distribution: Murree, Pir Panjal range, Pakistan

(Nevill 1878b: p. 19); Rampur, Baramulla, India (Theobald 1878: p. 147); Tandiani, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 48); Changla Gali, Pir Panjal range, Pakistan (Gude 1914: p. 307); western Himalaya, India (Ramakrishna et al. 2010: p. 143).

Order Ellobiida

Superfamily Ellobioidea

Family Ellobiidae

Subfamily Carychiinae

Genus *Carychium* Müller, 1773

28. *Carychium indicum* Benson, 1849

Distribution: Lower western Himalaya of Shimla, Himachal Pradesh, India (Benson 1849b: p. 194); Shakti Village, Uttarakhand, India (Sajan et al. 2021: p. 38), Pakistan, and Bhutan.

Genus *Coilostele* Benson, 1864

29. *Coilostele scalaris* Benson, 1864

Distribution: Western Himalaya, India (Benson 1863: p. 136; Hanley & Theobald 1876: p. 156); Kashmir, India (Theobald 1878: p. 147; Gude 1914: p. 376; Ramakrishna et al. 2010: p. 145; Nevill 1878a: p. 162).

Order Stylommatophora

Superfamily Gastrodontoidea

Family Gastrodontidae

Genus *Zonitoides* Lehmann, 1862

30. *Zonitoides nitidus* (Müller, 1774)

Distribution: Skardu, Gilgit-Baltistan, Pakistan (Woodward 1856: p. 186), Slovakia, Hungary, Romania, Poland, Latvia, Russia, Uzbekistan, Türkiye, and Italy.

Superfamily Helicarionoidea

Family Ariophantidae

Subfamily Macrochlamydiae

Genus *Bensonies* Baker 1938

31. *Bensonies angelica* (Pfeiffer, 1856)

Distribution: Uri, Jammu & Kashmir, India (Nevill 1878b: p. 18); southern Kashmir, India (Blandford & Godwin-Austen 1908: p. 173); Kashmir, India (Ramakrishna et al. 2010: p. 293).

32. *Bensonies convexa* (Reeve, 1852)

Distribution: Himachal Pradesh, India (Ramakrishna et al. 2010: p. 294); Kumaon, Uttarakhand, India (Blandford & Godwin-Austen 1908: p. 174), Annapurna range, Nepal (Budha et al. 2015: p. 23).

33. *Bensonies jacquemontii* (Martens, 1869)

Distribution: Murree, Pir Panjal range, Pakistan

(Nevill 1878b: p. 18; Blandford & Godwin-Austen 1908: p. 174); western Himalaya, India (Ramakrishna et al. 2010: p. 294); Baitadi District, Nepal (Budha et al. 2015: p. 24).

34. *Bensonies jamuensis* (Theobald, 1878)

Distribution: Tawi valley, between Chenani and Udhampur, India (Theobald 1878: p. 142); Tirkuta hills, Jammu & Kashmir, India (Godwin Austen 1888: p. 251); Jammu, India (Ramakrishna et al. 2010: p. 294); Mandi area of Poonch and Shahdara area of Rajouri, Pir Panjal range, India (Present study).

35. *Bensonies monticola* (Benson, 1838)

Distribution: Hatu, Shimla District, Himachal Pradesh, India (Hutton & Benson 1838: p. 215); Landour, Uttarakhand, India (Hanley & Theobald 1876: p. 13 as *H. labiata*); Tandiani, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 46); Changli Gali near Murree, Pir Panjal range, Pakistan (Nevill 1878b: p. 17); Bichlari, Chenab River, India (Theobald 1878: p. 142); Mussoorie, Uttarakhand, India (Godwin-Austen 1888: p. 248); Kumaon & Mussoorie, Uttarakhand, India (Blandford & Godwin-Austen 1908: p. 172); Kashmir, India (Ramakrishna et al. 2010: p. 295); Khaptad National Park, Nepal (Budha et al. 2015: p. 24); Bafliuz area of Poonch and Narain area of Rajouri, Pir Panjal range (Present study).

36. *Bensonies nepalensis* (Blanford, 1904)

Distribution: Syangjha, Parbat, and Myagdi Districts, Nepal (Budha et al. 2015: p. 24); Gulmi District, Nepal (Subba & Ghosh, 2001: p. 60), Kathmandu, Nepal (Blanford 1904: p. 441).

37. *Bensonies theobaldiana* (Godwin-Austen, 1888)

Distribution: Narkanda, Himachal Pradesh, India (Blanford & Godwin-Austen 1908: p. 173); Bilaspur, Himachal Pradesh, India (Ramakrishna et al. 2010: p. 295); Khaptad National Park, Nepal (Budha et al. 2015: p. 24).

38. *Bensonies wynnei* (Blanford, 1881)

Distribution: Murree near river Jhelum, Pir Panjal range, Pakistan (Theobald 1881: no 11, p. 197); Kashmir, India (Ramakrishna et al. 2010: p. 296).

Subfamily Macrochlamyinae**Genus *Himalodiscus* Kuznetsov, 1996****39. *Himalodiscus echinatus* Schileyko & Kuznetsov, 1998**

Distribution: Lete-Khola valley, Nepal (Schileyko & Kuznetsov, 1998b: p. 86).

Genus *Euaustenia* Cockerell, 1891**40. *Euaustenia cassida* (Benson, 1838)**

Distribution: Sabathu, Solan District, Himachal Pradesh, India (Hutton & Benson 1838: p. 214); Landour, Uttarakhand, India (Pfeiffer 1849: p. 107); Hatu and Mahasu, Himachal Pradesh, India (Hanley & Theobald 1876: p. 24); Murree, Pir Panjal range, Pakistan (Nevill 1878b: p. 16); Nainital, Uttarakhand, India (Blandford & Godwin-Austen 1876: p. 148); Dharmshala, Chenab valley, India (Theobald 1878: p. 142); Kashmir, India (Godwin Austen 1888: p. 214); Chandanwari, Pahalgam, Jammu & Kashmir, India (Rajagopal & Rao 1972: p. 209; Ramakrishna et al. 2010: p. 290); Kangra fort, Himachal Pradesh, India (Biswas et al. 2015: p. 22); Dadeldhura District, Nepal (Budha et al. 2015: p. 23); Loran village, Poonch District and Dangri village, Rajouri District, Pir Panjal range, India (Present study), Bangladesh, India, Pakistan, Shivapuri-Nagarjun National Park (Budha et al. 2015: p. 23).

Genus *Macrochlamys* Gray, 1847**41. *Macrochlamys flemingi* (Pfeiffer, 1857)**

Distribution: Tandali, Pir Panjal range, Pakistan (Nevill 1878b: p. 14; Theobald 1881: p. 45); Murree, Pir Panjal range, Pakistan (Theobald 1878: p. 142; Godwin-Austen 1888: p. 212); western Himalaya, India (Ramakrishna et al. 2010: p. 290).

42. *Macrochlamys fragilis* (Hutton, 1838)

Distribution: Hatu, Himachal Pradesh, India (Hutton & Benson, 1838: no. 6, p. 216),

43. *Macrochlamys glauca* (Pfeiffer, 1846)

Distribution: Mussoorie, Uttarakhand, India (Blandford & Godwin-Austen 1908: 80); Kangra valley, Himachal Pradesh, India (Rao 1927: p. 53); Kotgarh, Himachal Pradesh, India (Ramakrishna et al. 2010: p. 269); Kuniyan village, Poonch District and Saaj village, Rajouri District, Pir Panjal range, India (Present study).

44. *Macrochlamys gurhwalensis* (Godwin-Austen, 1899)

Distribution: Garhwal, Uttarakhand, India (Godwin-Austen 1899: p. 180; Ramakrishna et al. 2010: p. 290).

45. *Macrochlamys indica* Godwin-Austen, 1883

Distribution: Kashmir valley, India (Theobald 1878: p. 141); Chamba Bridge, Himachal Pradesh, India (Biswas et al. 2015: p. 22); Kanchanpur District, Nepal (Budha et al. 2015: p. 21); Gulmi District, Nepal (Subba & Ghosh, 2001: p. 60); Azmatnabad, Poonch District and Budhal, Rajouri District, Pir Panjal range, India (Present study), Saudi Arabia, Pakistan, Bangladesh, Nepal, Myanmar, India, Thailand, Sri Lanka, Brazil, Singapore, and Malaysia.

46. *Macrochlamys kashmirensis* (Nevill, 1878)

Distribution: Sonamarg, Jammu & Kashmir, India (Nevill 1878b: p. 16; Blandford & Godwin-Austen 1908: p. 165; Ramakrishna et al. 2010: p. 298).

47. *Macrochlamys kuluensis* Blandford, 1904

Distribution: Kullu, Himachal Pradesh, India (Blandford 1904: p. 442; Blandford & Godwin-Austen 1908: p. 81; Godwin-Austen 1910: p. 246; Gude 1914: p. 255; Ramakrishna et al. 2010: p. 272).

48. *Macrochlamys leggeae* Sajan, Tripathy, Chandra & Sivakumar, 2019

Distribution: Valley of Flowers National Park, Uttarakhand, India (Sajan et al. 2019: p. 800).

49. *Macrochlamys nuda* (Reeve, 1852)

Distribution: Mussoorie, Uttarakhand, India (Blandford & Godwin-Austen 1908: p. 81); Kumaon, Uttarakhand, India (Ramakrishna et al. 2010: p. 276), Annapurna range, Nepal (Budha et al. 2015: p. 22).

50. *Macrochlamys patane* (Benson, 1859)

Distribution: Uri, Jammu & Kashmir, India (Theobald 1878: p. 141).

51. *Macrochlamys paurhiensis* (Godwin-Austen, 1899)

Distribution: Western Himalaya, India (Godwin-Austen 1899: p. 109).

52. *Macrochlamys petrosa* (Hutton, 1834)

Distribution: Mohu pass, Jammu & Kashmir, India (Theobald 1878: p. 141).

53. *Macrochlamys planiuscula* (Benson, 1838)

Distribution: Shimla, Himachal Pradesh, India (Hutton & Benson 1838: p. 218); Mussoorie, Uttarakhand, India (Blandford & Godwin Austen 1908: p. 302).

54. *Macrochlamys theobaldi* (Godwin-Austen, 1888)

Distribution: Bichlari River, Chenab valley, Himachal Pradesh, India (Godwin Austen 1888: p. 236).

55. *Macrochlamys tugurium* (Benson, 1852)

Distribution: Khaptad National Park, Nepal (Budha et al. 2015: p. 23); Gulmi District, Nepal (Subba & Ghosh 2001: p. 60), Darjeeling, West Bengal, and India (Ramakrishna et al. 2010: p. 288).

56. *Macrochlamys vesicula* (Benson, 1838)

Distribution: Shimla, Himachal Pradesh, India (Hutton 1937: p. 931; Godwin-Austen 1883: p. 83; Blandford & Godwin-Austen 1908: p. 80); Burzil pass, Astore District, Gilgit-Baltistan, Pakistan (Hutton & Benson 1838: p. 216); Landour, Uttarakhand, India (Godwin-Austen 1897: p. 243); Kashmir, India (Ramakrishna et al. 2010: p. 290).

57. *Macrochlamys vitrinoides* (Deshayes, 1831)

Distribution: Sabathu, Solan district, Himachal Pradesh, India (Hutton & Benson 1838: no. 5, p. 216); Mohu pass, Jammu & Kashmir, India (Theobald 1878: p. 141).

Genus *Oxytesta* Zilch, 1956

58. *Oxytesta sylvicola* (Blanford, 1881)

Distribution: Gulmi and Rupandehi Districts, Nepal (Subba & Ghosh 2001: p. 60).

Genus *Parvatella* Blanford & Godwin-Austen, 1908

59. *Parvatella altivaga* (Theobald, 1878)

Distribution: Uri, Jhelum valley, India (Godwin-Austen 1888: p. 213; Blandford & Godwin-Austen 1908: p. 148); Kashmir, India (Theobald 1878: p. 143; Ramakrishna et al. 2010: p. 291).

60. *Parvatella austeniana* (Nevill, 1878)

Distribution: Sonamarg, Jammu & Kashmir, India (Nevill 1878b: p. 14; Godwin-Austen 1888: p. 215) Tandiani, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 45) Kashmir, India (Ramakrishna et al. 2010: p. 292).

61. *Parvatella magnifica* (Reeve, 1862)

Distribution: Northwestern Himalaya, India (Reeve 1862: p. 3; Ramakrishna et al. 2010: p. 22).

62. *Parvatella stoliczkanus* (Nevill, 1878)

Distribution: Tandali, Tikra, Himachal Pradesh, India (Nevill 1878b: p. 14); Sirban hill, Damtour near

Abbottabad, Pakistan (Theobald 1881: p. 45).

Genus *Syama* Blanford & Godwin-Austen, 1908

63. *Syama annandalei* Godwin-Austen, 1908

Distribution: Western Himalaya, India (Ramakrishna et al. 2010: p. 305).

64. *Syama masuriensis* (Godwin-Austen, 1883)

Distribution: Mussoorie, Uttarakhand, India (Blandford & Godwin-Austen 1908: p. 156; Ramakrishna et al. 2010: p. 305).

65. *Syama promiscua* (Godwin-Austen, 1908)

Distribution: Tandiani, Khyber Pakhtunkhwa, Pakistan (Blandford & Godwin-Austen 1908: p. 156); Murree, Pir Panjal range, Pakistan (Ramakrishna et al. 2010: p. 305).

66. *Syama prona* (Nevill, 1878)

Distribution: Murree, Pir Panjal range, Pakistan (Nevill 1878b: p. 17); Tandiani, Khyber Pakhtunkhwa, Pakistan, (Theobald 1881: p. 46); Mussoorie, Uttarakhand, India (Godwin Austen 1883: p. 103); Shimla, Himachal Pradesh, India (Blandford & Godwin-Austen 1908: p. 155); Garhwal, Uttarakhand, India (Ramakrishna et al. 2010: p. 306), Shivapuri-Nagarjun National Park, Nepal (Budha et al. 2015: p. 26).

67. *Syama splendens* (Benson, 1838)

Distribution: Fagu and Narkunda, Himachal Pradesh, India (Hutton & Benson 1838: no. 4, p. 216); Tandali, Tikra, Himachal Pradesh, India (Nevill 1878b: p. 18); Uri, Jammu & Kashmir, India (Theobald 1878: p. 141); Murree, Pir Panjal range, Pakistan (Theobald 1881: p. 46); Nag-Tiba ridge near Mussoorie, Uttarakhand, India (Godwin-Austen 1883: p. 100); Mahasu, near Shimla, Himachal Pradesh, India (Blandford & Godwin-Austen 1908: p. 153); Thajiwas near Sonamarg, Jammu and Kashmir, India (Rajagopal & Rao 1972: p. 207); Kashmir, India (Ramakrishna et al. 2010: p. 306); Sawajian, Poonch District and Siot, Rajouri District, Pir Panjal range (Present study).

68. *Syama theobaldi* Blanford & Godwin-Austen, 1908

Distribution: Jhelum valley, India (Blanford & Godwin-Austen 1908: p. 157); Gulmarg, Jammu and Kashmir, India (Rajagopal & Rao 1972: p. 210); Murree, Pir Panjal range, Pakistan (Ramakrishna et al. 2010: p. 306).

Subfamily Ariophantinae**Genus *Ariophanta* Moulin, 1829****69. *Ariophanta himalana* (Lea, 1834)**

Distribution: Himalaya mountains, India (Lea 1834: p. 55); Kangra fort, Himachal Pradesh, India (Biswas et al. 2015: p. 23); Samote, Poonch District and Kalakot, Rajouri District, Pir Panjal range, India (Present study).

Genus *Khasiella* Godwin-Austen, 1899**70. *Khasiella chloroplax* (Benson, 1865)**

Distribution: Shimla, Himachal Pradesh, India (Benson 1865: p. 14; Blandford & Godwin-Austen 1908: p. 165); Murree, Pir Panjal range, Pakistan (Nevill 1878b: p. 16); western Himalaya, India (Ramakrishna et al. 2010: p. 296).

71. *Khasiella hyba* (Benson, 1861)

Distribution: Wular Lake, Jammu & Kashmir, India (Theobald 1878: p. 142); Dainkund, Dalhousie, Himachal Pradesh, India (Blandford & Godwin-Austen 1908: p. 164); Tangmarg, Jammu and Kashmir, India (Rajagopal & Rao 1972: p. 208); Kashmir, India (Ramakrishna et al. 2010: p. 298); Samote, Poonch District and Kalakot, Rajouri District, Pir Panjal range, India (Present study).

72. *Khasiella kashmirensis* (Nevill, 1878)

Distribution: Sonamarg, Jammu & Kashmir, India (Nevill 1878b: p. 16); Kashmir, India (Ramakrishna et al. 2010: p. 298).

73. *Khasiella ornatissima* (Benson, 1859)

Distribution: Nawalparasi District, Nepal (Budha et al. 2015: p. 25).

74. *Khasiella sonamurgensis* (Nevill, 1878)

Distribution: Sonamarg, Jammu & Kashmir, India (Godwin-Austen 1908: 166; Ramakrishna et al. 2010: p. 299).

75. *Khasiella tandianensis* (Theobald, 1881)

Distribution: Tandiani, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 46; Blandford & Godwin-Austen 1908: p. 166; Gude 1914: p. 255; Ramakrishna et al. 2010: p. 299).

Family Camaenidae**Subfamily Bradybaeninae****Genus *Bradybaena* Beck, 1837****76. *Bradybaena radicolica* (Benson, 1848)**

Distribution: Landour, Uttarakhand, India (Benson 1848: p. 161); Shimla, Himachal Pradesh, India (Hunley

& Theobald 1876: pl. 62); Mussoorie, Uttarakhand, India (Gude 1914: p. 205); western Himalaya, India (Ramakrishna et al. 2010: p. 336), Nepal, and India: Sikkim.

Genus *Pseudiberus* Ancey, 1887**77. *Pseudiberus chitralensis* (Odhner, 1963)**

Distribution: Chitral District, Khyber Pakhtunkhwa, Pakistan (Odhner, 1963: p. 151).

Family Helicarionidae**Subfamily Durgellinae****Genus *Girasia* Gray, 1855****78. *Girasia dalhousiae* Godwin-Austen, 1888**

Distribution: Dalhousie, Chamba Hills, Himachal Pradesh, India (Godwin-Austen 1888: p. 224; Blandford & Godwin-Austen 1908: p. 202; Ramakrishna et al. 2010: p. 252).

Genus *Sitala* H. Adams, 1865**79. *Sitala rimicola* (Benson, 1859)**

Distribution: Landour, Uttarakhand, India (Benson 1859: p. 161); Mussoorie, Uttarakhand, India (Godwin Austen 1882: p. 36; Ramakrishna et al. 2010: p. 316); Nag Tiba range near Mussoorie, Uttarakhand, India (Blandford & Godwin-Austen 1908: p. 236).

Superfamily Helicoidea**Family Camaenidae****Subfamily Bradybaeninae****Genus *Cathaica* Möllendorff, 1884****80. *Cathaica fasciola* (Draparnaud, 1801)**

Distribution: Kashmir, India (Gude 1914: p. 207) and China.

81. *Cathaica mataianensis* (Nevill, 1878)

Distribution: Mataian, Drass Valley, India (Nevill 1878b: p. 3; Gude 1914: p. 208); Kashmir, India (Ramakrishna et al. 2010: p. 341).

82. *Cathaica phaeozona* (Martens, 1874)

Distribution: Tangdhar, Jammu & Kashmir, India (Nevill 1878b: p. 3); Hunza, Gilgit-Baltistan, Pakistan (Nevill 1878a: p. 92; Gude 1914: p. 208; Ramakrishna et al. 2010: p. 341).

Genus *Fruticicola* Held, 1838**83. *Fruticicola stoliczkana* (Nevill, 1878)**

Distribution: Sasak Taka, Badakshan Province, Afghanistan (Nevill 1878b: p. 3).

Genus *Landouria* Godwin-Austen, 1918**84. *Landouria huttonii* (Pfeiffer, 1842)**

Distribution: Shimla and Mahasu, Himachal Pradesh, India (Hutton & Benson 1838: p. 217); Shimla and Landour, Uttarakhand, India (Nevill 1878a: p. 73); Kashmir, India (Theobald 1878: p. 144; Gude 1914: p. 211); Kaski and Myagdi Districts, Nepal (Kuznetsov & Schileyko 1997; Schileyko & Kuznetsov 1998a: p. 44).

85. *Landouria rhododendronis* Schileyko & Kuznetsov, 1998

Distribution: Gorepani, Parbat District, Nepal (Schileyko & Kuznetsov 1998a: p. 49).

Superfamily Limacoidea**Family Limacidae****Subfamily Limacinae****Genus *Limax* Linnaeus, 1758****86. *Limax mayae* Godwin-Austen, 1914**

Distribution: Thajiwas, Sonamarg, Jammu & Kashmir, India (Wiktor 2001b: p. 38; Godwin-Austen 1914: p. 312); Kashmir, India (Ramakrishna et al. 2010: p. 320); Loran, Poonch Loran area of Poonch, Pir Panjal range, India (Present study).

87. *Limax seticus* Wiktor & Bössneck, 2004

Distribution: Dudh Iekh, Nepal (Wiktor & Bössneck 2004: p. 183); Bajura District, Nepal (Budha et al. 2015: p. 27).

Family Agriolimacidae**Subfamily Agriolimacinae****Genus *Deroceas* Rafinesque, 1820****88. *Deroceas laeve* (Müller, 1774)**

Distribution: Karimabad and Duikar village, Gilgit District, Gilgit-Baltistan, Pakistan (Wiktor & Auffenberg 2002: p. 12; Hlaváč, 2004: p. 182); Kashmir valley, India (Bhat 2020: p. 25), Argentina, Pakistan, Bhutan, Nepal, eastern Himalaya, and Sri Lanka.

Remarks: Introduced species.

Family Vitrinidae**Subfamily Vitrininae****Genus *Vitrina* Draparnaud, 1801****89. *Vitrina pellucida* (Müller, 1774)**

Distribution: Mataian, near Drass Valley, India (Nevill 1878b: p. 2); Loran village, Poonch District, Pir Panjal range, India (Present study), Spain, Bulgaria, Croatia, Czech Republic, Lithuania, Alaska, Poland, Ukraine, Germany, and Romania.

Superfamily Parmacelloidea**Family Parmacellidae****Genus *Candaharia* Godwin-Austen, 1888****90. *Candaharia rutellum* (Hutton, 1849)**

Distribution: Mingora, Swat District, North-West Frontier Province, Pakistan (Wiktor & Auffenberg 2002: p. 14), Afghanistan, and Uzbekistan.

Superfamily Pupilloidea**Family Cerastidae****Genus *Cerastus* Martens, 1860****91. *Cerastus segregatus* (Reeve, 1849)**

Distribution: Shimla, Himachal Pradesh, India (Reeve 1849: pl. 83, no 619; Hanley & Theobald 1876: p. 34); Kashmir, India (Woodward 1856: p. 186; Ramakrishna et al. 2010: p. 135); Chenab valley, India (Theobald 1878: p. 145; Gude 1914: p. 268).

Family Cochlicopidae**Genus *Cochlicopa* Férussac, 1821****92. *Cochlicopa lubrica* (Müller, 1774)**

Distribution: Skardu, Gilgit-Baltistan, Pakistan (Woodward, 1856: p. 186), Bulgaria, Argentina, Slovakia, Ukraine, Spain, Hungary, Romania, Lithuania, Poland, Czech Republic, Siberia, and Great Britain.

Family Gastrocoptidae**Subfamily Gastrocoptinae****Genus *Gastrocopta* Wollaston, 1878****93. *Gastrocopta huttoniana* (Benson, 1849)**

Distribution: Shimla, Himachal Pradesh, India (Benson 1849a: p. 126; Hanley & Theobald 1876: p. 41); Skardu, Gilgit-Baltistan (Woodward 1856: p. 186); Panjal range, Kashmir, India (Nevill 1878a: p. 197; Theobald 1878: p. 146; Gude 1914: p. 291); Kashmir, India (Ramakrishna et al. 2010: p. 122), Nepal, and peninsular India.

94. *Gastrocopta thibetica* (Benson, 1864)

Distribution: Skardu, Gilgit-Baltistan, Pakistan (Benson 1864: p. 138).

Family Enidae**Subfamily Eninae****Genus *Laevozebrinus* Lindholm, 1925****95. *Laevozebrinus mustangensis* Kuznetsov & Schileyko, 1997**

Distribution: Tukuhe, Mustang District, Nepal (Kuznetsov & Schileyko, 1997: p. 137).

96. *Laevozebrinus nepalensis* Schileyko & Frank, 1994

Distribution: Annapurna range, Nepal (Schileyko & Frank, 1994: p. 130).

Genus *Mirus* Albers, 1850**97. *Mirus smithei* (Benson, 1865)**

Distribution: Jhelum Valley, India (Theobald 1878: p. 146); Marree, Pir Panjal, Pakistan (Theobald 1881: p. 48; Gude 1914: p. 235); Kashmir, India (Nevill 1878a: p. 186; Ramakrishna et al. 2010: p. 127).

Genus *Nepaliena* Schileyko & Frank, 1994**98. *Nepaliena ceratina* (Benson, 1849)**

Distribution: Kumaon, Uttarakhand, India (Reeve 1849: pl. 78; Ramakrishna et al. 2010: p. 126); Annapurna range, Nepal (Schileyko & Frank 1994: p. 14; Kuznetsov & Schileyko 1997: p. 20).

Genus *Pseudonapaeus* Westerlund, 1887**99. *Pseudonapaeus arcuatus* (Küster, 1845)**

Distribution: Mahasu, Himachal Pradesh, India (Reeve 1849: pl. 67; Hanley & Theobald 1876: p. 10; Gude 1914 p. 239); Higher hills of Kashmir, India (Theobald 1878: p. 144; Ramakrishna et al. 2010: p. 130).

100. *Pseudonapaeus boysianus* (Benson, 1849)

Distribution: Kumaon, Uttarakhand, India (Reeve 1849: pl. 78, no. 575; Hanley & Theobald 1876: p. 11; Gude 1914: p. 238; Ramakrishna et al. 2010: p. 130).

101. *Pseudonapaeus candelaris* (Pfeiffer, 1846)

Distribution: Takht-i-Suleiman, Shankaracharya Hill, Srinagar, India (Woodward 1856: p. 186; Benson 1857, p. 327; Hanley & Theobald 1876: p. 10; Rajagopal & Rao 1972: p. 202); Tandali, Tikra, Himachal Pradesh, India (Nevill 1878b: p. 20); Higher hills Kashmir, India (Theobald 1878: p. 144); Fort Lockhart, Pakistan (Gude 1914: p. 243); Kashmir, India (Ramakrishna et al. 2010: p. 130); Chandak, Poonch District, Pir Panjal range, India (Present study).

Remarks: Found in red clay and moist soil.

102. *Pseudonapaeus coelebs* (Pfeiffer, 1846)

Distribution: Mussoorie, Uttarakhand, India (Pfeiffer 1846a; p. 83; Gude 1914: p. 249); Higher hills Kashmir, India (Theobald 1878: p. 145; Ramakrishna et al. 2010: p. 131); Nainital (Nevill 1878a: p. 134).

103. *Pseudonapaeus dextrosinister* (Annandale & Rao, 1923)

Distribution: Salt range, Pakistan (Annandale & Rao 1925: p. 390; Mitra & Ramakrishna 2004: p. 134); northwestern Himalaya (Ramakrishna et al. 2010: p. 131).

104. *Pseudonapaeus domina* (Benson, 1857)

Distribution: Kashmir, India (Benson 1857: no 1, p. 321; Hanley & Theobald 1876: p. 11; Ramakrishna et al. 2010: p. 131); Murree, Pir Panjal range, Pakistan (Nevill 1878b: p. 20); Tandiani, Khyber Pakhtunkhwa and Abbottabad, Pakistan (Theobald 1881: p. 47; Gude 1914: p. 246).

105. *Pseudonapaeus eremita* (Reeve, 1849)

Distribution: Bolan pass, Gilgit-Baltistan, Pakistan (Hanley & Theobald 1876: p. 12); Subathor, near Shimla, Himachal Pradesh, India (Gude 1914: p. 247); northwestern Himalaya (Dey & Mitra 2000: p. 25; Ramakrishna et al. 2010: p. 131).

106. *Pseudonapaeus kunawurensis* (Reeve, 1849)

Distribution: Landour, Uttarakhand, India (Hanley & Theobald 1876: p. 10; Nevill 1878: p. 136; Ramakrishna et al. 2010: p. 132); Kunawur, Himachal Pradesh, India (Gude 1914: p. 242).

107. *Pseudonapaeus lintera* (Kobelt, 1899)

Distribution: Western Himalaya, India (Gude 1914: p. 237; Ramakrishna et al. 2010: p. 133).

108. *Pseudonapaeus mainwaringiana* (Nevill, 1878)

Distribution: Murree, Pir Panjal range, Pakistan (Nevill 1878b: p. 19) Pakli Valley, Tandiani Hills, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 47; Gude 1914: p. 251); Chakua nullah, Batote (Rajagopal & Rao 1972: p. 204); Kashmir, India (Ramakrishna et al. 2010: p. 133).

109. *Pseudonapaeus nivicola* (Reeve, 1849)

Distribution: Liti pass, Bageshwar District, Uttarakhand, India (Reeve 1849: pl. 69, 496; Hanley & Theobald 1876: p. 11; Gude 1914 p. 230; Ramakrishna et al. 2010: p. 133).

110. *Pseudonapaeus pretiosus* (Reeve, 1849)

Distribution: Kashmir, India (Reeve 1849: pl. 83; Ramakrishna et al. 2010: p. 134); Murree, Pir Panjal range, Pakistan (Nevill 1878b: p. 20); Chilianwalla, Jhelum, Pakistan (Theobald 1878: p. 146; Hanley &

Theobald 1876: p. 12; Gude 1914: p. 250).

111. *Pseudonapaeus rufistrigatus* (Reeve, 1849)

Distribution: Western Himalaya, India (Reeve 149: pl. 78); Jhelum Valley (Nevill 1878b: p. 20; Theobald 1878: p. 146; Rajagopal & Rao 1972: p. 205); Jumna to the Indus, Himachal Pradesh, India (Gude 1914: p. 253); Kashmir, India (Ramakrishna et al. 2010: p. 134); Rogumba, Mugu District, Nepal (Budha et al. 2015: p. 13).

112. *Pseudonapaeus salsicola* (Benson, 1857)

Distribution: Salsicola, Salt range, Pakistan (Benson 1857: p. 327; Annandale & Rao 1925: p. 390); Northwestern Himalaya (Ramakrishna et al. 2010: p. 134).

113. *Pseudonapaeus indicus* (Reeve, 1848)

Distribution: Sindh, Pakistan (Reeve 1848: pl. 47, no. 303; Gude 1914: p. 245); Jhelum valley, Kashmir, India (Theobald 1878: p. 145); Mandi, Himachal Pradesh, India (Nevill 1878a: p. 134); Kashmir, India (Ramakrishna et al. 2010: p. 135).

114. *Pseudonapaeus stoliczkanus* (Nevill, 1878)

Distribution: Sonamarg, Jammu & Kashmir, India (Nevill 1878b: p. 19); Banihal, Jammu & Kashmir, India (Rajagopal & Rao 1972: p. 203).

115. *Pseudonapaeus vibex* (Küster, 1845)

Distribution: Shimla, Himachal Pradesh, India (Reeve 1848: pl. 47, no. 299; Hanley & Theobald 1876: p. 12; Nevill 1878a: p. 136); Landour, Uttarakhand, India (Gude 1914: p. 237; Ramakrishna et al. 2010: p. 135).

Genus *Pupinidius* Möllendorff, 1901

116. *Pupinidius himalayanus* Kuznetsov & Schlieyko, 1999

Distribution: Tukucho, Mustang District, Nepal (Kuznetsov & Schlieyko, 1999: p. 119).

117. *Pupinidius siniayevi* Kuznetsov & Schlieyko, 1999

Distribution: Tukucho, Mustang District, Nepal (Kuznetsov & Schlieyko, 1999: p. 16).

118. *Pupinidius tukuchensis* Kuznetsov & Schlieyko, 1997

Distribution: Tukucho, Mustang District, Nepal (Kuznetsov & Schlieyko, 1997: p. 133).

Genus *Serina* Gredler, 1898

119. *Serina beddomeana* (Nevill, 1878)

Distribution: Murree, Pir Panjal range, Pakistan

(Nevill 1878b: p. 20), Tandiani, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 47; Gude 1914: p. 257); northwestern Himalaya (Ramakrishna et al. 2010: p. 128).

120. *Serina hazarica* (Gude, 1914)

Distribution: Hazara, Khyber Pakhtunkhwa, Pakistan (Gude 1914: p. 257); Tandiana, Khyber Pakhtunkhwa, Pakistan (Ramakrishna et al. 2010: p. 128).

121. *Serina kuluensis* (Kobelt, 1902)

Distribution: Kullu, Himachal Pradesh, India (Ramakrishna et al. 2010: p. 129).

122. *Serina nevilleana* (Theobald, 1881)

Distribution: Hazara, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 48); Murree, Pir Panjal range, Pakistan (Gude 1914: p. 258).

123. *Serina tandianiensis* (Kobelt, 1902)

Distribution: Western Himalaya, India (Ramakrishna et al. 2010: p. 129).

Family Gastrocoptidae

Subfamily Hypselostomatinae

Genus *Bensonella* Pilsbry & Vanatta, 1900

124. *Bensonella plicidens* (Benson, 1849)

Distribution: Landour and Mussoorie, Uttarakhand, India (Benson 1849a: p. 126; Hanley & Theobald 1876: p. 40; Gude 1914: p. 294; Ramakrishna et al. 2010: p. 123); Higher hill ranges, Kashmir, India (Theobald 1878: p. 146).

Genus *Boysidia* Ancey, 1881

125. *Boysidia tamtouriana* Pokryszko & Auffenberg, 2009

Distribution: Tamtour village, Abbottabad District, Pakistan (Pokryszko et al. 2009: p. 436).

Family Pupillidae

Genus *Pupilla* J. Fleming, 1828

126. *Pupilla annandalei* Pilsbry, 1921

Distribution: Skardu, Gilgit, and Hunza districts, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 444).

127. *Pupilla eurina* (Benson, 1864)

Distribution: Triveni Ghat, Rishikesh, Uttarakhand, India (Benson 1864: p. 139); Tukucho, Annapurna range, Nepal (Budha et al. 2015: p. 10), Gosainkund, Langtang National Park, Nepal (Budha et al. 2015: p. 10).

128. *Pupilla gutta* (Benson, 1864)

Distribution: Spiti valley, Himachal Pradesh, India (Benson 1864: p. 138; Hanley & Theobald 1876: p. 41); Higher hill ranges, Kashmir, India (Theobald 1878: p. 146).

129. *Pupilla khunjerabica* Auffenberg & Pokryszko, 2009

Distribution: Khunjerab Pass, Hunza District, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 438).

130. *Pupilla muscorum* (Linnaeus, 1758)

Distribution: Pangong Lake, Ladakh, India (Nevill 1878b: p. 4); Kashmir, India (Theobald 1878: p. 146; Gude 1914: p. 283; Ramakrishna et al. 2010: p. 118); Mastuj River, Chitral District, Pakistan (Pokryszko et al. 2009: p. 440), China, Sweden, and Germany.

131. *Pupilla paraturcmenica* Hlaváč & Pokryszko, 2009

Distribution: Apo Brukh valley, Skardu District, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 440).

132. *Pupilla satparanica* Pokryszko & Auffenberg, 2009

Distribution: Satpara Lake, Skardu District, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 440).

133. *Pupilla riplicate* (Studer, 1820)

Distribution: Tukuhe, Annapurna range, Nepal (Budha et al. 2015: p. 10).

Genus *Pupoides* Pfeiffer, 1854**134. *Pupoides coenopictus* (Hutton, 1834)**

Distribution: Salt range, Pakistan (Nevill 1878a: p. 193; Theobald 1878, p. 144; Gude 1914: p. 259; Annandale & Rao 1925: p. 393), Israel, Egypt, Tanzania, Sudan, Sri Lanka, India, Pakistan, Malawi, Mozambique, and South Africa.

135. *Pupoides lardeus* (Pfeiffer, 1854)

Distribution: Salt range, Pakistan (Annandale & Rao 1925: p. 393); western Himalaya, India (Ramakrishna et al. 2010: p. 120).

Family Pyramidulidae**Genus *Pyramidula* Fitzinger, 1833****136. *Pyramidula humilis* (Benson, 1838)**

Distribution: Shimla, Himachal Pradesh, India (Hutton & Benson 1838: no. 7, p. 217); Murree, Pir Panjal range, Pakistan (Nevill 1878a: p. 66; Nevill 1878b: p.

18); Tandiani, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 47); Landour, Himachal Pradesh, India (Gude 1914: p. 43).

137. *Pyramidula kuznetsovi* Schileyko & Balashov, 2012

Distribution: Dhaulagiri zone, Mustang District, Nepal (Schileyko & Balashov 2012: p. 41).

Family Valloniidae**Genus *Vallonia* Risso, 1826****138. *Vallonia costata* (Müller, 1774)**

Distribution: Skardu, Gilgit-Baltistan, Pakistan (Woodward 1856: p. 186); Sasak Taka and Wakhan Badakshan Province, Afghanistan (Nevill 1878b: p. 4); Kashmir, India (Theobald 1878: p. 142; Gude 1914: p. 225; Ramakrishna et al. 2010: p. 120), North America, North Africa, Europe, Norway, Poland, Hungary, Italy, Bulgaria, Ukraine, Croatia, Latvia, France, Czech Republic, Türkiye, Poland, Spain, Romania, Siberia, Republic of Moldova, Germany, and Uzbekistan.

139. *Vallonia costohimala* Gerber & Bössneck, 2009

Distribution: Darchula District, Nepal (Gerber & Bössneck 2009: p. 45).

140. *Vallonia himalaevis* Gerber & Bössneck, 2009

Distribution: Chala, Karnali zone, India (Gerber & Bössneck 2009: p. 47).

141. *Vallonia kathrinae* Gerber & Bössneck, 2009

Distribution: Khobang, Dhaulagiri zone, Nepal (Gerber & Bössneck 2009: p. 47).

142. *Vallonia ladacensis* (Nevill, 1878)

Distribution: Leh, Ladakh, India (Nevill 1878a: p. 70); Mataian, Drass valley, India (Nevill 1878b: p. 70; Gude 1914: p. 224); Liddar River, Pahalgam (Rajagopal & Rao 1972: p. 200); Kashmir, India (Ramakrishna et al. 2010: p. 121); Mustang District, Nepal (Budha et al. 2015: p. 11); Khobang, Dhaulagiri Zone, India (Gerber & Bössneck 2009: p. 44).

143. *Vallonia pulchella* (Müller, 1774)

Distribution: Skardu, Gilgit-Baltistan, Pakistan (Woodward 1856: p. 186); Kashmir, India (Theobald 1878: p. 144; Gude 1914: p. 224; Ramakrishna et al. 2010: p. 121); Shalimar Garden, Jammu and Kashmir, India (Rajagopal & Rao 1972: p. 200); Surankote, Poonch, Pir Panjal range, India (Present study), Great Britain, Ireland, Czech Republic, Slovakia, Poland, Ukraine,

Germany, Netherlands, Argentina, Bulgaria, Hungary, France, Republic of Moldova, Albania, South Africa, Slovakia, Croatia, Latvia, Siberia, Türkiye, Lithuania, Romania, Caucasus, and Spain.

Family Vertiginidae

Subfamily Vertigininae

Genus *Vertigo* Müller, 1773

144. *Vertigo antivertigo* (Draparnaud, 1801)

Distribution: Gilgit District, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 430).

145. *Vertigo nangaparbatensis* Pokryszko & Hlaváč, 2009

Distribution: Raikhot Gah, Diamir District, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 430).

146. *Vertigo pseudosubstriata* Ložek, 1954

Distribution: Gilgit District, Gilgit-Baltistan, Pakistan (Pokryszko et al. 2009: p. 432).

147. *Vertigo superstriata* Pokryszko & Auffenberg, 2009

Distribution: Thandiani, Abbottabad, Khyber Pakhtunkhwa, Pakistan (Pokryszko et al. 2009: p. 432).

Superfamily Succineoidea

Family Succineidae

Subfamily Succineinae

Genus *Novisuccinea* Schileyko & Likharev, 1986

148. *Novisuccinea martensiana* (Nevill, 1878)

Distribution: Sasa Taka, Badakshan Province, Afghanistan (Nevill 1878a: p. 211); Western Himalaya, India (Ramakrishna et al. 2010: p. 210).

Genus *Succinea* Draparnaud, 1801

149. *Succinea crassinuclea* Pfeiffer, 1849

Distribution: Shimla, Himachal Pradesh, India (Hutton & Benson 1838: p. 212; Ramakrishna et al. 2010: p. 210); Salt range, Pakistan (Gude 1914: p. 453; Annandale & Rao 1925: p. 394); Kangra valley, Himachal Pradesh, India (Rao 1927: p. 50).

150. *Succinea indica* Pfeiffer, 1849

Distribution: Nainital, Uttarakhand, India (Pfeiffer 1849: p. 133); Bhimtal, Uttarakhand, India (Hanley & Theobald 1876: pl. 29; Nevill 1878a: p. 212); Kashmir, India (Gude 1914: p. 447); Western Himalaya, India (Rao 1924: p. 378; Ramakrishna et al. 2010: p. 212).

151. *Succinea putris* (Linnaeus, 1758)

Distribution: Sasak Taka, Badakshan Province, Afghanistan (Nevill 1878b: p. 6).

Subfamily Oxylomatinae

Genus *Oxyloma* Westerlund, 1885

152. *Oxyloma elegans* (Risso, 1826)

Distribution: Kashmir, India (Woodward 1856: p. 186); Srinagar District, Jammu & Kashmir, India (Nevill 1878b: p. 18), Malta, Russia, Türkiye, Italy, Romania, Bulgaria, Uzbekistan, Lithuania, Albania, Ukraine, France, Siberia, and Finland.

153. *Oxyloma* sp.

Distribution: Tantary Gam, Loran, Poonch district, Pir Panjal Range, India (Present study).

Remarks: Single sample was collected at a distance of 64 Km. from both type locations (Woodward, 1856: p. 186 as *Succinea pfeifferi* var. (*longiscata* Morillet?) and Srinagar (Nevill, 1878b: p. 18, fig. 32-33).

Superfamily Trochomorpoidea

Family Euconulidae

Genus *Euconulus* Reinhardt, 1883

154. *Euconulus fulvus* (Müller, 1774)

Distribution: Wakha and Mataian villages of Kargil, Ladakh, India (Nevill 1878b: p. 2); Panjal range, India (Theobald 1878: p. 141), New South Wales, North America, Eurasia, Spain, New Zealand, Croatia, Hungary, Italy, Alaska, Poland, Spain, Türkiye, and Nepal.

Remarks: Introduced species.

Family Chronidae

Genus *Kaliella* Blanford, 1863

155. *Kaliella barrakporensis* (Pfeiffer, 1853)

Distribution: Kashmir, India (Theobald 1878: p. 142), Equatorial Guinea, Malaysia, Indonesia, Tibet, Sri Lanka, Congo, Rwanda, Vietnam, Borneo, Nepal, and India: West Bengal, Western Ghat, Manipur, Uttar Pradesh.

156. *Kaliella bhasini* Rajagopalaingar, 1953

Distribution: Shimla Hills, Himachal Pradesh, India (Rajagopalaingar 1953: p. 20); Ramakrishna et al. 2010: p. 222).

157. *Kaliella bullula* (Benson, 1838)

Distribution: Shimla, Himachal Pradesh, India (Hutton & Benson 1838: no. 10, p. 218; Hanley & Theobald 1876: p. 28; Blandford & Godwin-Austen 1908: p. 267); Nainital, Kullu, and Mussoorie, Uttarakhand, India (Nevill 1878a: 27); Nag-Tiba range, near Mussoorie (Godwin

Austen 1882: p. 23).

158. *Kaliella fastigiata* (Hutton, 1838)

Distribution: Shimla, Himachal Pradesh, India (Hutton & Benson 1838: p. 217; Hanley & Theobald 1876: p. 8; Blandford & Godwin-Austen 1908: p. 263); Landour, Uttarakhand, India (Nevill 1878a: 40); Tandiani, Khyber Pakhtunkhwa, Pakistan (Theobald 1881: p. 46); Mussoorie, Uttarakhand, India (Godwin-Austen 1889: p. 8); Western Himalaya, India (Ramakrishna et al. 2010: p. 225), Lalitpur District-Phulchowki Hill, Nepal (Budha et al. 2015: p. 19).

159. *Kaliella nana* (Benson, 1838)

Distribution: Shimla, Himachal Pradesh, India (Hutton & Benson 1838: no. 11, p. 218; Nevill 1878a: p. 38); Mussoorie (Godwin Austen 1882: p. 22); Kullu and Mussoorie, Uttarakhand, India (Blandford & Godwin-Austen 1908: p. 266); Loran, Poonch District, Pir Panjal range, India (Present study), Lalitpur District-Phulchowki Hill, Nepal (Budha et al. 2015: p. 19).

160. *Kaliella* sp.

Distribution: Loran village, Poonch District, Pir Panjal range, India (Present study).

Remarks: Found in moist soil under the tree.

Order Systellommatophora

Superfamily Veronicelloidea

Family Veronicellidae

Genus *Laevicaulis* Simroth, 1913

161. *Laevicaulis alte* (Férussac, 1822)

Distribution: Dang District, Nepal (Subba & Ghosh 2008: p. 70); Sunderbani, Rajouri District, Pir Panjal range, India (Present study), Cosmopolitan.

Remarks: Found in the grass on the lawn of the house. First time record from the region.

Freshwater Molluscs

Class Bivalvia

Subclass Heterobranchia

Order Venerida

Superfamily Cyrenoidea

Family Cyrenidae

Genus *Corbicula* Mühlfeld, 1811

162. *Corbicula cashmirensis* Deshayes, 1855

Distribution: Awantipora, Jammu & Kashmir, India (Woodward 1856: p. 186); Sopore, Jammu & Kashmir, India (Theobald 1878; p. 147); Kashmir, India (Rao 1989: p. 202); Ghou-Manhasan stream, Jammu & Kashmir, India (Uttam et al. 2022: p. 356); Mid and downstream of

Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 10571); Poonch and Rajouri Rivers, Pir Panjal range, Jammu & Kashmir, India (Present study).

Remarks: Found in the sand of rivers and lakes of high-altitude Himalaya, inhabits at a depth of 3 m and can tolerate severe cold. Endemic to Kashmir.

163. *Corbicula fluminalis* (Müller, 1774)

Distribution: Awantipora, Jammu & Kashmir, India (Woodward 1856: p. 186), Poland, Germany, France, Portugal, Hungary, the European part of Russia, Azerbaijan, Georgia, and the Czech Republic.

164. *Corbicula striatella* Deshayes, 1855

Distribution: Lower Jhelum, Jammu & Kashmir, India (Theobald 1878; p. 147); Bilaspur District, Himachal Pradesh (Agrawal 1976: p. 140); Ghaila khola, Kailali District, Nepal (Budha 2016: p. 53) and Pakistan.

Subclass Autobranchia

Order Sphaeriida

Superfamily Sphaeroidea

Family Sphaeriidae

Subfamily Sphaeriinae

Genus *Afropisidium* Kuiper, 1962

165. *Afropisidium clarkeanum* (Nevill & Nevill, 1871)

Distribution: Terai, Western region, Nepal (Nesemann & Sharma 2005: p. 59), Nepal, Myanmar, Hong Kong, Thailand, Laos, and India.

Genus *Musculium* Link, 1807

166. *Musculium indicum* (Deshayes, 1854)

Distribution: Jhelum, Jammu & Kashmir, India (Theobald 1878: p. 147); Damyanti Tal, Uttarakhand, India (Prashad 1922: p. 17); Nakrodi, Kailali District, Nepal (Budha 2016: p. 54); Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 24); Dargam, Poonch District and streams at Budhal area of Rajouri, Pir Panjal range, India (Present study), Nepal, and India: Assam.

167. *Musculium kashmirensis* (Prashad, 1937)

Distribution: Phashakuri wetland near Pompore, Kashmir, India (Prashad 1937: p. 276; Rao 1989: p. 213); Dargam, Poonch District and streams at Budhal, Rajouri District, Pir Panjal range, India (Present study).

Genus *Euglesa* Jenyns, 1832

168. *Euglesa casertana* (Poli, 1791)

Distribution: Lower Jhelum, Baramulla, India (Theobald 1878; p. 147); Near Shopian, Kashmir, India

(Preston 1915: p. 225); Kashmir (Rao 1989: p. 215); Downstream of Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 10571); Loran, Poonch District and streams at Budhal area of Rajouri, Pir Panjal range, India (Present study), Europe, Armenia, Mongolia, Austria, Russia, France, Norway, Asia, Africa, North America, Australia, and New Zealand.

169. *Euglesa mitchelli* (Prashad, 1925)

Distribution: Kashmir, India (Rao 1989: p. 220); Uttam et al. 2022: p. 356); Saklo, Poonch District and streams at Saaj area of Rajouri District, Pir Panjal range (Present study)

170. *Euglesa obtusalis* (Lamarck, 1818)

Distribution: Pangong lake, Ladakh, India (Nevill 1878b: p.13), France, North America, and Vienna.

171. *Euglesa zugmayeri* (Weber, 1910)

Distribution: Wular Lake, Kashmir, India (Preston 1915: p. 227).

Genus *Odhneripisidium* Kuiper, 1962

172. *Odhneripisidium kuiperi* (Dance, 1967)

Distribution: Mustang District, Kali Gandak River, Nepal (Nesemann & Sharma 2005: p. 59); Streams of Poonch River and Rajouri River, Pir Panjal range, India (Present study).

173. *Odhneripisidium prasongi* (Kuiper, 1974)

Distribution: Kaski District, Nepal (Nesemann & Sharma 2005: p. 59) and Thailand.

174. *Odhneripisidium stewarti* (Preston, 1909)

Distribution: Chaka da Bagh, Poonch District and Budhal, Rajouri District, India (Present study), Tibet, China, and Bhutan.

Genus *Pisidium* Pfeiffer, 1821

175. *Pisidium alexeii* Bößneck, Clewing & Albrecht, 2016

Distribution: Karnali River, western Nepal (Bößneck et al. 2016: p. 591).

Order Unionida

Superfamily Unionoidea

Family Unionidae

Subfamily Parreysiinae

Genus *Indonaia* Prashad, 1918

176. *Indonaia andersoniana* (Nevill, 1877)

Distribution: Maghi khola, Kailali District, Nepal, (Budha 2016: p. 51), northeastern India, and Myanmar.

177. *Indonaia caerulea* (Lea, 1831)

Distribution: Khundi river, Kailali District, Nepal, (Budha 2016: p. 51), Pakistan, India, Bhutan, and Bangladesh.

178. *Indonaia gratiosa* (Philippi, 1843)

Distribution: Tikapur, Kailali District, Nepal, (Budha 2016: p. 52), India, and Myanmar.

179. *Indonaia rugosa* (Gmelin, 1791)

Distribution: Badhariya, Kailali District, Nepal, (Budha 2016: p. 52) and India.

Genus *Lamellidens* Simpson, 1900

180. *Lamellidens corrianus* (Lea, 1834)

Distribution: Western Himalaya, India (Rao 1989: p. 165); Gho-Manhasan stream, Jammu (Uttam et al. 2022: p. 356); Mohana river, Kailali District, Nepal (Budha 2016: p. 48), Bangladesh, Myanmar, Nepal, and India: Maharashtra, Assam, Madhya Pradesh, Karnataka, Punjab, Haryana.

181. *Lamellidens generosus* (Gould, 1847)

Distribution: Renuka Lake, Nahan, Himachal Pradesh, India (Battish & Sharma 2002: p. 921).

182. *Lamellidens jammuensis* Prashad, 1928

Distribution: Chenab River, Nagrota, India (Prashad 1928: p. 309).

183. *Lamellidens jenkinsianus* (Benson, 1862)

Distribution: Dhongrahuwa Lake, Kailali District, Nepal (Budha 2016: p. 48); Renuka River, Nahan, Himachal Pradesh (Battish & Sharma 2002: p. 921), Bangladesh, and India.

184. *Lamellidens lamellatus* (Lea, 1838)

Distribution: Renuka Lake, Nahan, Himachal Pradesh (Battish & Sharma 2002: p. 921), Sri Lanka, Myanmar, and India.

185. *Lamellidens marginalis* (Lamarck, 1819)

Distribution: Khundi river, Kailali District, Nepal (Budha 2016: p. 49); Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 25), Bangladesh, Pakistan, Nepal, and India: Uttar Pradesh, Maharashtra, West Bengal, Odisha, Kerala, Bihar.

Genus *Parreysia* Conrad, 1853

186. *Parreysia corrugata* (Müller, 1774)

Distribution: Shimla District, Himachal Pradesh, India

(Agrawal 1976: p. 140); Bijuliya river, Kailali District, Nepal (Budha 2016: p. 50); Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 25), Nepal, Pakistan, Bangladesh, Myanmar, Philippines, and India: Western Ghat, Kerala, Bihar, Odisha, Andhra Pradesh.

Class Gastropoda

Subclass Caenogastropoda

Order Littorinimorpha

Superfamily Truncatelloidea

Family Bithyniidae

Genus *Bithynia* Leach, 1818

187. *Bithynia cerameopoma* (Benson, 1830)

Distribution: Ghodaghodi Tal, Kailali District, Nepal (Budha 2016: p. 37; Chaudhary 2017: p. 19) and throughout the plains.

188. *Bithynia kashmirensis* Nevill, 1885

Distribution: Srinagar, Jammu and Kashmir, India (Nevill 1885: p. 39; Rao 1989: p. 74).

189. *Bithynia pulchella* (Benson, 1836)

Distribution: Nainital, Uttarakhand, India (Nevill 1885: p. 35); Kullu, Uttarakhand, India (Nevill 1878a: p. 35); Naukuchia Tal, Uttarakhand, India (Prashad 1922: p. 16); Sirmaur District, Himachal Pradesh, India (Agrawal 1976: p. 133); Pong Dam Lake, Himachal Pradesh, India (Biswas et al. 2015: p. 20); Saklo area of Poonch District and Dangri village of Rajouri District, Pir Panjal range, India (Present study), throughout India, Myanmar, and Thailand.

190. *Bithynia tentaculata* Linnaeus, 1758

Distribution: Srinagar District, Jammu & Kashmir, India (Preston 1915: p. 70); Ghou-Manhasan and Sehi streams, Jammu, India (Uttam et al. 2022: p. 356); Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 10571), Netherlands, North America, southeastern Europe, Ukraine, Turkiye, Bosnia and Herzegovina, Montenegro, Romania, Poland, Croatia, Bulgaria, Algeria, Russia, and Italy.

191. *Bithynia transsilvanica* (Bielz, 1853)

Distribution: Kashmir, India (Preston 1915: p. 77; Nevill 1885: p. 40; Rao 1989: p. 7), eastern Europe, Slovakia, Bulgaria, and Siberia.

Genus *Gabbia* Tryon, 1865

192. *Gabbia prestoni* (Glöer & Bössneck, 2013)

Distribution: Rapti river, Dang District, Nepal (Glöer & Bössneck 2013: p. 141).

193. *Gabbia orcula* (Frauenfeld, 1862)

Distribution: Ghodaghodi Tal, Kailali District, Nepal (Budha 2016: p. 38).

194. *Gabbia reharensis* (Glöer & Bössneck, 2013)

Distribution: Rapti river, Dang District, Nepal (Glöer & Bössneck 2013: p. 143).

195. *Gabbia raptiensis* (Glöer & Bössneck, 2013)

Distribution: Nepalgunj, Banke District, Nepal (Glöer & Bössneck 2013: p. 145); Rapti river, Nepal (Budha 2016: p. 38).

196. *Gabbia ghodaghodiensis* (Glöer & Bössneck, 2013)

Distribution: Ghodaghodi Lake, District Kailali, Nepal (Glöer & Bössneck 2013: p. 145, Budha 2016: 37; Chaudhary 2017: p. 19).

Family Erhaidae

Genus *Erhaia* Davis & Kuo, 1985

197. *Erhaia nainitalensis* Davis & Rao, 1997

Distribution: Nainital District, Uttarakhand, India (Davis & Rao 1997: p. 276).

Family Pomatiopsidae

Subfamily Pomatiopsinae

Genus *Tricula* Benson, 1843

198. *Tricula montana* Benson 1843

Distribution: Bhimtal, Uttarakhand, India (Benson 1843: p. 467; 1878a: p. 62; Nevill 1885: p. 62; Prashad 1922: p. 16; Davis et al 1986: p. 428); Bhimtal (Preston 1915: p. 68; Rao 1989: p. 68), Sri Lanka, Bhutan, Thailand, China, eastern Himalaya, and India: Uttar Pradesh, Andhra Pradesh.

Order Caenogastropoda

Superfamily Cerithioidea

Family Pachychilidae Fischer & Crosse, 1892

Genus *Brotia* Adams, 1866

199. *Brotia costula* (Rafinesque, 1833)

Distribution: Karnali river, Kailali District, Nepal (Budha 2016: p. 41); Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 20), Bhutan, Nepal, Bangladesh, India, Malaysia, Vietnam, and Philippines.

Family Thiaridae

Subfamily Thiarinae

Genus *Melanooides* Olivier, 1804

200. *Melanooides tuberculata* (Müller, 1774)

Distribution: Mohu pass, Jammu, India (Theobald

1878: p. 141); Sirmaur District, Himachal Pradesh, India (Agrawal 1976: p. 133); Kangra District, Himachal Pradesh, India (Biswas et al. 2015: p. 20); Ghou-Manhasan and Sehi streams, Jammu, India (Uttam et al. 2022: p. 356); Kailali District, Nepal (Budha 2016: p. 39); Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 20); Poonch river and streams at Munja Kot of Rajouri, Pir Panjal range, India (Present study).

Genus *Mieniplotia* Low & Tan, 2014

201. *Mieniplotia scabra* (Müller, 1774)

Distribution: Western Himalaya, India (Rao 1989: p. 96) Kailali District, Nepal (Budha 2016: p. 39), Europe, Greece, Indonesia, Palestine, and Borneo.

Remarks: Introduced species.

Genus *Tarebia* Adams & Adams, 1854

202. *Tarebia granifera* (Lamarck, 1816)

Distribution: Kailali District, Nepal (Budha 2016: p. 40), Africa, Brazil, Mexico, Taiwan, Sulawesi, Thailand, southeastern Asia, Israel, Indonesia, Philippines, Vietnam, Cuba, Australia, and India: Chhattisgarh, Assam, Odisha, Andaman & Nicobar.

Genus *Thiara* Röding 1798

203. *Thiara aspera* (Lesson, 1831)

Distribution: Sunderbani, Rajouri District, Pir Panjal range, India (Present study), Myanmar, Thailand, Philippines, Indonesia, Malaysia, and India: Assam.

Order Architaenioglossa

Superfamily Viviparoidae

Family Viviparidae

Subfamily Bellamyinae

Genus *Filopaludina* Habe, 1964

204. *Filopaludina bengalensis* (Lamarck, 1822)

Distribution: Jammu Hills, Jammu & Kashmir, India (Woodward 1856: p. 186); Northwestern Himalaya, India (Preston 1915: p. 83); Naini Tal and Khurpa Tal Lakes, Uttarakhand, India (Prashad 1922: p. 16); Sirmaur District, Himachal Pradesh, India (Agrawal 1976: p. 132); Ghou-Manhasan and Sehi streams, Jammu, India (Uttam et al. 2022: p. 356); Jagdishpur Tal, Kapilvastu District, Nepal (Budha 2016: p. 34); Ghodaghodi Lake, Nepal (Chaudhary 2017: p.18); Poonch District, Pir Panjal range, India (Present study), Bhutan, and throughout India.

Genus *Idiopoma* Pilsbry, 1901

205. *Idiopoma dissimilis* (Müller, 1774)

Distribution: Naini Tal Lake, Uttarakhand, India (Nevill

1885: p. 27); Solan District, Himachal Pradesh, India (Agrawal 1976: p. 132); Ghodaghodi lake, Kailali District, Nepal (Budha 2016: p. 35; Chaudhary 2017: p. 19).

Subclass Heterobranchia

Superfamily Lymnaeioidea

Family Bulinidae

Subfamily Bulininae

Genus *Indoplanorbis* Annandale & Prashad, 1921

206. *Indoplanorbis exustus* (Deshayes, 1833)

Distribution: Islamabad, Jammu & Kashmir, India (Woodward 1856: p. 186); Sirmaur District, Himachal Pradesh, India (Agrawal 1976: p. 135); Kashmir, India (Rao 1989: p. 142); Gho-Manhasan stream, Jammu (Uttam et al. 2022: p. 356); Pong Dam Lake, Himachal Pradesh, India (Biswas et al. 2015: p. 23); Pangong Lake, Ladakh, India, Kashmir valley, India (Theobald 1878; p. 147); Downstream of Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 10571); Kailali District, Nepal (Budha 2016: p. 47); Jammu hills, Jammu & Kashmir, India (Woodward 1856: p. 186); Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 23); Dundak, Poonch District, Pir Panjal range, India (Present study).

Family Lymnaeidae

Subfamily Amphipepleinae

Genus *Ampullaceana* Servain, 1882

207. *Ampullaceana balthica* (Linnaeus, 1758)

Distribution: Kashmir, India (Preston 1915: p. 110), Estonia, Canada, France, Germany, northern Iran, and Indonesia.

208. *Ampullaceana lagotis* (Schrank, 1803)

Distribution: Pangong Lake, Ladakh, India (Nevill 1878b: p. 7), Tibet, Central Asia, Romania, Uzbekistan, Russia, China, Kyrgyzstan, and Georgia.

Genus *Pila* Röding, 1798

209. *Pila globosa* (Swainson, 1822)

Distribution: Ghodaghodi lake, Kailali District, Nepal (Budha 2016: p. 36; Chaudhary 2017: p. 17), Nepal, Bangladesh, and India.

Subfamily Lymnaeinae

Genus *Galba* Schrank, 1803

210. *Galba truncatula* (Müller, 1774)

Distribution: Skardu, Gilgit-Baltistan, Pakistan (Woodward 1856: p. 186); Spiti, Kullu, Kotegar, Himachal Pradesh, India (Nevill 1878b: p. 10); Kashmir valley, India (Theobald 1878; p. 149; Preston 1915: p. 114; Rao

1989: p. 133); Potha, Poonch District and Salani, Rajouri District, Pir Panjal range, India (Present study), Europe, Armenia, France, Poland, Bulgaria, France, Greece, Czech Republic, Austria, Romania, Germany, and Uzbekistan.

Genus *Lymnaea* Lamarck, 1799

211. *Lymnaea stagnalis* (Linnaeus, 1758)

Distribution: Kashmir, India (Woodward 1856: p. 186; Theobald 1878: p. 149); Kashmir (Preston 1915: p. 106; Rao 1989: p. 135); Bilaspur District, Himachal Pradesh, India (Agrawal 1976: p. 137); Downstream of Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 20751); Rajouri District, Pir Panjal range, India (Present study), Türkiye, Mongolia, Kaliningrad, southern Siberia, Republic of Khakassia, and Ukraine.

212. *Lymnaea kashmirensis* Prashad, 1925

Distribution: Wular Lake, Kashmir, India (Annandale & Rao 1925: p. 148).

Genus *Pseudosuccinea* Baker, 1908

213. *Pseudosuccinea columella* (Say, 1817)

Distribution: Mid and downstream of Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 20751); Ghodaghodi, Kailali District, Nepal (Budha 2016: p. 41), France, Argentina, Republic of South Africa, Spain, Dominican Republic, North Carolina, New Zealand, Venezuela, Egypt, Cuba, and North America.

Genus *Stagnicola* Jeffreys, 1830

214. *Stagnicola* sp.

Distribution: Poonch District and Salani village, Rajouri District, Pir Panjal range, India (Present study), Iran, Iraq, North America, and Mexico.

Subfamily Amphipepleinae

Genus *Peregriana* Servain, 1882

215. *Peregriana peregra* (Müller, 1774)

Distribution: Kashmir, India (Woodward 1856: p. 186; Rao 1989: p. 135), Tibet, Ukraine, Berlin, Republic of Dagestan, Mongolia, Siberia, and Europe.

Genus *Racesina* Vinarski & Bolotov, 2018

216. *Racesina luteola* (Lamarck, 1822)

Distribution: Islamabad, Jammu and Kashmir, India (Woodward 1856: p. 186); at Gho-Manhasan stream, Jammu (Uttam et al. 2022: p. 356); Naukuchia Tal, Uttarakhand, India (Prashad 1922; p. 14); Solan District, Himachal Pradesh, India (Agrawal 1976: p. 138); Kashmir valley, India (Theobald 1878; p. 149); Mid and downstream of Aripal stream, Jammu & Kashmir, India

(Mir & Bakhtiyar 2022: p. 20751); Kailali District, Nepal (Budha 2016: p. 43); Saklo, Poonch, Pir Panjal range, India (Present study) and throughout Indian plains.

217. *Racesina ovalior* (Annandale & Prashad, 1921)

Distribution: Bathanchamka lake, Kailali District, Nepal (Budha 2016: p. 44).

Genus *Radix* Montfort 1810

218. *Radix andersoniana* (Nevill, 1877)

Distribution: Kangra Valley, Himachal Pradesh, India (Rao 1989: p. 132), China, Nepal, and Bhutan.

219. *Radix auricularia* (Linnaeus, 1758)

Distribution: Skardu, Gilgit-Baltistan, Pakistan (Woodward 1856: p. 186); Shimshal village, Pamir, Pakistan (Nevill 1878b; p. 6); Kashmir valley, India (Theobald 1878; p. 149; Preston 1915: p. 111; Rao 1989: p. 134); Thogji Lake, Ladakh, India (Rajagopal & Rao 1969: p. 102); Sirmaur District, Himachal Pradesh, India (Agrawal 1976: p. 136); Ghou-Manhasan and Sehi streams, Jammu, India (Uttam et al. 2022: p. 356); Mid and downstream of Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 20751); Chakatro, Poonch District at Slani area of Rajouri District, Pir Panjal range, India (Present study), Austria, Bulgaria, Siberia, Russia, Iraq, Iran, Armenia, Slovakia, Türkiye, Algeria, and Montenegro.

220. *Radix brevicauda* (Sowerby 1872)

Distribution: Kashmir, India (Hanley & Theobald 1876: p. 64; Preston 1915: p. 111; Rao 1989: p. 134); Pangong Lake, Ladakh, India.

221. *Radix rufescens* (Gray, 1822)

Distribution: Jammu, Jammu & Kashmir, India (Woodward 1856: p. 286); Bhim Tal and Naukuchia Tal Lakes, Uttarakhand, India (Prashad 1922; p. 14); Solan District, Himachal Pradesh, India (Agrawal 1976: p. 138); Rajoy river, Kangra District, Himachal Pradesh, India (Biswas et al. 2015: p. 21); Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 21); Poonch River at Bufliaz area of Poonch District, Pir Panjal range India (Present study), Indonesia, Berlin, Iran, Pakistan, and throughout the Indian plains.

222. *Radix tener* (Küster, 1862)

Distribution: Bhim Tal Lake, Uttarakhand, India (Annandale & Rao 1925: p. 396); Kashmir, India (Rao 1989: p. 133); Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 22) and Persia.

Genus *Tibetoradix* Bolotov, Vinarski & Aksenova, 2018

223. *Tibetoradix hookeri* (Reeve, 1850)

Distribution: Skardu, Gilgit-Baltistan, Pakistan and Nubra, Leh District, India (Woodward 1856: p. 186), Tibetan Plateau (western China), Greece, and southern Asia.

Family Physidae

Subfamily Physinae

Genus *Physella* Haldeman, 1843

224. *Physella acuta* (Draparnaud, 1805)

Distribution: Gho-Manhasan stream, Jammu, India (Uttam et al. 2022: p. 356); Rajoy river, Kangra District, Himachal Pradesh, India (Biswas et al. 2015: p. 21); Ghou-Manhasan and Sehi streams; Mid-stream of Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 20751); Poonch District, Pir Panjal range, India (Present study), Belarus, Lithuania, Vietnam, North America, Russia, Thailand, Laos, Europe, central Asia, Cuba, China, Morocco, Turkiye, South Korea, United Kingdom, Czech Republic, Brazil, Transcaucasia, South Carolina, and India: North Dinajpur, Kerala, West Bengal.

Remarks: Introduced species.

Family Planorbidae

Subfamily Ancylinae

Genus *Pettancylus* Iredale, 1943

225. *Pettancylus verruca* (Benson, 1855)

Distribution: Dhongrahuwa Lake, Kailali District, Nepal (Budha 2016: p. 47).

Subfamily Planorbinae

Genus *Biomphalaria* Preston, 1910

226. *Biomphalaria* sp.

Distribution: Gharana Wetland, Jammu & Kashmir, India (Uttam et al. 2022: p. 356).

Genus *Culmenella* Clench, 1927

227. *Culmenella subspinosa* (Annandale & Prashad, 1920)

Distribution: Khanabal and Islamabad, Jammu and Kashmir, India (Annandale & Prashad 1920: p. 28); Kashmir, India (Rao 1989 p. 145).

Genus *Gyraulus* Charpentier, 1837

228. *Gyraulus albus* (Müller, 1774)

Distribution: Panjah, Badakhshan Province, Afghanistan (Nevill 1878b: p. 10), Turkiye, France, Croatia, Hungary, Czech Republic, Morocco, Poland, Albania, Bulgaria, Russia, Iraq, Romania, Ukraine, and Germany.

229. *Gyraulus convexiusculus* (Hutton, 1849)

Distribution: Naini Tal, Sariya Tal, and Bhim Tal Lakes, Uttarakhand, India (Prashad 1922: p. 15); Solan District, Himachal Pradesh, India (Agrawal 1976: p. 136); Kailali District, Nepal (Budha 2016: p. 45), Pakistan, China, India, Nepal, Iran, Philippines, Thailand, Australia, Guinea, Korea, and India.

230. *Gyraulus euphraticus* (Mousson, 1874)

Distribution: Salt range, Pakistan (Annandale & Rao 1925: p. 397); Salt Range (Rao 1989: p. 155); Kailali District, Nepal (Budha 2016: p. 45), Palaearctic, Iran, Iraq, Afghanistan, and India.

231. *Gyraulus kosiensis* Glöer & Bössneck, 2013

Distribution: Karampani, Almora District, Uttarakhand, India (Glöer & Bössneck, 2013: p. 151).

232. *Gyraulus ladacensis* (Nevill, 1878)

Distribution: Leh District, Ladakh, India (Nevill 1878b: p. 10; Rao 1989: p. 156); Gho-Manhasan stream, Jammu, India (Uttam et al. 2022: p. 356); Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 10571), Tibet, and Uzbekistan.

233. *Gyraulus parvus* (Say, 1817)

Distribution: Salt range, Pakistan (Annandale & Rao 1925: p. 397), Netherlands, central Europe, North America, Myanmar, and throughout the plains of India.

Genus *Helicorbis* Benson, 1855

234. *Helicorbis cantori* (Benson, 1850)

Distribution: Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 23), China, Taiwan, Philippines, Sri Lanka, Nepal, Singapore, Korea, and India: Assam, Manipur.

235. *Helicorbis umbilicalis* (Benson, 1836)

Distribution: Lakes of Bhimtal, Uttarakhand, India (Prashad 1922: p. 15); Kumaon, Uttarakhand, India (Rao 1989: p. 148); Kailali District, Nepal (Budha 2016: p. 46).

Genus *Helisoma* Swainson, 1840

236. *Helisoma* sp.

Distribution: Gharana Wetland, Jammu & Kashmir, India (Uttam et al. 2022: p. 356).

Genus *Hippeutis* Charpentier, 1837

237. *Hippeutis complanatus* (Linnaeus, 1758)

Distribution: Kashmir, India (Rao 1989: p. 146), Poland, Algeria, Russia, Poland, Iran, Slovakia, Türkiye,

Republic of Moldova, Croatia, Czech Republic, Montenegro, Germany, Romania, and Latvia.

Genus *Planorbis* Müller, 1773

238. *Planorbis carinatus* Müller, 1774

Distribution: Kashmir valley, India (Theobald 1878: p. 149), Poland, Lebanon, Bulgaria, Turkiye, Germany, Latvia, Albania, Ukraine, and Italy.

239. *Planorbis planorbis* (Linnaeus, 1758)

Distribution: Pitak and Skardu, Gilgit-Baltistan, Pakistan (Woodward 1856: p. 186); Aripal stream, Jammu and Kashmir, India (Mir & Bakhtiyar 2022: p. 10571); Samote of Poonch District and Kalakote area of Rajouri District, Pir Panjal range, India (Present study), Armenia, Greece, Turkiye, Poland, Bulgaria, eastern Russia, Croatia, Uzbekistan, Germany, and India.

Genus *Polyptylis* Pilsbry, 1906

240. *Polyptylis calathus* (Benson, 1850)

Distribution: Bhimtal Lake, Uttarakhand, India (Benson 1850: p. 348); Kashmir, India (Preston 1915: p. 127), Naini Tal, Uttarakhand, India (Prashad 1922: p. 16); Kailali District, Nepal (Budha 2016: p. 46); Ghodaghodi Lake Area, Kailali District, Nepal (Chaudhary 2017: p. 23), Sri Lanka, Myanmar, Nepal, India, and the plains of eastern India.

Genus *Segmentina* Fleming, 1818

241. *Segmentina* sp.

Distribution: Downstream of Aripal stream, Jammu & Kashmir, India (Mir & Bakhtiyar 2022: p. 10571).

Superfamily Valvatoidea

Family Valvatidae

Genus *Valvata* Müller, 1773

242. *Valvata piscinalis* (Müller, 1774)

Distribution: Tso Kar Lake, Rupshu valley, India (Woodward 1856: p. 186); Pangong Lake, Ladakh, India (Nevill 1878a: p. 15; Nevill 1878b: p. 12; Nevill 1885: p. 15; Sopore, Jammu & Kashmir, India (Theobald 1878: p. 141); Kashmir, India (Preston 1915: p. 95; Rao 1989: p. 56), Europe, Turkiye, Armenia, Poland, Croatia, Bulgaria, Siberia, Italy, Germany, Bulgaria, Romania, Estonia, and Latvia.

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