



## Research Article

# Annotated checklist of chalcidid (Hymenoptera: Chalcididae) fauna of the Chhattisgarh region

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**ABSTRACT:** Chalcidid wasps are a diverse group of insects belonging to the order Hymenoptera and family Chalcididae. They are natural biocontrol agents for many agricultural and forestry pests. The present study was undertaken from 2021 to 2023. The objective of this study was to document the Chalcididae diversity from the Chhattisgarh region. Based on this study, the first checklist of chalcidid wasps from Chhattisgarh state is prepared. In total, 71 species of chalcidid wasps were collected from 11 genera falling under four subfamilies. The chalcidid wasps identified belonged to the subfamilies, Chalcidinae, Dirhininae, Epitraninae and Haltichellinae of which, subfamily Haltichellinae was found to be most predominant. The results of this preliminary study shed light on the hidden biodiversity of chalcidid wasps.

**KEYWORDS:** Checklist, diversity, Hymenoptera, Chalcididae, Chalcidid wasps

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## ABBREVIATIONS

Tamor P. WLS – Tamor Pingla Wildlife Sanctuary

Badalkhol WLS – Badalkhol Wildlife Sanctuary

KVK, Balrampur – Krishi Vigyan Kendra, Balrampur

RMDCARS – RajMohini Devi College of Agriculture and Research Station, Ambikapur

KVK, Ambkp. – Krishi Vigyan Kendra, Ambikapur

KVK, Mainpat – Krishi Vigyan Kendra, Mainpat

ATR – Achanakmar Tiger Reserve

Bar WLS – Barnawapara Wildlife Sanctuary

Bhoramdeo WLS – Bhoramdev Wildlife Sanctuary

BTCCARS – Barrister Thakur Chhedilal College of Agriculture and Research Station

Gomarda WLS – Gomarda Wildlife Sanctuary

Udanti Sitanadi TR – Udanti Sitanadi Tiger Reserve

CoA, Raipur – College of Agriculture, Raipur

Organic Farm, Jdp. – Organic farm, Jagdalpur

KVK, Durg – Krishi Vigyan Kendra, Durg

CoA, Kanker – RamPrasad Potai College of Agriculture and Research Station, Kanker

KV NP, Jdp. – Kanger Valley National Park, Jagdalpur

SGCARS, Jdp. – Shaheed Gundadhur College of Agriculture and Research Station, Jagdalpur

## INTRODUCTION

Chalcidid wasps belonging to the family Chalcididae which encompasses a group of parasitic wasps that are natural biological control agents of many agricultural pests. Most species of chalcidids are solitary or weakly gregarious and they parasitize species of Lepidoptera, Coleoptera, Diptera, Neuroptera, Orthoptera, Strepsiptera, and occasionally on Hymenoptera (Narendran & van Achterberg, 2016). To mention a few, *Dirhinus* attacks Diptera (Bouček & Narendran,

1981); *Lasiochalcidia* attacks antlion larvae (Nikol'skaya, 1978, Bouček 1988; Noyes, 2019); *Phasgonophora* and *Cratocentrus* attack wood-boring beetles (Haack *et al.*, 1981); *Smicromorpha* attacks weaver ants (Robert *et al.*, 2022) and *Uga* parasitizes epilachnine beetles (Kaur & Mavi, 2002). Currently, 1,464 species of chalcidid wasps are reported from all over the world. In India, the family is represented by five subfamilies namely Chalcidinae, Dirhininae, Epitraninae, Haltichellinae and Smicromorphinae.

The major taxonomic studies of chalcidid wasps in India were done by Narendran (1989) followed by Binoy *et al.* (2021) in which 241 Chalcididae species belonging to five subfamilies were listed. Recently from Goa state, 26 species of Chalcididae fauna belonging to 11 genera under four subfamilies were recorded (Gawas & Gupta, 2024) and initially Alisha *et al.* (2020) reported five genera namely *Antrocephalus* Kirby, *Hockeria* Walker, *Brachymeria* Westwood, *Dirhinus* Dalman and *Epitranus* Walker under four subfamilies of Chalcididae family from Chhattisgarh.

The present checklist was prepared based on fresh field-collected specimens and museum collections supported by the following literature mainly Joseph *et al.* (1973), Bouček and Narendran (1981), Narendran (1989), Narendran and van Achterberg (2016), Gupta (2022) and Binoy *et al.* (2021). A total of seventy-two species belonging to four subfamilies and eleven genera were collected from Chhattisgarh.

## MATERIALS AND METHODS

### Ethics statement

Chalcidid wasp specimens were collected from the Agriculture College farms, KVKs, Wildlife Sanctuaries and National Park, etc. Permission to collect samples was accorded from the Office of the Principal Chief Conservator of Forests (Wildlife Management and Bio-diversity Conservation cum-Chief Wildlife Warden) Chhattisgarh via letter no. 4369 and 806, dated 30/11/2021 and 17/02/2023, respectively. Additionally, permission was taken from the Deans and Senior Scientists of colleges and KVKs, respectively for sampling insects from their respective institute farms. Chalcidid wasps (Hymenoptera: Chalcididae) do not come under the Wildlife Protection Act of 1972 and therefore are not legally protected in India.

### Study area

The study was conducted in the different agroclimatic zones of Chhattisgarh, India. It is located at 17°46'N to 24°5'N latitude and 80°15'E to 84°20'E longitude with an elevation of 200 to 1276 meters above mean sea level. Chhattisgarh has a tropical, hot and humid climate with an average annual rainfall of 1200–1600 mm and annual mean temperature ranges between 23–33°C.

Extensive surveys were undertaken from August 2021 to August 2023 in three agroclimatic zones of Chhattisgarh state to document the chalcidid wasps (Figure 1). Sweep net and Yellow Pan Traps were used to collect the samples. About 100 yellow-coloured plastic bowls of 8.5” diameter and 3” depth were placed at each study site for at least a week. Yellow pan traps were filled with water solution mixed with liquid detergent. Traps were attended every alternate

day; specimens were collected using a sieve and traps were refilled with a fresh water solution. Specimens were preserved in small containers using 70% ethyl alcohol.

Collected chalcidid wasp specimens were mounted on acid-free cards and the extra specimens were wet preserved in 70% ethyl alcohol. The specimens were sorted, processed, examined and deposited at the National Insect Museum of ICAR - National Bureau of Agricultural Insect Resources in Bengaluru, India. All the specimens collected were identified up to species level following keys: Bouček and Narendran (1981), Narendran (1989) and Narendran and van Achterberg (2016) using a Leica MZ16A stereo-zoom microscope.

## RESULTS AND DISCUSSION

Checklist of Chalcididae wasps (Hymenoptera: Chalcidoidea) from Chhattisgarh state. Table 1 represents the distribution.

Order: Hymenoptera

Superfamily: Chalcidoidea

Family: Chalcididae

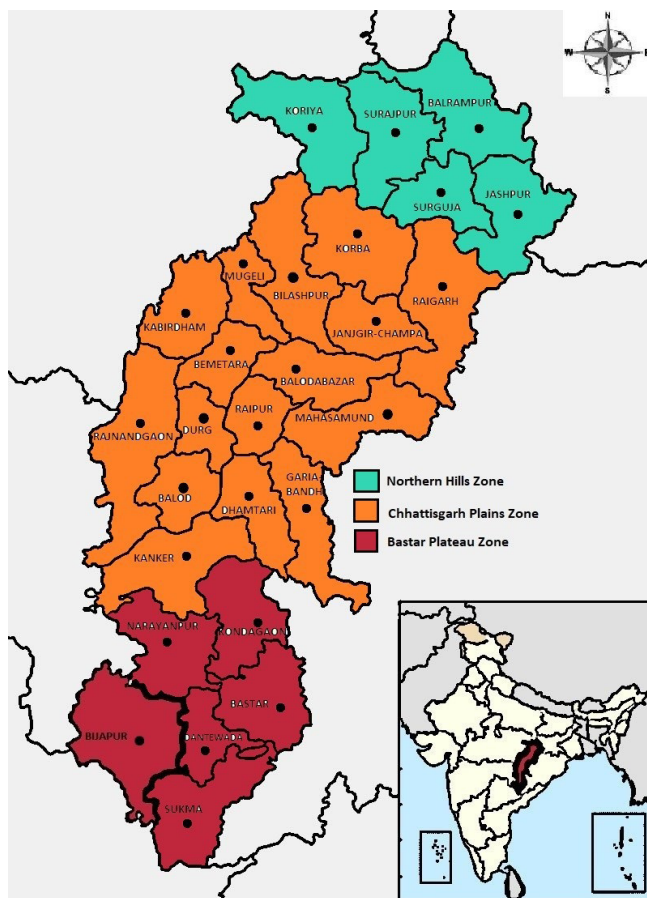


Figure 1. Map showing three different agro-climatic zones of Chhattisgarh.

**Table 1.** Annotated checklist of Chalcididae species of the Chhattisgarh state

Subfamily	Species	Study area in Chhattisgarh
Chalcidinae	<i>Brachymeria apicornis</i> Cameron, 1911*	1, 6, 10, 19
	<i>Brachymeria banksi</i> Ashmead, 1905*	3, 13, 14, 15, 16
	<i>Brachymeria bengalensis</i> Cameron, 1897*	19, 20, 21
	<i>Brachymeria burksi</i> Chhotani, 1966*	9, 12
	<i>Brachymeria euploea</i> Westwood, 1837*	3, 7, 8, 10
	<i>Brachymeria fulvitaris</i> Cameron, 1906*	14
	<i>Brachymeria hattoriae</i> Habu, 1961*	20
	<i>Brachymeria jambolana</i> Gahan, 1942*	9, 16, 20
	<i>Brachymeria jayaraji</i> Joseph, Narendran and Joy, 1972*	21
	<i>Brachymeria lugubris</i> Walker, 1871*	4
	<i>Brachymeria manjerica</i> Narendran, 1989*	16
	<i>Brachymeria megaspila</i> Cameron, 1907*	14, 19
	<i>Brachymeria nephantidis</i> Gahan, 1930*	14, 16
	<i>Brachymeria podagrica</i> Fabricius, 1787*	1
	<i>Brachymeria rufescens</i> Cameron, 1906*	14
<i>Brachymeria wiebsina</i> Joseph, Narendran and Joy, 1972*	14	
Dirhininae	<i>Dirhinus anthracia</i> Walker, 1846*	1, 4, 6, 9, 10, 13, 14, 16, 19
	<i>Dirhinus auratus</i> Ashmead, 1905*	4, 7, 10, 12, 14, 15, 16, 19, 21
	<i>Dirhinus bakeri</i> Crawford, 1915*	14
	<i>Dirhinus banksi</i> Rohwer, 1923*	14
	<i>Dirhinus claviger</i> Bouček and Narendran, 1981*	3, 4, 7, 13, 14
	<i>Dirhinus deplanatus</i> Bouček and Narendran, 1981*	2
	<i>Dirhinus himalayanus</i> Westwood, 1836*	2, 4, 7, 11, 12, 14, 16, 17
	<i>Eniacomorpha madagascariensis</i> Masi, 1947*	12, 16
Epitraninae	<i>Epitranus albipennis</i> Walker, 1874*	9
	<i>Epitranus crassicornis</i> Bouček, 1982*	12
	<i>Epitranus elongatulus</i> Motschulsky, 1863*	14
	<i>Epitranus erythrogaster</i> Cameron, 1888*	1, 4, 12, 14, 19
	<i>Epitranus indicus</i> Husain and Agarwal, 1982*	14
Haltichellinae	<i>Antrocephalus cariniaspis</i> Cameron, 1911*	16
	<i>Antrocephalus cariniceps</i> Cameron, 1911*	2, 4, 5, 6, 9, 10, 13, 14, 16, 17
	<i>Antrocephalus dividens</i> Walker, 1860*	14
	<i>Antrocephalus hakonensis</i> Ashmead, 1904*	14
	<i>Antrocephalus indicus</i> Husain and Agarwal, 1982*	13
	<i>Antrocephalus japonicus</i> Masi, 1936*	1, 14, 15, 16, 19, 21
	<i>Antrocephalus maculipennis</i> Cameron, 1905*	14
	<i>Antrocephalus nasutus</i> Holmgren, 1868*	9
	<i>Antrocephalus niger</i> Masi, 1929*	4, 6, 8, 10, 14, 16
	<i>Antrocephalus peechiensis</i> Narendran, 1989*	1
	<i>Antrocephalus phaeospilus</i> Waterston, 1922*	1, 8, 9, 14, 15, 16
	<i>Antrocephalus sepyra</i> Walker, 1846*	10, 12, 13, 14, 16, 17
	<i>Antrocephalus validicornis</i> Holmgren, 1868*	1, 8, 9, 10, 13, 14, 16, 17
	<i>Haltichella clavicornis</i> Ashmead, 1904*	9, 16
	<i>Haltichella delhensis</i> Roy and Farooqi, 1984*	10, 14, 18
<i>Haltichella luzonica</i> Narendran, 1989*	3, 9, 10, 12, 14, 16, 18, 21	

Subfamily	Species	Study area in Chhattisgarh
	<i>Haltichella macrocera</i> Waterston, 1922*	9
	<i>Hockeria ammioshimensis</i> Habu, 1960*	14
	<i>Hockeria anupama</i> Narendran, 1989*	3
	<i>Hockeria assamensis</i> Narendran, 1989*	1, 7, 8, 12, 13, 14, 16, 21
	<i>Hockeria atra</i> Masi, 1929*	8
	<i>Hockeria bifasciata</i> Walker, 1834*	13
	<i>Hockeria guptai</i> Narendran, 1989*	14
	<i>Hockeria hayati</i> Narendran, 1989*	4
	<i>Hockeria indica</i> Mani, 1936*	14
	<i>Hockeria menoni</i> Narendran, 1986*	5
	<i>Hockeria polycarinata</i> Narendran, 1989*	9, 10, 12
	<i>Hockeria tristis</i> Strand, 1911*	12
	<i>Kriechbaumerella gibsoni</i> Narendran, 1989*	12
	<i>Kriechbaumerella kraussi</i> Narendran, 1989*	7, 8, 13, 14, 16
	<i>Kriechbaumerella nepalensis</i> Narendran, 1989*	9, 14, 16
	<i>Kriechbaumerella ornatipennis</i> Cameron, 1902*	9, 14, 15, 16, 19
	<i>Kriechbaumerella pulvinata</i> Masi, 1932*	7, 8, 10, 12, 14, 16, 17, 19
	<i>Kriechbaumerella rufimanus</i> Walker, 1860*	4, 7, 8, 10, 12, 14, 16
	<i>Kriechbaumerella titusi</i> Narendran, 1989*	15, 16
	<i>Lasiochalcidia dargelasii</i> Latreille, 1805*	12
	<i>Proconura caryobori</i> Hanna, 1934*	8
	<i>Psilochalcis adhara</i> Narendran, 1989*	9
	<i>Psilochalcis carinigena</i> Cameron, 1907*	4, 9, 10, 14, 15
	<i>Psilochalcis crassicornis</i> Masi, 1929*	1
	<i>Psilochalcis soudanensis</i> Steffan, 1951*	8, 9, 13
	<i>Psilochalcis subarmata</i> Foerster, 1855*	1, 2, 4, 14

\*New record from Chhattisgarh, India, 1-Tamor P. WLS, 2-Badalkhol WLS, 3-KVK, Balrampur, 4-RMDCARS, 5-KVK, Ambkp., 6-KVK, Mainpat, 7-ATR, 8-Bar WLS, 9-Bhoramdeo WLS, 10-BTCCARS, 11-Gomarda WLS, 12-Udanti Sitanadi TR, 13-Devpahari, Korba, 14-Mowa, Raipur, 15-Dongargarh grassland, 16-CoA, Raipur, 17-Organic Farm, Jdp, 18-KVK, Durg, 19-CoA, Kanker, 20-KV NP, Jdp, 21-SGCARS, Jdp

Subfamily: Chalcidinae Latreille, 1817

Genus: *Brachymeria* Westwood, 1829

• ***Brachymeria apicornis* Cameron, 1911**

*Distribution:* India: Bihar, Chhattisgarh (new record), Karnataka, Kerala and Tamil Nadu. Elsewhere: Indonesia and Malaysia.

• ***Brachymeria banksi* Ashmead, 1905**

*Distribution:* India: Chhattisgarh (new record), Kerala. Elsewhere: Philippines.

• ***Brachymeria bengalensis* Cameron, 1897**

*Distribution:* India: Assam, Chhattisgarh (new record), Delhi, Goa, Karnataka; Kerala, Rajasthan, Uttar Pradesh and West Bengal. Elsewhere: Indonesia, Japan, Laos, Malaysia,

Papua New Guinea, Philippines, Taiwan, Thailand and Vietnam.

• ***Brachymeria burksi* Chhotani, 1966**

*Distribution:* India: Chhattisgarh (new record), Kerala and West Bengal.

• ***Brachymeria euploea* Westwood, 1837**

*Distribution:* India: Andaman and Nicobar Islands, Arunachal Pradesh, Bihar, Chhattisgarh (new record), Goa, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Manipur, Mizoram, Nagaland, Odisha, Punjab, Tamil Nadu, Tripura, Uttar Pradesh, Uttarakhand and West Bengal. Elsewhere: Australia, Borneo, China, Indonesia, Japan, Korea, Malaysia, Myanmar, Papua New Guinea, Philippines, Sri Lanka, Taiwan, Thailand, United States of America and Vietnam.

- ***Brachymeria fulvitorsis* Cameron, 1906**

*Distribution:* India: Chhattisgarh (new record) and Tamil Nadu. Elsewhere: Pakistan.

- ***Brachymeria hattoriae* Habu, 1961**

*Distribution:* India: Chhattisgarh (new record) and Meghalaya. Elsewhere: Japan.

- ***Brachymeria jambolana* Gahan, 1942**

*Distribution:* India: Chhattisgarh (new record), Goa, Karnataka, Kerala, Meghalaya and Tamil Nadu. Elsewhere: Bangladesh, Indonesia and Vietnam.

- ***Brachymeria jayaraji* Joseph, Narendran and Joy, 1972**

*Distribution:* India: Chhattisgarh (new record), Karnataka and Tamil Nadu.

- ***Brachymeria lugubris* Walker, 1871**

*Distribution:* India: Andaman and Nicobar Islands, Chhattisgarh (new record), Karnataka, Kerala and Manipur. Elsewhere: Australia, China, Indonesia, Malaysia, Philippines, Taiwan and Vietnam.

- ***Brachymeria manjerica* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record) and Kerala.

- ***Brachymeria measpila* Cameron, 1907**

*Distribution:* India: Andhra Pradesh, Assam, Chhattisgarh (new record), Goa, Kerala, Madhya Pradesh and Tamil Nadu. Elsewhere: Australia, China, Indonesia, Malaysia, Papua New Guinea and Sri Lanka.

- ***Brachymeria nepantidis* Gahan, 1930**

*Distribution:* India: Andhra Pradesh, Chhattisgarh (new record), Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu and West Bengal. Elsewhere: Sri Lanka.

- ***Brachymeria podagrica* Fabricius, 1787**

*Distribution:* India: Andaman and Nicobar Islands, Bihar, Chhattisgarh (new record), Karnataka, Kerala, Madhya Pradesh, Sikkim, Tamil Nadu, Tripura and Uttar Pradesh. Elsewhere: Australia, Bangladesh, Borneo, Brazil, Bulgaria, Canada, Caucasus, China, Croatia, Cyprus, Czechoslovakia,

Democratic Republic of Congo, Egypt, France, Germany, Haiti, Hungary, Indonesia, Iran, Israel, Italy, Jamaica, Japan, Madagascar, Malaysia, Mauritius, Mexico, Mongolia, Netherlands, Philippines, Romania, Russia, Seychelles, Slovakia, Slovenia, Somalia, South Africa, Spain, Sweden, Thailand, Tunisia, Ukraine, United States of America, Vietnam, Yugoslavia and Zambia.

- ***Brachymeria rufescens* Cameron, 1906**

*Distribution:* India: Chhattisgarh (new record) and Kerala. Elsewhere: Pakistan.

- ***Brachymeria wiebsina* Joseph, Narendran and Joy, 1972**

*Distribution:* India: Bihar, Chhattisgarh (new record) and Kerala. Elsewhere: Malaysia, Philippines, Singapore, Thailand and Vietnam.

### Subfamily Dirhininae Ashmead, 1904

#### Genus *Dirhinus* Dalman, 1818

- ***Dirhinus anthracia* Walker, 1846**

*Distribution:* India: Andaman and Nicobar Islands, Andhra Pradesh, Bihar, Chhattisgarh (new record), Goa, Karnataka, Kerala, Madhya Pradesh, Manipur, Mizoram, Puducherry, Punjab, Tamil Nadu, Tripura and Uttar Pradesh. Elsewhere: Australia, Philippines, South Africa, Taiwan, Vietnam and Zambia.

- ***Dirhinus auratus* Ashmead, 1905**

*Distribution:* India: Andhra Pradesh, Bihar, Chhattisgarh (new record), Delhi, Karnataka, Kerala, Madhya Pradesh, Manipur, Puducherry, Punjab, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere: Laos, Mauritius, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand and Vietnam.

- ***Dirhinus bakeri* Crawford, 1915**

*Distribution:* India: Chhattisgarh (new record), Delhi, Goa, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. Elsewhere: Japan and Philippines.

- ***Dirhinus banksi* Rohwer, 1923**

*Distribution:* India: Chhattisgarh (new record), Kerala and Tamil Nadu. Elsewhere: Indonesia, Japan, Philippines and Sri Lanka.

• ***Dirhinus claviger* Bouček and Narendran, 1981**

*Distribution:* India: Chhattisgarh (new record), Delhi, Karnataka, Kerala, Tamil Nadu and Uttar Pradesh. Elsewhere: Sri Lanka and Vietnam.

• ***Dirhinus deplanatus* Bouček and Narendran, 1981**

*Distribution:* India: Bihar, Chhattisgarh (new record), Delhi, Odisha and Tamil Nadu.

• ***Dirhinus himalayanus* Westwood, 1836**

*Distribution:* India: Chhattisgarh (new record), Karnataka, Kerala, Puducherry, Punjab, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere: Iran, Japan, Malaysia, Pakistan, Philippines, Russia, Thailand and Turkmenistan.

**Genus *Eniacomorpha* Girault, 1915**

• ***Eniacomorpha madagascariensis* Masi, 1947**

*Distribution:* India: Chhattisgarh (new record), Karnataka, Kerala, Tamil Nadu and West Bengal. Elsewhere: Madagascar.

**Subfamily Epitraninae Burks, 1936**

**Genus *Epitranus* Walker, 1834**

• ***Epitranus albipennis* Walker, 1874**

*Distribution:* India: Andhra Pradesh, Chhattisgarh (new record), Delhi, Jammu and Kashmir, Karnataka, Tamil Nadu and Uttar Pradesh. Elsewhere: China, Indonesia, Japan, Malaysia, Taiwan and Vietnam.

• ***Epitranus crassicornis* Bouček, 1982**

*Distribution:* India: Chhattisgarh (new record) and Tripura. Elsewhere: Laos, Malaysia and Vietnam.

• ***Epitranus elongatulus* Motschulsky, 1863**

*Distribution:* India: Chhattisgarh (new record), Delhi, Kerala and Tamil Nadu. Elsewhere: Japan and Sri Lanka.

• ***Epitranus erythrogaster* Cameron, 1888**

*Distribution:* India: Andaman and Nicobar Islands, Bihar, Chhattisgarh (new record), Goa, Karnataka, Kerala, Maharashtra, Manipur, Puducherry, Tamil Nadu, Uttar

Pradesh and West Bengal. Elsewhere: Indonesia, Japan, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand and Vietnam.

• ***Epitranus indicus* Husain and Agarwal, 1982**

*Distribution:* India: Chhattisgarh (new record) and Uttar Pradesh.

**Subfamily Haltichellinae Ashmead, 1904**

**Genus *Antrocephalus* Kirby, 1883**

• ***Antrocephalus cariniaspis* Cameron, 1911**

*Distribution:* India: Chhattisgarh (new record), Goa, Himachal Pradesh, Kerala and Tamil Nadu. Elsewhere: China and Philippines.

• ***Antrocephalus cariniceps* Cameron, 1911**

*Distribution:* India: Chhattisgarh (new record) and Kerala. Elsewhere: Malaysia.

• ***Antrocephalus dividens* Walker, 1860**

*Distribution:* India: Chhattisgarh (new record), Delhi, Goa, Gujarat, Karnataka, Kerala, Maharashtra and Sikkim. Elsewhere: Nepal and Sri Lanka.

• ***Antrocephalus hakonensis* Ashmead, 1904**

*Distribution:* India: Arunachal Pradesh, Chhattisgarh (new record), Karnataka, Kerala, Tamil Nadu, Uttar Pradesh and Uttarakhand. Elsewhere: Belize, Caribbean (including West Indies), Fiji, Japan, Philippines, Saint Lucia, St Vincent and Grenadines, Taiwan, Trinidad and Tobago.

• ***Antrocephalus indicus* Husain and Agarwal, 1982**

*Distribution:* India: Chhattisgarh (new record) and Uttar Pradesh.

• ***Antrocephalus japonicus* Masi, 1936**

*Distribution:* India: Chhattisgarh (new record), Kerala, Tripura and Uttar Pradesh. Elsewhere: Japan and Taiwan.

• ***Antrocephalus maculipennis* Cameron, 1905**

*Distribution:* India: Chhattisgarh (new record) and Kerala. Elsewhere: Malaysia.

• ***Antrocephalus nasutus* Holmgren, 1868**

*Distribution:* India: Chhattisgarh (new record), Goa, Kerala, Odisha, Tamil Nadu and West Bengal. Elsewhere: Indonesia, Malaysia, Papua New Guinea, Philippines, Singapore, Taiwan and Vietnam.

• ***Antrocephalus niger* Masi, 1929**

*Distribution:* India: Chhattisgarh (new record) and Kerala. Elsewhere: Indonesia and Malaysia.

• ***Antrocephalus peechiensis* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record) and Kerala. Elsewhere: Malaysia.

• ***Antrocephalus phaeospilus* Waterston, 1922**

*Distribution:* India: Chhattisgarh (new record), Goa, Kerala and Uttar Pradesh. Elsewhere: Taiwan.

• ***Antrocephalus sepyra* Walker, 1846**

*Distribution:* India: Bihar, Chhattisgarh (new record), Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. Elsewhere: Indonesia, West Papua, Japan, Nepal, Sri Lanka and Vietnam.

• ***Antrocephalus validicornis* Holmgren, 1868**

*Distribution:* India: Chhattisgarh (new record), Goa and Karnataka; Elsewhere: Philippines, Vietnam, Indonesia and Malaysia.

***Genus Haltichella* Spinola, 1811**

• ***Haltichella clavicornis* Ashmead, 1904**

*Distribution:* India: Chhattisgarh (new record), Goa, Kerala, Tamil Nadu and Uttar Pradesh. Elsewhere: Japan, Laos, Malaysia, Nepal, Philippines and Vietnam.

• ***Haltichella delhensis* Roy and Farooqi, 1984**

*Distribution:* India: Chhattisgarh (new record), Delhi, Karnataka and Kerala. Elsewhere: Vietnam.

• ***Haltichella luzonica* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record) and Kerala. Elsewhere: Nepal and Philippines.

• ***Haltichella macrocera* Waterston, 1922**

*Distribution:* India: Chhattisgarh (new record), Kerala, Tamil Nadu and Uttarakhand. Elsewhere: Nepal.

Genus *Hockeria* Walker, 1834

• ***Hockeria ammioshimensis* Habu, 1960**

*Distribution:* India: Chhattisgarh (new record) and Uttar Pradesh. Elsewhere: Japan and Palau.

• ***Hockeria anupama* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record) and Kerala. Elsewhere: Pakistan.

• ***Hockeria assamensis* Narendran, 1989**

*Distribution:* India: Assam and Chhattisgarh (new record).

• ***Hockeria atra* Masi, 1929**

*Distribution:* India: Chhattisgarh (new record), Kerala, Odisha and Uttar Pradesh. Elsewhere: Indonesia and Philippines.

• ***Hockeria bifasciata* Walker, 1834**

*Distribution:* India: Andaman and Nicobar Islands, Chhattisgarh (new record), Kerala. Elsewhere: Algeria, Austria, Canary Islands, Croatia, Czech Republic, France, Greece, Hungary, Italy, Japan, Lebanon, Montenegro, Slovakia, Slovenia, Spain, Sweden, Turkey and Yugoslavia.

• ***Hockeria guptai* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record), Tripura and West Bengal. Elsewhere: Malaysia, Nepal and Vietnam.

• ***Hockeria hayati* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record), Kerala and Tamil Nadu.

• ***Hockeria indica* Mani, 1936**

*Distribution:* India: Andhra Pradesh and Chhattisgarh (new record).

• ***Hockeria menoni* Narendran, 1986**

*Distribution:* India: Chhattisgarh (new record) and Kerala.

• ***Hockeria polycarinata* Narendran, 1989**

*Distribution:* India: Andaman and Nicobar Islands and Chhattisgarh (new record). Elsewhere: Indonesia.

• ***Hockeria tristis* Strand, 1911**

*Distribution:* India: Chhattisgarh (new record), Kerala, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. Elsewhere: Myanmar and Sri Lanka.

**Genus *Kriechbaumerella* Dalla Torre, 1897**

• ***Kriechbaumerella gibsoni* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record) and Tamil Nadu.

• ***Kriechbaumerella kraussi* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record), Kerala and Madhya Pradesh. Elsewhere: Kampuchea (Cambodia) and Philippines.

• ***Kriechbaumerella nepalensis* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record), Tamil Nadu and Uttar Pradesh. Elsewhere: Nepal and Vietnam.

• ***Kriechbaumerella ornatipennis* Cameron, 1902**

*Distribution:* India: Chhattisgarh (new record), Gujarat, Kerala, Puducherry, Tamil Nadu, Uttar Pradesh and West Bengal.

• ***Kriechbaumerella pulvinata* Masi, 1932**

*Distribution:* India: Chhattisgarh (new record), Goa, Tripura and Uttar Pradesh. Elsewhere: China, Malaysia, Nepal, Philippines, Sri Lanka and Taiwan.

• ***Kriechbaumerella rufimanus* Walker, 1860**

*Distribution:* India: Assam, Bihar, Chhattisgarh (new record), Delhi, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh. Elsewhere: Indonesia, Nepal, Pakistan and Sri Lanka.

• ***Kriechbaumerella titusi* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record), Kerala and Tamil Nadu. Elsewhere: Indonesia.

**Genus *Lasiochalcidia* Masi, 1929**

• ***Lasiochalcidia dargelasii* Latreille, 1805**

*Distribution:* India: Chhattisgarh (new record), Delhi and Uttar Pradesh. Elsewhere: Algeria, Austria, Croatia, Czech Republic, France, Hungary, Iran, Italy, Moldova, Serbia, Siberia, Slovakia, Transcaucasus, Turkey and Yugoslavia.

**Genus *Proconura* Dodd, 1915**

• ***Proconura caryobori* Hanna, 1934**

*Distribution:* India: Chhattisgarh (new record), Delhi, Karnataka and Kerala. Elsewhere: China, England, Iran, Nepal, Sudan and Thailand.

**Genus *Psilochalcis* Kieffer, 1905**

• ***Psilochalcis adhara* Narendran, 1989**

*Distribution:* India: Chhattisgarh (new record), Kerala and Uttar Pradesh.

• ***Psilochalcis carinigena* Cameron, 1907**

*Distribution:* India: Andaman and Nicobar Islands, Bihar, Chhattisgarh (new record), Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Tripura, Uttar Pradesh and West Bengal. Elsewhere: Taiwan and Vietnam.

• ***Psilochalcis crassicornis* Masi, 1929**

*Distribution:* India: Bihar, Chhattisgarh (new record), Delhi, Uttarakhand and West Bengal.

• ***Psilochalcis soudanensis* Steffan, 1951**

*Distribution:* India: Andhra Pradesh, Chhattisgarh (new record), Delhi, Odisha and Tamil Nadu. Elsewhere: Cameroon, Ghana, Kenya, Mali, Nepal, Niger, Nigeria, Pakistan, Senegal, Sudan, Tanzania, Uganda and United States of America.

• ***Psilochalcis subarmata* Foerster, 1855**

*Distribution:* India: Chhattisgarh (new record), Delhi, Kerala and Uttar Pradesh. Elsewhere: Canary Islands, Czech Republic, England, France, Germany, Greece, Hungary, Iran, Kazakhstan, Moldova, Slovakia, Spain, Sweden, Turkey and Ukraine.



**CONCLUSION**

Our study presents the first comprehensive checklist of Chalcididae fauna from this region. The checklist includes 72 species belonging to four subfamilies and eleven genera. Overall, our results indicate that the region has a rich abundance of chalcidid wasps. Future explorations may add further to the existing fauna.

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