



A review of the Acrididae (Orthoptera, Caelifera) recorded in Nepal

Rameshwor Pudasaini

Institute of Agriculture and Animal Science, Tribhuvan University, Kathmandu, Nepal.


✉ rameshwor.pudasaini@lac.tu.edu.np

 <https://doi.org/10.0000-0001-9957-1185>

Sushil Dhital

Prithu Technical College, Institute of Agriculture and Animal Science, Tribhuvan University, Kathmandu, Nepal.

✉ sushildhital054@gmail.com

 <https://orcid.org/0000-0001-7872-359X>

Received:

18 April, 2022

Accepted:

14 July, 2022

Published:

13 August, 2022

Subject Editor:

Mosen Mofidi Neyestanak

ABSTRACT. Previously published works of literature were reviewed to prepare the checklist of grasshoppers under the family Acrididae from Nepal. The present checklist of grasshoppers under the family Acrididae includes 69 species belonging to 41 genera, and 18 tribes with 11 subfamilies. Oedipodinae (17) was the most species-richest subfamily followed by Gomphocerinae (12), Catantopinae (9), Oxyinae (7), Cyrtacanthacridinae (6), Acridinae (6), Eyprepocnemidinae (4), Coptacrinae (3), Hemiacridinae (2), Calliptaminae (2), and Spathosterninae (1). This checklist will be also helpful to forecast outbreaks of grasshopper species and apply appropriate management approaches.

Key words: Acrididae, Checklist, Distribution, Diversity, Nepal, Oriental

Citation: Pudasaini, R. & Dhital, S. (2022) A review of the Acrididae (Orthoptera, Caelifera) recorded in Nepal. *Journal of Insect Biodiversity and Systematics*, 8 (3), 467–482.

INTRODUCTION

Orthopterans are the most common insects in terrestrial grassland ecosystems comprising 29,207 species around the world (Guo et al., 2006; Jonas & Joern, 2007; Latchininsky et al., 2011; Cigliano et al., 2022). Grasshoppers are an excellent ecological and biological indicator of ecosystem qualities and the efficacy of ecological networks (Gebeyehu et al., 2002; Bazelet & Samways, 2011; Bazelet & Samways, 2014; Zhang et al., 2019). Besides estimating species diversity and abundance (Latchininsky et al., 2011; Mariottini et al., 2013; Sergeev, 2021), they are also one of the causes of significant damage to crops (Begna & Fielding, 2003; Zhang et al., 2019; Dakhel et al., 2020).

There are a few studies conducted related to grasshopper fauna in Nepal. A systematic study of the taxonomy and biodiversity of grasshoppers in Nepal was reported by Kirby (1914). Thapa (1997) mentioned that Kirby (1914) reported nine species and described a new species of grasshopper from Nepal. Uvarov (1922) and Uvarov (1925) studied grasshopper taxonomy in the Everest region; and Bey-Bienko (1968), and Chopard and Dreux (1966) in Khumbu-Himalaya and other eastern regions in Nepal. Similarly, Ingrisch (1990) also conducted grasshopper taxonomic studies from the eastern parts of Nepal. Additionally, Ingrisch and Garai (2001) published Orthopteran species from Kathmandu and around the Ganesh Himalaya. Furthermore, Annapurna Himalaya and western regions were investigated by Balderson and Xiangchu (1987) and Lamjung Himalaya and other western parts by Ingrisch (1987). Ingrisch (2002) reviewed some Orthoptera species collected in the Natural History

Corresponding author: Pudasaini R., E-mail: rameshwor.pudasaini@lac.tu.edu.np

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Museum Basel. Another study by Ingrisich (1993) reviewed some Oriental species of *Dnopherula* (*Aulocobothrus*) belonging to the subfamily Gomphocerinae. Similarly, Joshi and Manandhar (2001) reported grasshopper species collected at the Entomology Division, Nepal Agriculture Research Council, Kathmandu, Nepal. Shishodia et al. (2010) also included some grasshopper species of Nepal while listing the checklist of Orthoptera from India.

Grasshoppers are one of the major pests in Nepal and are responsible for serious damage, especially in rice, maize, and sugarcane (Ansari et al., 2013, 2016; Paudel et al., 2020). Previously, grasshopper outbreaks and serious damages have been reported in Nepal (Ansari et al., 2016; Paudel et al., 2020). Recently, the swarms of the desert locust (*Schistocerca gregaria*) invaded Nepal in 2020 and damaged more than 1100 hectares of cropping areas (Pandey et al., 2021; Shrestha et al., 2021). There is no published checklist of grasshoppers that included all the reported species from Nepal. Therefore, the present checklist aims to include all the reported grasshopper species under the Acrididae family from Nepal.

MATERIAL AND METHODS

Previously published articles, and books were studied to get data on grasshopper fauna and other related information under the family Acrididae from Nepal. All recorded subfamilies, tribes, genera, and species under the family Acrididae are listed. We found few species were not assigned to any tribe and mentioned as "Taxa not assigned to any tribe". Classification and nomenclature of taxa followed Cigliano et al. (2022). The errors in spelling of the species names were corrected matching with Cigliano et al. (2022) and also mentioned in the text. ArcGIS software was used to draw biogeographical map of Nepal (ArcGIS, 2022).

RESULTS

The number of tribes, genera, and species in different subfamilies of Acrididae that occurred in Nepal is presented in Table 1 and their distribution in the map of Nepal is presented in Fig. 1. The present checklist includes 69 species belonging to 41 genera, and 18 tribes with 11 subfamilies under the family Acrididae. Oedipodinae (17) was the most species-richest subfamily followed by Gomphocerinae (11), Catantopinae (9), Oxyinae (7), Cyrtacanthacridinae (6), Acridinae (6), Eyprepocnemidinae (4), Coptacrinae (3), Hemiacridinae (2), Calliptaminae (2), and Spathosterninae (1).

Table 1. Numbers of tribes, genera and species belong to subfamilies of Acrididae occurred in Nepal.

Subfamily	Tribes	Genera	Species
Acridinae MacLeay, 1821	2	3	6
Calliptaminae Jacobson, 1905	*	1	2
Catantopinae Brunner von Wattenwyl, 1893	2*	6	9
Coptacrinae Brunner von Wattenwyl, 1893	*	2	3
Cyrtacanthacridinae Kirby, 1910	2*	5	6
Eyprepocnemidinae Brunner von Wattenwyl, 1893	1*	2	4
Gomphocerinae Fieber, 1853	2*	4	12
Hemiacridinae Dirsh, 1956	1	1	2
Oedipodinae Walker, 1871	6	12	17
Oxyinae Brunner von Wattenwyl, 1893	1	4	7
Spathosterninae Rehn, 1957	1	1	1
Total	18	41	69

*All or some tribes not assigned to any tribe.

Checklist of the Grasshoppers (Orthoptera, Acrididae) from Nepal

Class Insecta Linnaeus, 1758

Order Orthoptera Olivier, 1789

Suborder Caelifera Ander, 1939

Superfamily Acridoidea Macleay, 1821

Family Acrididae Macleay, 1821

Subfamily Acridinae MacLeay, 1821

Tribe Acridni Macleay, 1821

Genus *Acrida* Linnaeus, 1758

***Acrida exaltata* (Walker, 1859)**

Distribution in Nepal: Dolakha, Kathmandu, Marsyangdi Valley, and Surkhet (Balderson & Xiangchu, 1987, Joshi & Manandhar, 2001).

General distribution: China, Iran, South Asia, and Yemen (Shishodia et al., 2010; Cigliano et al. 2022).

***Acrida gigantea* (Herbst, 1794)**

Distribution in Nepal: Marsyangdi Valley, and Nagarkot (Balderson & Xiangchu, 1987).

General distribution: South Asia (Shishodia et al., 2010).

Tribe Phlaeobini Brunner von Wattenwyl, 1893

Genus *Phlaeoba* Stål, 1861

***Phlaeoba infumata* Brunner von Wattenwyl, 1893**

Distribution in Nepal: East Nepal, and Pokhara (Joshi & Manandhar, 2001).

General Distribution: China, Malaysia, Myanmar, and South Asia (Shishodia et al., 2010).

Remark: Joshi and Manandhar (2001) reported it as *Phloeoba*, a misspelling for *Phlaeoba*.

***Phlaeoba tenebrosa* (Walker, 1871)**

Distribution in Nepal: Bagmati Zone, Chitwan, Gandaki Zone, and Marsyangdi Valley (Balderson & Xiangchu, 1987).

General distribution: China, Ethiopia, Indonesia, Malaysia, Myanmar, South Asia, Thailand, and Vietnam (Shishodia et al., 2010).

***Phlaeoba sikkimensis* Ramme, 1941**

Distribution in Nepal: East Nepal (Ingrisch, 1990).

General Distribution: India, and Nepal (Shishodia et al., 2010).

Genus *Serrifermora* Liu, 1981

***Serrifermora antennata* Linnaeus 1758**

Distribution in Nepal: Marsyangdi valley (Balderson & Xiangchu, 1987).

General distribution: China, and Nepal (Balderson & Xiangchu, 1987).

Subfamily Calliptaminae Jacobson, 1905**Taxa not assigned to any tribe****Genus *Peripolus* Martínez y Fernández-Castillo, 1898*****Peripolus nepalensis* Uvarov, 1942****Distribution in Nepal:** Bagmati Zone, and Gandaki Zone (Balderson & Xiangchu, 1987).**General distribution:** India, and Nepal (Shishodia et al., 2010).***Peripolus pedarius* (Stål, 1878)****Distribution in Nepal:** Kali Gandaki Valley, Marsyangdi Valley, Pokhara, and Tatopani (Balderson & Xiangchu, 1987).**General distribution:** India, and Nepal (Shishodia et al., 2010).**Subfamily Catantopinae Brunner von Wattenwyl, 1893****Tribe Catantopini Brunner von Wattenwyl, 1893****Genus *Diabolocatantops* Jago, 1984*****Diabolocatantops innotabilis* (Walker, 1870)****Distribution in Nepal:** No particular locality cited (Ingrisch, 1990).**General distribution:** Borneo island, Cambodia, China, Indonesia, Japan, Korea, Malaysia, Myanmar, New Guinea, South Asia, Tibetan region in China, Thailand, and the Philippines (Shishodia et al., 2010).**Genus *Stenocatantops* Dirsh, 1953*****Stenocatantops splendens* (Thunberg, 1815)****Distribution in Nepal:** No particular locality cited (Ingrisch, 1990).**General distribution:** Borneo island, China, Indonesia, Korea, Malaysia, Moluccas Island, Myanmar, New Guinea, South Asia, Thailand, the Philippines, and Vietnam (Shishodia et al., 2010).**Genus *Xenocatantops* Dirsh & Uvarov, 1953*****Xenocatantops humilis* (Serville, 1838)****Distribution in Nepal:** Chitwan, Kali Gandaki valley, and Marsyangdi valley (Balderson & Xiangchu, 1987)**General distribution:** Cambodia, Laos, Papua New Guinea, South Asia, Taiwan, Thailand, and the Philippines (Shishodia et al., 2010).**Remarks:** Subspecies *Xenocatantops humilis humilis* Serville, 1838 recorded in Bhojpur and Kathmandu (Joshi & Manandhar, 2001), as *Xanocatantops*, misspelling for *Xenocatantops*.***Xenocatantops humilis brachycerus* (Willemse, 1932)****Distribution in Nepal:** No particular locality cited (Ingrisch, 1990).**General distribution:** Bhutan, China, Nepal, and North India (Ingrisch, 1990).***Xenocatantops karnyi* (Kirby, 1910)****Distribution in Nepal:** No particular locality cited (Shishodia et al., 2010).**General distribution:** India, and Nepal (Shishodia et al., 2010).

Tribe Paraconophymatini Otte, 1995**Genus *Paraconophyma* Uvarov, 1921*****Paraconophyma nepalensis* (Walker, 1870)**

Distribution in Nepal: Kathmandu (Joshi & Manandhar, 2001).

General distribution: According to Cigliano et al. (2022), this species was only reported in Nepal.

Taxa not assigned to any tribe**Genus *Choroedocus* Bolívar, 1914*****Choroedocus robustus* (Serville, 1838)**

Distribution in Nepal: No particular locality cited (Ingrisch, 1990).

General distribution: Bhutan, India, and Nepal (Ingrisch, 1990)

***Choroedocus violaceipes* Miller, 1934**

Distribution in Nepal: Marsyangdi Valley (Balderson & Xiangchu, 1987).

General distribution: Malaysia, and Nepal (Balderson & Xiangchu, 1987).

Genus *Apalacris* Walker, 1870***Apalacris varicornis* Walker, 1870**

Distribution in Nepal: Chitwan National Park, and Marsyangdi Valley (Balderson & Xiangchu, 1987).

General distribution: Bangladesh, Borneo island, China, India, Indonesia, Japan, Malaysia, Myanmar, Nepal, and Vietnam (Shishodia et al., 2010).

Subfamily Coptacrinae Brunner von Wattenwyl, 1893**Taxa not assigned to any tribe****Genus *Coptacra* Stål, 1873*****Coptacra minuta* Bey-Bienko, 1968**

Distribution in Nepal: East Nepal (Ingrisch, 1990).

General distribution: Endemic in the eastern regions of Nepal (Ingrisch, 1990; Cigliano et al. 2022).

***Coptacra longicornis* Balderson & Xiangchu, 1987**

Distribution in Nepal: Marsyangdi valley (Balderson & Xiangchu, 1987).

General distribution: Nepal (Balderson & Xiangchu, 1987).

Note: According to Cigliano et al. (2022), this species is only reported in Nepal. Balderson and Xiangchu (1987) reported *Coptacra longicornis* is allied to *Coptacra tonkinensis* Willemse (1939) except in *C. longicornis* the antennae are longer, pronotum posterior margin is obtuse-angulate, larger eyes and the vertical diameter is twice as long as the subocular groove.

Genus *Eucoptacra* Bolívar, 1902***Eucoptacra motuoensis* Yin, 1984**

Distribution in Nepal: Chitwan National Park, and Marsyangdi valley (Balderson & Xiangchu, 1987).

General distribution: China, and Nepal (Balderson & Xiangchu, 1987).

Subfamily Cyrtacanthacridinae Kirby, 1910**Tribe Cyrtacanthacridini Kirby, 1910****Genus *Patanga* Uvarov, 1923*****Patanga japonica* (Bolívar, 1898)**

Distribution in Nepal: Gandaki valley (Joshi & Manandhar, 2001).

General distribution: China, India, Japan, Korea, Nepal, and Pakistan (Balderson & Xiangchu, 1987; Shishodia et al., 2010).

***Patanga succincta* (Johannson, 1763)**

Distribution in Nepal: Kakani (Joshi & Manandhar, 2001).

General distribution: Australia, Borneo island, China, Indonesia, Japan, Malaysia, Myanmar, South Asia, South Arabia, Southeast Asia, and the Philippines, (Shishodia et al., 2010).

Tribe Cyrtacanthacridini Kirby, 1910**Genus *Schistocerca* Stål, 1873*****Schistocerca gregaria* (Forskål, 1775)**

Distribution in Nepal: Recently, *S. gregaria* invaded Nepal at 2020 and swarmed 53 districts (Pandey et al., 2021). Thapa (1997) also reported *S. gregaria* from Nepal, however, did not mention the particular place.

General distribution: Africa, Mediterranean Region, South Asia, South Europe, South and Central America, and Western Asia (Shishodia et al., 2010).

Genus *Chondracris* Uvarov, 1923***Chondracris rosea* (De Geer, 1773)**

Distribution in Nepal: Kathmandu, Charikot (Joshi & Manandhar, 2001).

General distribution: China, Indonesia, Japan, Korea, Myanmar, South Asia, Thailand, the Philippines, and Vietnam (Shishodia et al., 2010).

Genus *Cyrtacanthacris* Walker, 1870***Cyrtacanthacris tatarica* (Linnaeus, 1758)**

Distribution in Nepal: Parwanipur (Joshi & Manandhar, 2001).

General distribution: Africa, India, Laos, Nepal, Sri Lanka, Thailand, the Korean peninsula, and Vietnam (Joshi & Manandhar, 2001; Shishodia et al., 2010).

Remarks: Subspecies *Cyrtacanthacris tatarica tatarica* (Linnaeus, 1758) was recorded in Jumla, Kathmandu, and Parwanipur (Joshi & Manandhar, 2001).

Taxa not assigned to any tribe**Genus *Pachyacris* Uvarov, 1923*****Pachyacris vinosa* (Walker, 1870)**

Distribution in Nepal: Marsyangdi Valley (Balderson & Xiangchu, 1987).

General distribution: China, India, Myanmar, Nepal, Thailand, and Vietnam (Shishodia et al., 2010).

Subfamily Eyprepocnemidinae Brunner von Wattenwyl, 1893**Tribe Eyprepocnemidini Brunner von Wattenwyl, 1893****Genus *Eyprepocnemis* Fieber, 1853*****Eyprepocnemis alacris alacris* Serville, 1838**

Distribution in Nepal: Marsyangdi Valley (Balderson & Xiangchu, 1987).

General distribution: Afghanistan, Bangladesh, Iran, Iraq, India, Nepal, Pakistan, and Sri Lanka (Shishodia et al., 2010).

***Eyprepocnemis rentzi* Balderson & Xiangchu, 1987**

General distribution: Godawari Botanic Gardens (Balderson & Xiangchu, 1987)

General distribution: According to Cigliano et al. (2022) species is only reported from Nepal.

Taxa not assigned to any tribe**Genus *Tylotropidius* Stål, 1873*****Tylotropidius brevicornis* Balderson & Xiangchu, 1987**

Distribution in Nepal: Nagarkot (Balderson & Xiangchu, 1987).

General distribution: According to Cigliano et al. (2022) species is only reported from Nepal.

***Tylotropidius varicornis* (Walker, 1870)**

Distribution in Nepal: Chitwan National Park (Balderson & Xiangchu, 1987).

General distribution: India, Myanmar, Nepal, and Sri Lanka (Balderson & Xiangchu, 1987; Shishodia et al., 2010).

Subfamily Gomphocerinae Fieber, 1853**Tribe Arcypterini Bolívar, 1914****Genus *Aulacobothrus* Bolívar, 1902*****Aulacobothrus unicolor* Balderson & Xiangchu, 1987**

Distribution in Nepal: Godabari Botanical Garden (Balderson & Xiangchu, 1987).

General distribution: According to Cigliano et al. (2022) this species is only reported from Nepal.

***Aulacobothrus luteipes luteipes* (Walker, 1871)**

Distribution in Nepal: No particular locality cited (Shishodia et al., 2010).

General distribution: Bangladesh, China, Europe, India, Japan, Myanmar, Nepal, North America, Pakistan, Sri Lanka, and Thailand (Shishodia et al., 2010).

***Aulacobothrus sinensis* (Uvarov, 1925)**

Distribution in Nepal: Ingrisch (1993) reported this species from Nepal, and suggested re-examination.

General distribution: China, India, and Nepal (Shishodia et al., 2010).

***Aulacobothrus strictus* (Bolivar, 1902)**

Distribution in Nepal: Ingrisch (1993) reported this species from Nepal, however, did not mention the particular place.

General distribution: India, and Nepal (Ingrisch (1993)).

Tribe Gomphocerini Fieber, 1853**Genus *Chorthippus* Fieber, 1852*****Chorthippus himalayanus* Balderson & Xiangchu, 1987**

Distribution in Nepal: Upper Marsyangdi valley (Manag) (Balderson & Xiangchu, 1987).

General distribution: This species is only reported from Nepal (Balderson & Xiangchu, 1987; Cigliano et al., 2022).

***Chorthippus muktinathesis* Balderson & Xiangchu, 1987**

Distribution in Nepal: Muktinath (Balderson & Xiangchu, 1987).

General distribution: This species is only reported from Nepal (Cigliano et al., 2022; Balderson & Xiangchu, 1987).

***Chorthippus nepalensis* Balderson & Xiangchu, 1987**

Distribution in Nepal: Marsyangdi valley (Balderson & Xiangchu, 1987).

General distribution: This species is only reported from Nepal (Cigliano et al., 2022; Balderson & Xiangchu, 1987).

***Chorthippus rubensabdomenis* Linnaeus, 1981**

Distribution in Nepal: Kali Gandaki valley, and Marsyangdi valley (Balderson & Xiangchu, 1987).

General distribution: China, and Nepal (Balderson & Xiangchu, 1987).

***Chorthippus sanlanggothis* Ingrisch & Garai, 2001**

Distribution in Nepal: Ganesh Himal (Ingrisch & Garai, 2001).

General distribution: Nepal, and Indian Subcontinent (Cigliano et al., 2022).

Taxa not assigned to any tribe**Genus *Dnopherula* Karsch, 1896*****Dnopherula nepalensis* Balderson & Xiangchu, 1987**

Distribution in Nepal: Marsyangdi Valley (Balderson & Xiangchu, 1987).

General distribution: This species is only reported from Nepal (Cigliano et al., 2022).

Genus *Parvibothrus* Balderson & Xiangchu, 1987***Parvibothrus brunneus* Balderson & Xiangchu, 1987**

Distribution in Nepal: Chitwan, and Marsyangdi valley (Balderson & Xiangchu, 1987).

General distribution: This species is only reported from Nepal (Cigliano et al., 2022).

***Parvibothrus nepalensis* Balderson & Xiangchu, 1987**

Distribution in Nepal: Kali Gandaki Valley, Marsyangdi Valley, and Nagarkot (Balderson & Xiangchu, 1987).

General distribution: This species is only reported from Nepal (Cigliano et al., 2022).

Subfamily Hemiacridinae Dirsh, 1956**Tribe Hieroglyphini Bolívar, 1912****Genus *Hieroglyphus* Krauss, 1877*****Hieroglyphus banian* (Fabricius, 1798)**

Distribution in Nepal: Kathmandu (Joshi & Manandhar, 2001).

General distribution: Afghanistan, Bangladesh, Bhutan, China, India, Nepal, Myanmar, Thailand, and Vietnam (Shishodia et al., 2010).

Remarks: *H. banian* is one of the major native grasshopper species in Nepal and generally outbreaks in the summer and is responsible for serious damage to rice, sugarcane, and maize (Paudel et al., 2020).

***Hieroglyphus nigrorepletus* Bolívar, 1912**

Distribution in Nepal: No particular locality cited (Thapa, 1997).

General distribution: South Asia (Shishodia et al., 2010).

Remarks: This is a serious pest of Maize in Nepal (Thapa, 1997).

Subfamily Oedipodinae Walker, 1871**Tribe Acrotlyni Johnston, 1956****Genus *Acrotylus* Fieber, 1853*****Acrotylus humbertianus* Saussure, 1884**

Distribution in Nepal: No particular locality cited (Ingrisch, 1990).

General distribution: Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka (Shishodia et al., 2010).

Tribe Epacromiini Brunner von Wattenwyl, 1893**Genus *Aiolopus* Fieber, 1853*****Aiolopus thalassinus tamulus* (Fabricius, 1781)**

Distribution in Nepal: Marsyangdi valley (Balderson & Xiangchu, 1987).

General distribution: Australia, China, India, Indonesia, Japan, Malaysia, Myanmar, Nepal, Papua New Guinea, Pakistan, Singapore, Sri Lanka, Thailand, and the Philippines (Balderson & Xiangchu, 1987).

Remarks: Subspecies *Aiolopus thalassinus thalassinus* (Fabricius, 1781) recorded in Kathmandu (Joshi & Manandhar, 2001).

Genus *Heteropternis* Stål, 1873***Heteropternis motuoensis* Yin, 1984**

Distribution in Nepal: Marsyangdi Valley (Balderson & Xiangchu, 1987).

General distribution: China, and Nepal (Balderson & Xiangchu, 1987).

***Heteropternis respondens* (Walker, 1859)**

Distribution in Nepal: Marsyangdi Valley (Balderson & Xiangchu, 1987).

General distribution: China, India, Indonesia, Myanmar, and Sri Lanka (Balderson & Xiangchu, 1987).

***Heteropternis respondens respondens* (Walker, 1859)**

Distribution in Nepal: No particular locality cited (Shishodia et al., 2010).

General distribution: Bangladesh, China, India, Indonesia, Japan, Malaysia, Myanmar, Nepal, Sri Lanka, and the Philippines (Shishodia et al., 2010).

Tribe Parapleurini Brunner von Wattenwyl, 1893

Genus *Ceracris* Walker, 1870

Ceracris xizangensis Linnaeus, 1981

Distribution in Nepal: Kathmandu, Marsyangdi Valley, Nagarkot, and Pokhara (Balderson & Xiangchu, 1987; Joshi & Manandhar, 2001).

General distribution: China, and Nepal (Balderson & Xiangchu, 1987).

Tribe Locustini Kirby, 1825

Genus *Gastrimargus* Saussure, 1884

Gastrimargus africanus africanus (Saussure, 1888)

Distribution in Nepal: Kathmandu, and Marsyangdi valley (Balderson & Xiangchu, 1987).

General distribution: Africa, Myanmar, Nepal, Pakistan, Saudi Arabia, Sri Lanka, Thailand, Tibetan region in China and Yemen (Shishodia et al., 2010).

Gastrimargus africanus sulphureus Bey-Bienko, 1951

Distribution in Nepal: No particular locality cited (Ingrisch, 1990).

General distribution: India, Nepal, and Pakistan (Shishodia et al., 2010).

Gastrimargus africanus parvulus Sjöstedt, 1928

Distribution in Nepal: No particular locality cited (Ingrisch, 1990).

General distribution: China, Indonesia, Myanmar, Nepal, Thailand, and Vietnam (Ingrisch, 2002).

Gastrimargus transverses, Thunberg, 1815

Distribution in Nepal: No particular locality cited (Thapa, 1997).

General distribution: India, Indonesia, and Nepal (Thapa, 1997).

Genus *Locusta* Linnaeus, 1758

Locusta migratoria migratoria (Linnaeus, 1758)

Distribution in Nepal: Itahari (Joshi & Manandhar, 2001; Ingrisch, 1990).

General distribution: All old World except Europe (Shishodia et al., 2010).

Genus *Nepalacris* Balderson & Xiangchu, 1987

Nepalacris chitwanica Balderson & Xiangchu, 1987

Distribution in Nepal: Chitwan (Balderson & Xiangchu, 1987).

General distribution: According to Cigliano et al. (2022) this species is only reported from Nepal.

Genus *Oedaleus* Fieber, 1853

Oedaleus abruptus (Thunberg, 1815)

Distribution in Nepal: Marsyangdi Valley, Nagarkot, and Pokhara (Balderson & Xiangchu, 1987)

General distribution: Afghanistan, China, Myanmar, South Asia, Thailand, Vietnam (Shishodia et al., 2010)

Genus *Pternoscirta* Saussure, 1884***Pternoscirta cinctifemur* (Walker, 1859)****Distribution in Nepal:** Godavari Botanic Gardens (Balderson & Xiangchu, 1987).**General distribution:** India, Nepal, and Sri Lanka (Shishodia et al., 2010).**Genus *Scintharista* Saussure, 1884*****Scintharista notabilis* (Walker, 1870)****Distribution in Nepal:** Kathmandu (Joshi & Manandhar, 2001).**General distribution:** Afghanistan, India, Iran, Israel, Nepal, Pakistan, Somalia, Yemen, and West Africa (Cigliano et al., 2022).**Remarks:** Subspecies *Scintharista notabilis blanchardiana* (Saussure, 1888) was recorded in Kathmandu (Joshi & Manandhar, 2001).**Tribe Sphingonotini Johnston, 1956****Genus *Sphingonotus* Fieber, 1852*****Sphingonotus (Sphingonotus) longipennis* Saussure, 1884****Distribution in Nepal:** Kali Gandaki Valley, and Tatopani (Balderson & Xiangchu, 1987).**General distribution:** Afghanistan, Africa, Bangladesh, Europe, Mongolia, Northeast Nepal, and the Tibetan region in China (Shishodia et al., 2010).**Tribe Trilophidiini Shumakov, 1963****Genus *Trilophidia* Stål, 1873*****Trilophidia annulata* (Thunberg, 1815)****Distribution in Nepal:** Marsyangdi valley (Balderson & Xiangchu, 1987).**General distribution:** Most of the parts in Asia (Shishodia et al., 2010).**Subfamily Oxyinae Brunner von Wattenwyl, 1893****Tribe Oxyini Brunner von Wattenwyl, 1893****Genus *Oxya* Serville, 1831*****Oxya adentata* Willemsse, 1925****Distribution in Nepal:** Kathmandu, and Sunkhani (Joshi & Manandhar, 2001).**General distribution:** China, and Nepal (Cigliano et al., 2022; Joshi & Manandhar, 2001).***Oxya hyla* Serville, 1831****Distribution in Nepal:** Kathmandu (Joshi & Manandhar, 2001).**General distribution:** Africa, South Asia, and Vietnam (Shishodia et al., 2010).**Remarks:** The subspecies *Oxya hyla hyla* Serville, 1831 recorded, however, no particular locality cited (Ingrisch, 1990).***Oxya hyla intricata* (Stål, 1861)****Distribution in Nepal:** Marsyangdi Valley (Balderson & Xiangchu, 1987).**General distribution:** China, India, Indonesia, Myanmar, Palau island, Ryukyu island, Thailand, the Philippines, Vietnam, and West Malaysia (Shishodia et al., 2010).

***Oxya velox* (Fabricius, 1787)**

Distribution in Nepal: Chitwan National Park (Balderson & Xiangchu, 1987).

General distribution: Bangladesh, China, India, Myanmar, Pakistan, Singapore, Sri Lanka, and Thailand (Shishodia et al., 2010).

***Oxya fuscovittata* (Marschall, 1836)**

Distribution in Nepal: Chitwan National Park, Marsyangdi valley and Nagarkot (Balderson & Xiangchu, 1987).

General distribution: Afghanistan, India, Kazakhstan, Nepal, Pakistan, Turkmenistan, and Uzbekistan (Shishodia et al., 2010).

Remarks: All reported grasshoppers under the genus *Oxya* were pests of rice, maize, and sugarcane. Sometimes they outbreaked and reported heavy damages (Gyawali et al 2019; Paudel et al., 2020).

Genus *Oxyina* Hollis, 1975***Oxyina bidentata* (Willemsse, 1925)**

Distribution in Nepal: Marsyangdi Valley (Balderson & Xiangchu, 1987).

General distribution: Iran, Nepal, and Pakistan (Balderson & Xiangchu, 1987).

Genus *Gesonula* Uvarov, 1940***Gesonula punctifrons* (Stål, 1861)**

Distribution in Nepal: Chitwan National Park (Balderson & Xiangchu, 1987).

General distribution: Bangladesh, Borneo island, China, India, Indonesia, Japan, Malaysia, Myanmar, North Vietnam, Sri Lanka, Thailand and the Philippines (Shishodia et al., 2010).

Subfamily Spathosterninae Rehn, 1957**Tribe Spathosternini Rehn, 1957****Genus *Spathosternum* Krauss, 1877*****Spathosternum prasiniferum* (Walker, 1871)**

Distribution in Nepal: Dadeldhura, Dhankuta, and Godawari (Joshi & Manandhar, 2001).

General distribution: Indian, and Indo-Chinese Subregions (Ingrisch, 1990).

Remarks: Subspecies *Spathosternum prasiniferum xizangensis* Yin, 1982 recorded in Chitwan National Park, Marsyangdi Valley, and Pokhara (Balderson & Xiangchu, 1987).

DISCUSSION

Among 69 species reported under the family Acrididae, 13 species are endemic species and 12 species are described from Nepal. Similarly, the Acridid fauna of Nepal is more affiliated to India because out of 69 species recorded in Nepal, 45 species were also recorded in India. As shown in Fig 1., most of the genera were reported from Middle Mountains areas and only 2 and 1 genus were reported from the Tarai and the Himal regions, respectively. The grasshopper species under the genus *Oxya* and *H. banian* are responsible for annual heavy damage (Ansari et al., 2016 Paudel et al., 2020). *Schistocerca gregaria* is invasive species to Nepal and was invaded in 1962, 1996, and 2020 (Pandey et al., 2021; Shrestha et al., 2021). Grasshopper is a major pest of rice, maize, and sugarcane in Nepal (Ansari et al., 2013, 2016; Paudel et al., 2020).

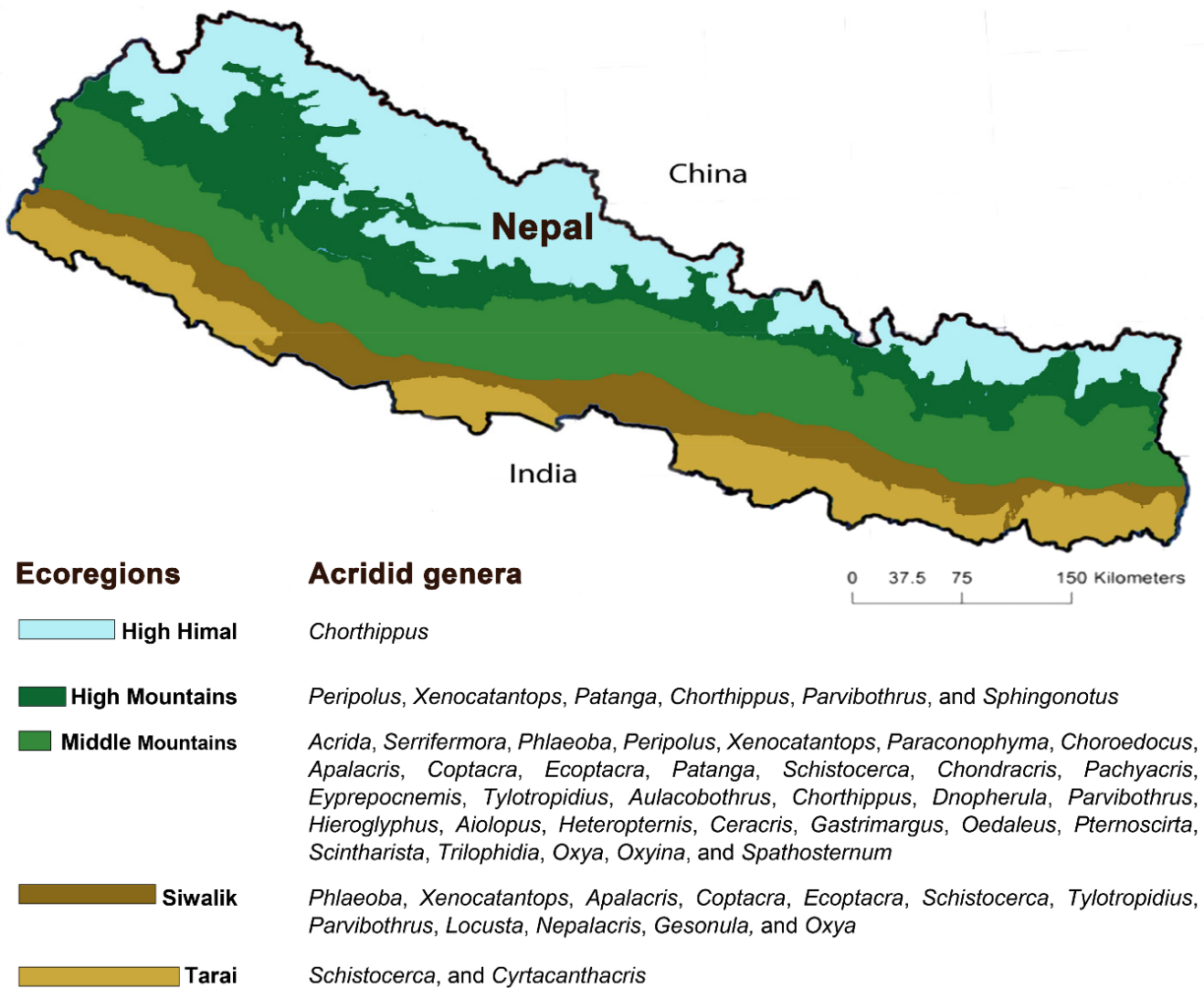


Figure 1. The distribution map of all recorded genera of grasshopper under the family Acrididae in Nepal.

Occasionally, it also outbreaked and caused serious damage in Nepal (Ansari et al., 2013; Paudel et al., 2020; Pandey et al., 2021; Shrestha et al., 2021). The present checklist of grasshoppers' will be useful to identify the major grasshopper species, their possible outbreak and preparing for possible management approaches. For example, the grasshopper species under the genus *Oxya* and *H. baniiana* are responsible for heavy damage to rice, maize, and sugarcane almost every year (Ansari et al., 2016 Paudel et al., 2020). Similarly, the desert locust (*S. gregaria*) invaded Nepal for several years, such as in 1962, 1996, and 2020 and damaged hectares of cropping areas (Pandey et al., 2021; Shrestha et al., 2021).

Grasshopper fauna was studied majorly in the middle and the eastern parts of Nepal and very few species are reported from the western parts and the southern plain areas (Tarai region) of the country. Similarly, Nepal is located from around 200 m to 8848 m from sea level with humid tropical (annual average temperature >25 °C) to alpine (annual average temperature <0 °C to 5 °C) (Agrawala et al., 2003). Therefore, considering the higher climatic and geographical variation, it is recommended for detailed studies, especially in the western parts and the southern plain areas, on the diversity and distribution of grasshopper species in Nepal.

AUTHOR'S CONTRIBUTION

Both authors have equal contributions to reviewing and writing this manuscript.

FUNDING

This research received no specific grant from any funding agencies.

AVAILABILITY OF DATA AND MATERIAL

Not applicable.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this paper.

ACKNOWLEDGMENTS

The authors are grateful to Dr Hirdesh Kumar, Research Associate, Zoological Survey of India for providing some articles during writing this paper. Similarly, the authors are sincerely thankful to Bikalpa Poudel, the Department of Civil Engineering, School of Engineering, Kathmandu University, Nepal for drawing the biogeographical map.

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چک لیست ملخ‌های شاخک کوتاه خانواده Acrididae (Orthoptera, Caelifera) ثبت شده در نپال

رامش‌وار پوسادیانی^۱ و ساشیل دیتال^۲

۱. موسسه تحقیقات کشاورزی و علوم دامی، دانشگاه تریپهوان، کاتماندو، نپال.

۲. کالج فناوری پریتو، موسسه تحقیقات کشاورزی و علوم دامی، دانشگاه تریپهوان، کاتماندو، نپال.

* پست الکترونیک نویسنده مسئول مکاتبه: rameshwar.pudasaini@lac.tu.edu.np

| تاریخ دریافت: ۲۹ فروردین ۱۴۰۱ | تاریخ پذیرش: ۲۳ تیر ۱۴۰۱ | تاریخ انتشار: ۲۲ مرداد ۱۴۰۱ |

چکیده: مطالعات انجام شده قبلی برای تهیه چک لیست ملخ‌های خانواده Acrididae

نپال مرور شدند. در این چک لیست شامل ۶۹ گونه متعلق به ۴۱ جنس، ۱۸ قبیله و ۱۱ زیرخانواده از ملخ‌های شاخک کوتاه است. زیرخانواده Oedipodinae (۱۷ گونه) بزرگترین زیرخانواده بوده و پس از آن به ترتیب زیرخانواده های Gomphocerinae (۱۲)، Catantopinae (۹)، Oxyinae (۷)، Cyrtacanthacridinae (۶)، Acridinae (۶)، Eyprepocnemidinae (۴)، Coptacrinae (۳)، Hemiacidinae (۲)، Calliptaminae (۲) و Spathosterninae (۱) قرار گرفتند. این چک لیست برای پیش‌بینی وقوع طغیان ملخ‌های شاخک کوتاه و کاربرد روش‌های مدیریتی مفید خواهد بود.

واژگان کلیدی: ملخ‌های شاخک کوتاه، چک لیست، انتشار، تنوع، نپال، اورینتال