

## Checklist of the Caddisfly Family Leptoceridae Leach, 1815 (Insecta: Trichoptera) from India

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### ABSTRACT

The present checklist covers the fauna of the Trichoptera family Leptoceridae Leach, 1815 from India. Based on extensive surveys, collections and previous published literature, this family in India is represented by 13 genera with 303 species. Based on the biogeographic zone of India 190 species of Leptoceridae are found in Himalayan region, 62 species in Deccan Peninsula, 08 species in Gangetic Plains, 37 species in western Ghats and 06 species in Islands. All species of Trichopteran family Leptoceridae are local in distribution and have not been reported from anywhere around the globe till date. Himalayan region contains biggest source of freshwater ecosystem in the form of lotic and lentic water bodies along with rich vegetation that serve as a suitable habitat for the growth and development of caddisflies and hence a rich diversity in this region.

**Key words:** *Trichoptera, Leptoceridae, Diversity, Himalaya, India*

### INTRODUCTION

The order Trichoptera, which includes 49 extant families, is a group of holometabolous insects with terrestrial adults and larvae that inhabit a variety of freshwater environments (Jewel *et al.*, 2018). They are moth-like insects with wings covered by hairs, not scales as in Lepidoptera. Adults have prominent, and in some species exceptionally long, antennae (more than double the length of the forewing). With some exceptions they have well-developed maxillary and labial palps, but never the coiled proboscis that characterizes most adult Lepidoptera (Moor and Ivanov, 2007). Recent reviews of caddisfly structure and biology were provided by (Holozenthal *et al.*, 2007). Briefly, most species have one generation each year (being univoltine) and are egg-laying (oviparous). Females generally lay 30 to 1000 eggs that are deposited in a layer

encased in a cement-like matrix or in a mass covered by a sticky polysaccharide called "spumaline," which helps protect the eggs from predation. With 16,266 extant species worldwide, Trichoptera are the seventh most speciose order of all insects with more species than the combined total of all the other primarily aquatic insect orders. The extant caddisfly species are classified in 618 genera of 51 families of two suborders: Annulipalpia and Integripalpia (Morse *et al.*, 2019). In addition, there are 765 fossil species, some of which are included in 121 fossil genera and 10 fossil families. Among these fossils, 265 species are fossilized caddisfly cases (ichnospecies) that have been assigned to 11 ichnogenera but generally not to any particular family (Morse *et al.*, 2019). In India the order Trichoptera is represented by 27 families, 102

genera and 1300 species, (Morse, Personal communication 2020). The Trichoptera World Checklist divides the world into eight biogeographic regions: Antarctic, Afrotropical (sub-Saharan Africa), Australasian (Australia, New Zealand, New Guinea, and smaller southwest Pacific islands), East Palearctic (Northern Asia), Nearctic (North America and northern Mexico), Neotropical (Southern Mexico, Central America, and South America), Oriental (Southern Asia), and West Palearctic (Europe and Mediterranean region) (Morse *et al.*, 2019). Trichoptera larvae are probably best known for the transportable cases and fixed shelters that many, though not all, species construct. Silk has enabled Trichoptera larvae to develop an enormous array of morphological adaptations for coping with life in almost any kind of freshwater ecosystem (Wiggins, 1996; 2004)

A recent review of reports concerning insect declines, especially in well-studied parts of the world (e.g., Europe and North America) indicated that caddisfly species are being lost at a greater rate than other freshwater insect orders (Morse *et al.*, 2019). Approximately 74% of the Trichoptera species cited in these reports are in decline or are extinct. The principal causes for this loss have been habitat loss (including conversion

The specimens were collected from diverse sites across India from April-October during 1997-2019. The collection were made near rivers, tributaries, ponds, fresh water streams and lakes having varying water qualities, temperatures and altitudes during 1-4 hours from dusk using fluorescent blue light and mercury bulb placed beside a white sheet; the lights were powered with 12-volt rechargeable batteries/generator.

to urban and agricultural uses), pollution (mainly by application of fertilizers and pesticides), pathogens and introduced species, and climate change (Morse *et al.* 2019)

Family Leptoceridae was erected by Leach in 1815. Leptoceridae is one of the three largest families of Trichoptera, with more than 2,000 described species and the members are often called "long-horned caddisflies" and have a sclerotized pronotum and mesonotum and a membranous metanotum. Their main identifying character is longer antennae than all the other caddisflies (length at least 6x width) (Holozenthal *et al.*, 2011). This family is comprised of 48 extant genera placed traditionally in two subfamilies, Triplectidinae Ulmer and Leptocerinae Leach, the former recorded from Australasian and Neotropical regions, while the latter has a cosmopolitan distribution (Malm and Johnson, 2011). In India 13 genera have been reported in two subfamilies i.e. Triplectidinae and Leptocerinae. Subfamily Triplectidinae is represented by a single genus *Triplectides* only while 12 genera belong to the Leptocerinae (Morse, 2020). (Anbalagam *et al.*, 2017) studied *Mystacides* genus from south India using DNA barcoding.

## MATERIAL AND METHODS

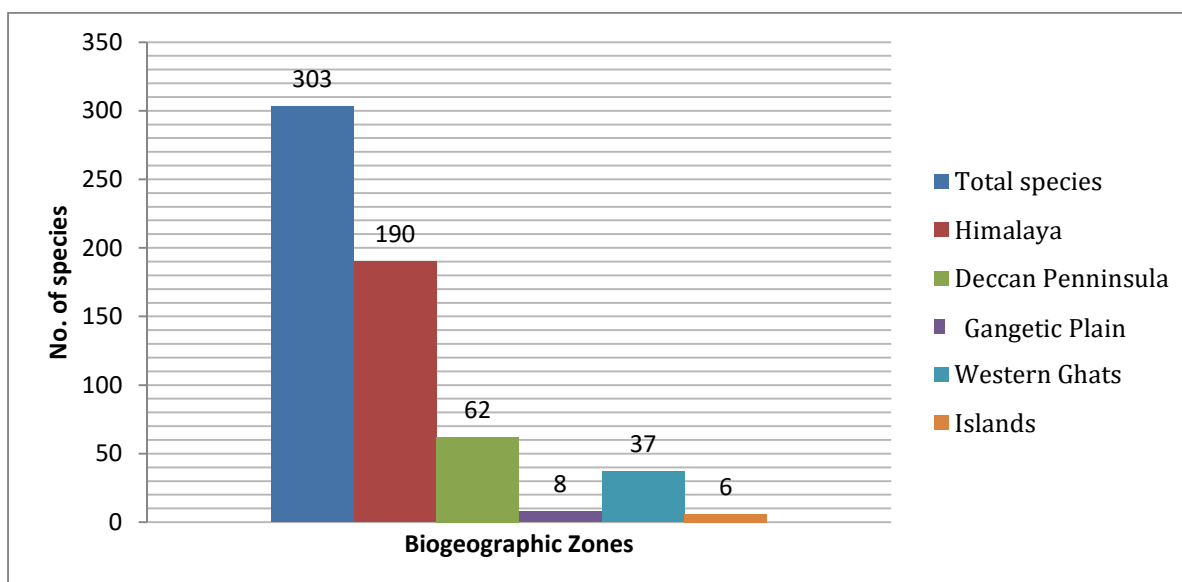
The collected specimens were preserved in 70% ethyl alcohol with drop of glycerin. The morphological identification of specimens was performed under stereozoom trinocular microscopes. For the examination of genitalia the abdominal tips were removed with help of fine tipped entomological forceps and sclerotized tissues were cleared in KOH (10-12%) overnight or with lactic acid procedure proposed by Blahnik

*et. al.* 2007. The specimens are with personal collection of Prof. M. S. Saini at Punjabi University Patiala, Punjab.

### Systematics

The systematic account of the family Leptoceridae presented below in tabulated form revealed a total of 303 species in 13 genera so far recorded from India. These species are highly restricted in the India and have not been reported anywhere around the globe. Himalayan region has the highest occurrence of species (190

sp.), followed by Deccan Peninsula (62 sp.), Western Ghats (37 sp.), Gangetic plain (8 sp.) and Islands (6 sp.) (Fig.1). The extant species of caddisflies are distributed unevenly among different biogeographical zones around the globe. By far, the Oriental Region (southern Asia) is home to the greatest number (5854 spp.) and the greatest density (405 spp./Gm<sup>2</sup>); the neighboring East Palearctic Region has the fewest (1200 spp.) and the lowest density (43 spp./Gm<sup>2</sup>) (Morse *et. al.* 2019).



**Fig.1:** Biogeographical distribution of family Leptoceridae (Trichoptera) in India.

Family	Genus	Species	Distribution	Type deposition	Additional material examined
Leptoceridae Leach, 1815	Ceraclea Stephens, 1829	<i>C. hypermestra</i> Malicky, 2002	India (Kerala)- based on Malicky, 2002	H Malicky CollectionLun z am See, Austria	No specimen observed/collected
		<i>C. marginata</i> (Banks, 1911)	(India) Bihar- based on Banks, 1911	Holotype: ROM (Royal Ontario Museum), Canada	No specimen observed/collected
		<i>C. martynovi</i>	India (Madhya)	Unknown	No specimen

		(Forsslund, 1940)	Pradesh)- based on Forsslund, 1940		observed/collected
		<i>C. distinguenda</i> (Martynov, 1936)	India (Madhya Pradesh)- based on Martynov, 1936	Unknown	No specimen observed/collected
	<i>Leptoceriella</i> Schmid, 1993	<i>L. aemulator</i> Schmid, 1993	(India) Uttarakhand-based on Schmid, 1993	Unknown	No specimen observed/collected
	<i>Leptocerus</i> Leach, 1815	<i>L. agunachila</i> Schmid, 1987	(India) Assam, Arunachal Pradesh- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. akhunta</i> Schmid, 1987	(India) Assam, Arunachal Pradesh- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. ankuchagraha</i> Schmid, 1987	(India) Assam, Arunachal Pradesh- based on Schmid, 1987	Holotype: ROM, Canada	Arunachal Pradesh, Bomdila, 2800m, 7-ix-1999. Coll. M. S. Saini
		<i>L. aprachasta</i> Schmid, 1987	(India) Uttarakhand-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. atidvaya</i> Schmid, 1987	(India) Assam, Arunachal Pradesh- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. atiraskrita</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. atyudatta</i> Schmid, 1987	(India) Assam, Manipur- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. bahuchaka</i> Schmid, 1987	(India) Assam, Manipur, Mizoram- based on Schmid, 1987	Holotype: ROM, Canada	Arunachal Pradesh, Bomdila, 2800m, 7-ix-1999
		<i>L. bimaculatus</i> (Martynov, 1936)	(India) Bihar-based on Martynov, 1936	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. bosei</i> Kimmins, 1963	(India) Madhya Pradesh- based on Kimmins, 1963	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. chaktika</i> Schmid, 1987	(India) Meghalaya- based on Schmid, 1987	Unknown	No specimen observed/collected

	<i>L. charopantaja</i> Schmid, 1987	(India) Meghalaya- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. chatadalaja</i> Schmid, 1987	(India) Maharashtra, Karnataka- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. cherrensis</i> Kimmins, 1963	(India) Meghalaya based on Kimmins, 1963	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. chyamavadata</i> Schmid, 1987	(India) Assam, Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. datrayukta</i> Schmid, 1987	(India) Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. kchapavarna</i> Schmid, 1987	(India) Karnataka- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. kritamukha</i> Schmid, 1987	(India) Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. mahadbhuta</i> Schmid, 1987	(India) Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. mahasena</i> Schmid 1987	(India) Karnataka, Madhya Pradesh- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. mahawansa</i> Schmid 1987	(India) Karnataka, Kerala-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. manichyana</i> Schmid, 1987	(India) Manipur- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. mechakita</i> Schmid, 1987	(India) Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>L. posticus</i> (Banks, 1911)	(India) Kerala, Karnataka, Tamil Nadu-based on (Banks, 1911)	Not traceable	West Bengal, Darjeeling, Tiger Peak 2286m, 20-ix-1998, coll. R.P Saini, Darjeeling, Tiger Peak, 2286m, 27-v- 1999.
	<i>L. prithudhara</i> Schmid, 1987	(India) Meghalaya, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected

		<i>L. sadbhuta</i> Schmid, 1987	(India) Meghalaya, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. sakantaka</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. samchita</i> Schmid, 1987	(India) Kerala, Karnataka, Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. samnata</i> Schmid, 1987	(India) Meghalaya, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. sarchtika</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. sudhara</i> Schmid, 1987	(India) Kerala, Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. sukhabaddha</i> Schmid, 1987	(India) Kerala, Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. tayaledra</i> Malicky, 1979	(India) Andaman Islands-based on Malicky, 1979	Holotype: ROM, Canada	No specimen observed/collected
		<i>L. ukchatara</i> Schmid, 1987	(India) Uttarakhand-based on Schmid, 1987	Holotype: ROM, Canada	Uttarakhand, Gobind Ghat, 1928m, 25-vi-2000, Pandukeshwar, 1957m, 28-vi-2000.
		<i>L. vakrita</i> Schmid, 1987	(India) Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>Mystacides</i> Berthold, 1827	<i>M. indicus</i> Martynov, 1936	(India) Uttarakhand, Kumaon -based on Martynov, 1936	Holotype: BMNH (British Museum of Natural History)	No specimen observed/collected
		<i>M. khasicus</i> Kimmins, 1963	(India) Meghalaya-based on Kimmins, 1963	Holotype: BMNH	No specimen observed/collected
	<i>Tagalopsych</i> <i>e</i> Banks, 1913	<i>T. brunnea</i> Ulmer, 1905	(India) Tamil Nadu-based on Ulmer, 1905	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. udagama</i> Holzenthal & Andersen, 2007	(India) Karnataka-based on Holzenthal & Andersen, 2007	Holotype: ROM, Canada	No specimen observed/collected

		<i>T. apratita</i> Holzenthal & Andersen, 2007	(India) Assam- based on Holzenthal & Andersen, 2007	Holotype: ROM, Canada	No specimen observed/collected
	<i>Parasetodes</i> McLachlan, 1880	<i>P. respersellus</i> Rambur, 1842	(India) Bihar- based on Rambur, 1842	Unknown	No specimen observed/collected.
		<i>P. maculata</i> Banks, 1911	(India) Bihar - based on Banks, 1911	Holotype: ROM, Canada	No specimen observed/collected
	<i>Oecetis</i> McLachlan, 1877	<i>O. abhinagupta</i> Schmid, 1995	(India) Meghalaya -based on Schmid, 1995	Holotype: BMNH (British Museum of Natural History)	No specimen observed/collected
		<i>O. angirasa</i> Schmid, 1995	(India) Meghalaya-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. angulata</i> Kimmins, 1963	(India) Assam, Meghalaya-based on Kimmins, 1963	Holotype: BMNH	No specimen observed/collected.
		<i>O. angustipennis</i> (Martynov, 1936)	(India) Assam- based on Martynov, 1936	Holotype: BMNH	No specimen observed/collected.
		<i>O. aniruddha</i> Schmid, 1995	(India) Manipur - based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. asmada</i> Malicky, 1979	(India) Andaman & Nicobar Islands- based on Malicky, 1979	H Malicky collection	Diglipur, Kalpong, iii.2019, Dubey (ZSIANRC), 1 male. Reported by: Kaur et. Al
		<i>O. assamensis</i> Kimmins, 1963	(India) Assam - based on Kimmins, 1963	Holotype: BMNH.	No specimen observed/collected.
		<i>O. bengalica</i> Martynov, 1936	(India) Bihar- based on Martynov, 1936	Holotype: BMNH	No specimen observed/collected
		<i>O. bhairava</i> Schmid, 1995	(India) Tami Nadu, Kerala - based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. bhavabhuti</i> Schmid, 1995	(India) Manipur- based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. biramosa</i> Martynov, 1936	(India) Orissa - based on Martynov, 1936	Holotype: BMNH	No specimen observed/collected.

	<i>O. cristata</i> Kimmins, 1963	(India) Bihar-based on Kimmins, 1963	Holotype: BMNH	No specimen observed/collected
	<i>O. dakchineswara</i> Schmid, 1995	(India) Karnataka-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. devakiputra</i> Schmid, 1995	(India) Madhya Pradesh-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. fimbriata</i> Navas, 1935	(India) Maharashtra-based on Navas, 1935	Holotype: BMNH	No specimen observed/collected.
	<i>O. fletcheri</i> Kimmins, 1963	(India) Assam, Meghalaya-based on Kimmins, 1963	Holotype: BMNH	No specimen observed/collected
	<i>O. goraknata</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. gunapatya</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. harivamsa</i> Schmid, 1995	(India) Maharashtra-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. hayagriva</i> Schmid, 1995	(India) Maharashtra-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. hiranyakachipu</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. hiranyaksa</i> Schmid, 1995	(India) Sikkim-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. ichtadevata</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. ichtadvaraka</i> Schmid, 1995	(India) Meghalaya-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. ichtasurama</i> Schmid, 1995	(India) Karnataka-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. ichvara</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected



	<i>O. iphitos</i> Malicky, 2005	(India) Andaman & Nicobar Islands-based on Malicky, 2005	Holotype: BMNH	No specimen observed/collected
	<i>O. insignis</i> (Banks, 1911)	(India) Maharashtra - based on Banks, 1911	Holotype: BMNH	No specimen observed/collected.
	<i>O. jayadeva</i> Schmid, 1995	(India) Arunachal Pradesh-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. kalidasa</i> Schmid, 1995	(India) Assam-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. kalyuga</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. kartavirya</i> Schmid, 1995	(India) Kerala-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. karttikeya</i> Schmid, 1995	(India) Meghalaya-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. kulasekhara</i> Schmid, 1995	(India) Assam-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. kurukhetra</i> Schmid, 1995	(India) Meghalaya-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. lokapala</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. mahadeva</i> Banks, 1913	(India) Madhya Pradesh-based on Banks, 1913	Holotype: BMNH	No specimen observed/collected
	<i>O. multispinosa</i> Kimmins, 1963	(India) Meghalaya-based on Kimmins, 1963	Holotype: BMNH	No specimen observed/collected
	<i>O. narasimha</i> Schmid, 1995	(India) Meghalaya-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. pancharatra</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>O. philoktetes</i> Malicky, 2005	(India) Andaman & Nicobar Islands-based on Malicky, 2005	Holotype: BMNH	No specimen observed/collected
	<i>O. prahlada</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected

			1995		
		<i>O. pretakalpa</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. pretiosa</i> (Banks, 1913)	(India) Bihar-based on (Banks, 1913)	Holotype: BMNH	No specimen observed/collected
		<i>O. pryadyumna</i> Schmid, 1995	(India) Uttarakhand-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. punctulata</i> Navas, 1932	(India) Maharashtra-based on Navas, 1932	Holotype: BMNH	No specimen observed/collected
		<i>O. purucha</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. purusamedha</i> Schmid, 1995	(India) Meghalaya-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. raghava</i> Schmid, 1995	(India) Arunachal Pradesh-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. rajasimha</i> Schmid, 1995	(India) Karnataka-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. rectangula</i> Kimmins, 1963	(India) Assam-based on Kimmins, 1963	Holotype: BMNH	No specimen observed/collected
		<i>O. rufescens</i> Navas, 1932	(India) Maharashtra-based on Navas, 1932	Holotype: BMNH	No specimen observed/collected
		<i>O. satyagraha</i> Schmid, 1995	(India) Arunachal Pradesh-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. scutulata</i> Martynov, 1936	(India) Madhya Pradesh-based on Martynov, 1936	Holotype: BMNH	No specimen observed/collected
		<i>O. submaculosa</i> Kimmins, 1963	(India) Uttar Pradesh, Gorakhpur-based on Kimmins, 1963	Holotype: BMNH	No specimen observed/collected
		<i>O. tenuis</i> (Martynov, 1936)	(India) Tamil Nadu-based on Martynov, 1936	Holotype: BMNH	No specimen observed/collected

		<i>O. udayakara</i> Schmid, 1995	(India) Tamil Nadu-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. upadana</i> Schmid, 1995	(India) Arunachal Pradesh-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. vanaprachta</i> Schmid, 1995	(India) Manipur-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. vasugupta</i> Schmid, 1995	(India) Meghalaya-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. vidhyadara</i> Schmid, 1995	(India) Meghalaya-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. villosa</i> Kimmins, 1963	(India) Assam, Meghalaya-based on Kimmins, 1963	Holotype: BMNH	No specimen observed/collected
		<i>O. vijayaditya</i> Schmid, 1995	(India) Karnataka-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. vikramaditya</i> Schmid, 1995	(India) Tamil Nadu-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. vrindawama</i> Schmid, 1995	(India) Karnataka-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
		<i>O. yogechwara</i> Schmid, 1995	(India) Sikkim-based on Schmid, 1995	Holotype: BMNH	No specimen observed/collected
	<i>Setodes</i> Rambur, 1842	<i>S. abhichobhita</i> Schmid, 1987	(India) Uttarakhand-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>S. abhiramika</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>S. abhirupa</i> Schmid, 1987	(India) Uttarakhand-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>S. ayita</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>S. acchidra</i> Schmid, 1987	(India) Karnataka, Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>S. adusita</i> Schmid, 1987	(India) Assam and Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected

	<i>S. agarhita</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. akalanka</i> Schmid, 1987	(India) Assam, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. akchepana</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: Zoologisk Museum Bergen	No specimen observed/collected
	<i>S. akilbicha</i> Schmid, 1987	(India) Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. akunchita</i> Schmid, 1987	(India) Tamil Nadu, Kerala-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. akutila</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. akutsita</i> Schmid, 1987	(India) Assam, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. alampata</i> Schmid, 1987	(India) Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. alukcha</i> Schmid, 1987	(India) Uttarakhand (Reshikesh)-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. antardhana</i> Schmid, 1987	(India) Assam, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. aparimeya</i> Schmid, 1987	(India) Assam, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. apinchanga</i> Schmid, 1987	(India) Meghalaya, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. apitayati</i> Schmid, 1987	(India) Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected

	<i>S. argentiferus</i> McLachlan, 1871	(India) Bihar, Meghalaya, Manipur-based on McLachlan, 1871	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. asadharana</i> Schmid, 1987	(India) Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. asammuaddha</i> Schmid, 1987	(India) Kerala, Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. atiguna</i> Schmid, 1987	(India) Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. atiloma</i> Schmid, 1987	(India) Karnataka- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. atipunya</i> Schmid, 1987	(India) Karnataka- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. atisubhaga</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. atitejas</i> Schmid, 1987	(India) Mizoram- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. atymanjula</i> Schmid, 1987	(India) Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. atyutkata</i> Schmid, 1987	(India) Uttarakhand- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. bhimachringa</i> Schmid, 1987	(India) Maharashtra, Kerala, Karnataka- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. chandrakita</i> Schmid, 1987	(India) Assam, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. chandravarana</i> Schmid, 1987	(India) Meghalaya, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. chubhamyu</i> Schmid, 1987	(India) Tamil Nadu, Kerala- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected

	<i>S. dantavarna</i> Schmid, 1987	(India) Karnataka, Tamil Nadu, Kerala, Maharashtra- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. dhanavridha</i> Schmid, 1987	(India) Uttarakhand, Arunachal Pradesh, Sikkim- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. dhanika</i> Schmid, 1987	(India) Uttarakhand (Ampata)-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. divyarupa</i> Schmid, 1987	(India) Assam, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. ekachringa</i> Schmid, 1987	(India) Karnataka, Sangapalipam- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. ekapita</i> Schmid, 1987	(India) Kerala- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. furcatus</i> Navas, 1932	(India) Maharashtra- based on Navas, 1932	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. fluvialis</i> , Kimmins 1936	(India) Uttarakhand, Assam, Kerala, Mumbai-based on Kimmins 1936	Holotype: BNHM, London	No specimen observed/collected
	<i>S. gaurichachringa</i> Schmid, 1987	(India) Kerala- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. gherni</i> Schmid, 1987	(India) Assam, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. gobindghati</i> Schmid 1987	(India) Uttaranchal- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. guptapara</i> Malicky, 1979	(India) Andaman Islands-based on Malicky, 1979	H Malicky Collection	No specimen observed/collected

	<i>S. gutika</i> Schmid, 1987	(India) Assam, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. gutividdha</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. himaruna</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. jatisampanna</i> Schmid, 1987	(India) Kerala-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. kadrava</i> Schmid, 1987	(India) Meghalaya, Manipur, Mizoram, Uttarakhand (Tehri Garhwal)-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. kalyana</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. kantyamrita</i> Schmid, 1987	(India) Assam and Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. kapchajalaja</i> Schmid, 1987	(India) Kerala, Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. khechara</i> Schmid, 1987	Assam, Manipur (Phaiphengmun)-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. kumara</i> Schmid, 1987	(India) Assam, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. lineatus</i> Banks, 1913	(India) Bihar, Meghalaya, Manipur, Madhya Pradesh, Karnataka-based on Banks, 1913	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. madhuvarna</i> Schmid, 1987	(India) Kerala, Karnataka, Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected

	<i>S. mahabichu</i> Schmid, 1987	(India) Meghalaya, Manipur, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. manimekhala</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. manivridha</i> Schmid, 1987	(India) Assam, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. mauktikavridha</i> Schmid, 1987	(India) Assam, Meghalaya, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. meghavarna</i> Schmid, 1987	(India) Karnataka- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. monicae</i> Schmid, 1987	(India) Karnataka- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. navanita</i> Schmid, 1987	(India) Assam, Meghalaya-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. nirmala</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. nyuna</i> Schmid, 1987	(India) Karnataka- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. pandara</i> Schmid, 1987	(India) Uttarakhand- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. paribhuchita</i> Schmid, 1987	(India) Arunachal Pradesh, Assam- based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. parichkrita</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. parilaghu</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. parisamchuddha</i> Schmid, 1987	(India) Maharashtra, Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected



	<i>S. prabhatajalaja</i> Schmid, 1987	(India) Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. pratachandradynti</i> Schmid, 1987	(India) Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. priyadarcha</i> Schmid, 1987	(India) Uttarakhand-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. puchkaraja</i> Schmid, 1987	(India) Assam (Khasi Hills)-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. puruchringa</i> Schmid, 1987	(India) Assam (United Jainta and Khasi Hills)-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. sachrika</i> Schmid, 1987	(India) Assam, Mizoram, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. samphulla</i> Schmid, 1987	(India) Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. samprabhinna</i> Schmid, 1987	(India) Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. sarvapunya</i> Schmid, 1987	(India) Kerala-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. satichaya</i> Schmid, 1987	(India) Uttarakhand-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. savibhrama</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. sternalis</i> Martynov, 1936	(India) Madhya Pradesh-based on Martynov, 1936	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. subhachita</i> Schmid, 1987	(India) Kerala (Kolattupuzha)-based on Schmid, 1987 Geographic	Holotype: ROM, Canada	No specimen observed/collected

	<i>S. sucharu</i> Schmid, 1987	(India) Meghalaya, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. supattra</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. tchaturdanta</i> Schmid, 1987	(India) Sikkim-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. tejasvin</i> Schmid, 1987	(India) Maharashtra, Madhya Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. tenuifalcatus</i> Martynov, 1936	(India) Madhya Pradesh, Maharashtra, Kerala-based on Martynov, 1936	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. tilakita</i> Schmid, 1987	(India) Uttarakhand, Himachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. tridanta</i> Schmid, 1987	(India) Assam, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. trikantayudha</i> Schmid, 1987	(India) Karnataka, Kerala-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. uchita</i> Schmid, 1987	(India) Meghalaya, Arunachal Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. uddharcha</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. udghona</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>S. uttamavarna</i> Schmid, 1987	(India) Tamil Nadu, Kerala, Sangalipalam-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected

		<i>S. vichitrita</i> Schmid, 1987	(India) Tamil Nadu-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>S. viridellus</i> Navas, 1932	(India) Maharashtra-based on Navas, 1932	Holotype: ROM, Canada	No specimen observed/collected
		<i>S. vitanka</i> Schmid, 1987	(India) Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>S. vratachakora</i> Schmid, 1987	(India) Kerala, Tamil Nadu, Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>S. yatharupa</i> Schmid, 1987	(India) Sikkim-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>Trichosetodes</i> Ulmer, 1915	<i>T. angustipennis</i> Martynov, 1936	(India) Madhya Pradesh-based on Martynov, 1936	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. atibhadrata</i> Schmid, 1987	(India) Assam, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. atichayana</i> Schmid, 1987	(India) Meghalaya, Manipur-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. atidhanin</i> Schmid, 1987	(India) West Bengal, Uttarakhand, Sikkim-based on Schmid, 1987	Holotype: ROM, Canada	Himachal Pradesh, Bhasunag, 2350m, 27-v-1998, Sikkim, Gangtok, 1700m, 17-v-1999, Singhtam, 1400m, 23-v-1999, Ranipool, 1400m, 24-v-1999.
		<i>T. atiharin</i> Schmid, 1987	(India) Maharashtra, Mumbai-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. atiramaniya</i> Schmid, 1987	(India) Meghalaya, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. atirupa</i> Schmid, 1987	(India) Meghalaya, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected

		<i>T. atisudhara</i> Schmid, 1987	(India) Meghalaya, Manipur, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. atisukchma</i> Schmid, 1987	(India) Madhya Pradesh-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. atisukha</i> Schmid, 1987	(India) Meghalaya, Mizoram-based on Schmid, 1987	Holotype: ROM, Canada	Arunachal Pradesh, Bomdila, 2800m, 10-ix-1999. Coll. M. S Saini
		<i>T. compositus</i> Martynov, 1936	(India) Bihar-based on Martynov, 1936	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. damchtragada</i> Schmid, 1987	(India) Kerala, Karnataka-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. karapatradhara</i> Schmid, 1987	(India) Karnataka, Tamil Nadu, Mumbai-based on Schmid, 1987	Holotype: ROM, Canada	No specimen observed/collected
	<i>Adicella</i> McLachlan, 1877	<i>A. acte</i> Schmid, 1994	(India) Uttaranchal, Almora-based on Schmid, 1994	Holotype: ROM (Royal Ontario Museum) Canada	Uttaranchal, Almora, 2500m, 18-vi-1998, Rana Chatti, 2400m, 4-x-1999, Joshimath, 2200m, 30-vi-2000
		<i>A. aglae</i> Schmid, 1994	(India) Tamil Nadu-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. alcyo</i> Schmid, 1994	(India) Assam, Meghalaya-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected.
		<i>A. athys</i> Schmid, 1994	(India) Arunachal Pradesh -based on Schmid, 1994	Holotype: ROM, Canada	Arunachal Pradesh, Dirang, 1500m, 4-ix-1999. Coll. M. S Saini
		<i>A. bifasciata</i> Kimmins, 1963	(India) Tamil Nadu-based on Kimmins, 1963	Holotype: BMNH (British Museum of Natural History)	No specimen observed/collected
		<i>A. biramosa</i> Martynov, 1936	(India) Assam-based on Martynov, 1936	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. castanea</i> Kimmins, 1963	(India) Meghalaya-based on Kimmins, 1963	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. chloe</i> Schmid, 1994	(India) Assam-based on Schmid,	Holotype: ROM, Canada	No specimen observed/collected

			1994		
		<i>A. clelia</i> Schmid, 1994	(India) Madras-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. clio</i> Schmid, 1994	(India) Mysore-based on Schmid, 1994 Geographic	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. clotho</i> Schmid, 1994	(India) Madras-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. core</i> Schmid, 1994	(India) Assam-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. danae</i> Schmid, 1994	(India) Madras-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. daphne</i> Schmid, 1994	(India) Arunachal Pradesh, Assam-based on Schmid, 1994	Holotype: ROM, Canada	Arunachal Pradesh, Dirang, 1500m, 4-ix-1999. Coll. M. S. Saini
		<i>A. dicte</i> Schmid, 1994	(India) Assam, Meghalaya-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. dirce</i> Schmid, 1994	(India) Sikkim-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. dryas</i> Schmid, 1994	(India) Arunachal Pradesh, Assam-based on Schmid, 1994	Holotype: ROM, Canada	Arunachal Pradesh, Dirang, 1500m, 4-ix-1999, Assam, Tezpur, 1500m, 11-ix-1999. Coll. M. S. Saini
		<i>A. dryope</i> Schmid, 1994	(India) Assam, Manipur-based on Schmid, 1994	Holotype: ROM, Canada	Assam, Tezpur, 1500m, 11-ix-1999. Coll. M. S. Saini
		<i>A. eloa</i> Schmid, 1994	India: Sikkim-based on Schmid, 1994	Holotype: ROM, Canada	Sikkim, Gangtok, 1700m, 17-iv-1999, Gangtok, 1700m, 16-iv-2000, Coll. J. Singh.
		<i>A. enone</i> Schmid, 1994	India: Sikkim-based on Schmid, 1994	Holotype: ROM, Canada	Sikkim, Chungthang, 1800m, 20-iv-1999, Chungthang, 1800m, 21-ix-2000, Coll. J. Singh, Dikchu, 1550m, 22-v-1999

	<i>A. erato</i> Schmid, 1994	(India) Arunachal Pradesh-based on Schmid, 1994	Holotype: ROM, Canada	Arunachal Pradesh, Bomdila, 2800m, 6-v-1998, coll. R.P Saini, Bomdila, 2800m, 8-ix-1999
	<i>A. eryx</i> Schmid, 1994	(India) Arunachal Pradesh -based on Schmid, 1994	Holotype: ROM, Canada	Arunachal Pradesh, Dirang, 1500m, 3-ix-1999, Dirang, 1500m, 4-ix-1999, Foot Hill Camp, 2515m, 5-ix-1999. M. S Saini
	<i>A. eunoia</i> Schmid, 1994	(India) Assam-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>A. euphrosyne</i> Schmid, 1994	(India) Sikkim-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>A. euryale</i> Schmid, 1994	(India) Assam, Meghalaya-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>A. eurynoe</i> Schmid, 1994	(India) Assam, Manipur-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>A. eurynome</i> Schmid, 1994	(India) Assam, Meghalaya-based on Schmid, 1994 Geographic	Holotype: ROM, Canada	No specimen observed/collected
	<i>A. euryppyle</i> Schmid, 1994	(India) Assam, Manipur-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>A. eurysthene</i> Schmid, 1994	(India) Assam-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected.
	<i>A. eurythemiste</i> Schmid, 1994	(India) Assam, Manipur-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>A. evadne</i> Schmid, 1994	(India) Arunachal Pradesh -based on Schmid, 1994	Holotype: ROM, Canada	Arunachal Pradesh, Bomdila, 2800m, 7-ix-1999, Bomdila, 2800m, 10-ix-1999.M. S Saini
	<i>A. evohe</i> Schmid, 1994	(India) Sikkim-based on Schmid, 1994	Holotype: ROM, Canada	Sikkim, Lachung, 2600m, 21-v-1999, Gangtok, 1770m, 5-vi-2000
	<i>A. fulva</i> Kimmins, 1963	(India) Meghalaya-based on Kimmins, 1963	Holotype: BMNH	No specimen observed/collected
	<i>A. hebe</i> Schmid, 1994	(India) Assam-based on Schmid,	Holotype: ROM, Canada	No specimen observed/collected

			1994		
		<i>A. lais</i> Schmid, 1994	(India) Assam-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. lampito</i> Schmid, 1994	(India) Assam-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. leda</i> Schmid, 1994	(India) Assam, Meghalaya-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. leto</i> Schmid, 1994	(India) Assam-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. maculata</i> Kimmins, 1963	(India) Assam, Meghalaya-based on Kimmins, 1963	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. myrtho</i> Schmid, 1994	(India) Sikkim-based on Schmid, 1994	Holotype: ROM, Canada	Sikkim, Lachung, 2600m, 21-v-1999. Coll. M. S Saini
		<i>A. niobe</i> Schmid, 1994	(India) Arunachal Pradesh -based on Schmid, 1994	Holotype: ROM, Canada	Himachal Pradesh, Panchpulla, 2200m, 24-ix-1997, Khajjar, 1851m, 26-ix-1997, Uttranchal, Badrinath, 3096m, 29-vi-2000. Coll. M. S Saini
		<i>A. nyse</i> Schmid, 1994	(India) Sikkim-based on Schmid, 1994	Holotype: ROM, Canada	Sikkim, Namprikdang, 1800m, 18-v-1999, Singhtam, 1800m, 19-v-1999. Coll. M. S Saini
		<i>A. phoebe</i> Schmid, 1994	(India) Assam-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. phyrne</i> Schmid, 1994	(India) Arunachal Pradesh, Assam, Meghalaya-based on Schmid, 1994	Holotype: ROM, Canada	Arunachal Pradesh, Dirang, 1500m, 3-ix-1999, Dirang, 1500m, 4-ix-1999. Coll. M. S Saini
		<i>A. starmuehlneri</i> Malicky, 1979	(India) Assam-based on Malicky, 1979	Holotype: ROM, Canada	No specimen observed/collected
		<i>A. thais</i> Schmid, 1994	(India) Arunachal Pradesh -based on Schmid, 1994	Holotype: ROM, Canada	Arunachal Pradesh, Dirang, 1500m, 3-ix-1999, Dirang, 1500m, 4-ix-1999. M. S Saini

	<i>A. thalie</i> Schmid, 1994	(India) Arunachal Pradesh, Assam-based on Schmid, 1994	Holotype: ROM, Canada	Arunachal Pradesh, Bomdila, 2800m, 8-ix-1999, Bomdila, 2800m, 9-ix-1999, Bomdila, 2800m, 10-ix-1999. M. S Saini
<i>Triaenodes</i> McLachlan, 1865	<i>T. eximius</i> Schmid, 1994	(India) Mysore-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>T. fantasio</i> Schmid, 1994	(India) Uttarakhand-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>T. fortunio</i> Schmid, 1994	(India) Assam, Meghalaya-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>T. indicus</i> Martynov, 1936	(India) Meghalaya-based on Martynov, 1936	Holotype: ROM, Canada	No specimen observed/collected
	<i>T. trivulcio</i> Schmid, 1994	(India) Assam, Manipur-based on Schmid, 1994	Holotype: ROM, Canada	No specimen observed/collected
	<i>T. teuthras</i> Malicky, 2005	(India) Assam-based on Malicky, 2005	Holotype: H Malicky Collection	No specimen observed/collected
	<i>T. internus</i> McLachlan 1875	(India) Jammu and Kashmir-based on McLachlan 1875	Type deposition: Unknown	No specimen observed/collected
<i>Poecilopsych</i> e Schmid, 1968	<i>P. arjuna</i> Schmid, 1968	(India) Meghalaya-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
	<i>P. bagha</i> Schmid, 1968	(India) Arunachal Pradesh, Sikkim-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
	<i>P. bhimasena</i> Schmid, 1968	(India) Sikkim-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
	<i>P. dhristadyumna</i> Schmid, 1968	(India) Manipur-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
	<i>P. dhritarashtra</i> Schmid, 1968	(India) Meghalaya-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
	<i>P. draupadi</i> Schmid, 1968	(India) West Bengal-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected



		<i>P. duhchamana</i> Schmid, 1968	(India) Sikkim, Manipur-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
		<i>P. durhyodhana</i> Schmid, 1968	(India) Manipur-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
		<i>P. nakula</i> Schmid, 1968	(India) Arunachal-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
		<i>P. nasatya</i> Schmid, 1968	(India) Arunachal Pradesh-based on Schmid, 1968	Holotype: ROM, Canada	Arunachal Pradesh, Dirang, 1500m, 4-ix-1999. M. S Saini
		<i>P. pandava</i> Schmid, 1968	(India) Sikkim-based on Schmid, 1968	Holotype: ROM, Canada	Sikkim, Chungthang, 1800m, 20-v-1999, Gangtok, 1700m, 25-v-1999. Coll. M. S Saini
		<i>P. pandu</i> Schmid, 1968	(India) Arunachal Pradesh-based on Schmid, 1968	Holotype: ROM, Canada	Arunachal Pradesh, Dirang, 1500m, 3-ix-1999. M. S Saini
		<i>P. sahadeva</i> Schmid, 1968	(India) Arunachal Pradesh-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
		<i>P. suyodhana</i> Schmid, 1968	(India) Sikkim-based on Schmid, 1968	Holotype: ROM, Canada	Arunachal Pradesh, 1510m, 5-v-1999. M. S Saini
		<i>P. vayu</i> Schmid, 1968	(India) Arunachal Pradesh-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
		<i>P. vidura</i> Schmid, 1968	(India) Arunachal Pradesh-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
		<i>P. yudhishthira</i> Schmid, 1968	(India) Arunachal Pradesh-based on Schmid, 1968	Holotype: ROM, Canada	No specimen observed/collected
	<i>Triplectides</i> Kolenati, 1859	<i>T. indicus</i> (Walker, 1852)	(India) West Bengal, Bihar, Orissa-based on (Walker, 1852)	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. viviparus</i> (Wood-Mason, 1890)	(India) West Bengal-based on (Wood-Mason, 1890)	Holotype: ROM, Canada	No specimen observed/collected
		<i>T. gilolensis</i> McLachlan 1866	(India) North Bengal-based on McLachlan 1866	Holotype: ROM, Canada	No specimen observed/collected

## DISCUSSION

From the checklist, it is evident that family Leptoceridae is one of the largest specious family in India distributed both along the high altitude regions of Himalaya and along low lying areas of Deccan Peninsula. Based on extensive surveys, collections and previous published literature, this family in India is represented by 13 genera with 303 species. Based on the biogeographic regions of India, 190 species of Leptoceridae are found in Himalayan region, 62 species in Deccan Peninsula, 08 species in Gangetic Plains, 37 species in western Ghats and 06 species in Islands. The order Trichoptera is one of largest freshwater insect order with more than 16000 extant species worldwide and plays a major role in aquatic food chain ecosystem (Parey, 2015). Caddisflies are excellent bioindicators due to their tendency to reflect the surrounding abiotic environment and the changes that occur over time to that specific habitat (Allan and Castillo, 2007). As per Schmid (1984) who made an outstanding contribution to the systematics of Indian caddisflies, there are more than 4000 species of Trichoptera awaiting their discovery in India and so far only 1300 species are on record from India. According to Morse (2003), India records highest density of species per unit area i.e. 1.6 species/Kilohectare.

## CONCLUSION

Majority of the species of Leptoceridae are recorded from the Himalayan belt followed Deccan Peninsula, Western Ghats, Gangetic Plains and Island respectively. As Himalayan region has diverse fresh water aquatic ecosystems (Lotic and lentic) and rich flora that provide caddisflies the required habitat for their growth and survival and

hence a rich diversity within the Himalayan belt is reported in "Long Horned caddisflies".

Because of the inadequate surveys in India most of the species have not been collected from Western Ghats, Gangetic plains and Islands respectively which show a huge scope for researchers in India to take up this group for morphological, ecological and phylogenetic studies.

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