



ISSN (E): 2277- 7695

ISSN (P): 2349-8242

NAAS Rating: 5.03

TPI 2018; 7(7): 705-710

© 2018 TPI

www.thepharmajournal.com

Received: 21-05-2018

Accepted: 23-06-2018

Swapan Kumar Das

Zoological Survey of India, M
Block, New Alipore, Kolkata,
West Bengal, India

Udipta Chakraborty

Department of Zoology,
University of Kalyani,
Kalyani, Nadia, West Bengal,
India

Debapriya Mukhopadhyay

Zoological Survey of India, M
Block, New Alipore, Kolkata,
West Bengal, India

Koyel Chakraborty

Zoological Survey of India, M
Block, New Alipore, Kolkata,
West Bengal, India

Bulganan Mitra

Former Scientist-C Zoological
Survey of India, M Block,
New Alipore, Kolkata,
West Bengal, India

Correspondence

Debapriya Mukhopadhyay

Zoological Survey of India, M
Block, New Alipore, Kolkata,
West Bengal, India

A story of the hundred years on the exploration (1915-2016) of Orthopteran faunal diversity in and around Chilika Lake, Odisha

Swapan Kumar Das, Udipta Chakraborti, Debapriya Mukhopadhyay, Koyel Chakraborty and Bulganan Mitra

Abstract

Studies on orthopteran species diversity of the Chilika lake was carried out to prepare a updated faunal inventory, hundred years after the first faunal exploration by Annandale and his team in 1915 and twenty six years after designation of Ramsar site. A total of 74 species under 58 genera of 9 families were reported in this present communication, of which 07 species reported for the first time from this area.

Keywords: Orthoptera, Chilika Lake, Ramsar site, new record, diversity

1. Introduction

The first faunistic study on Chilika Lake was initiated by the Zoological Survey of India under the leadership of Dr. Annandale, the first Director of the institute and the results of these studies had been published in a series of papers from 1915 to 1924 (Rao, 1995). Annandale and Kemp (1915) ^[1] considered *Gryllotalpa africana* Beauvois, 1805 under the head of “marginal insects” and reported the first orthopteran species from the Chilika lake areas. According to their observation “It is nocturnal in its habits and usually burrows in mud at the edge of water”. They were found this species burrowing well below water-level in the salt-water season at Satpara.

The second attempt on the exploration of the faunal diversity of the Chilika Lake was taken by the Estuarine Biological Station, Zoological Survey of India (presently EBRC) from 1985 to 1987 and the studies were carried out starting from limnology to faunal account from protozoa to mammals excluding insects (Ghosh, *et al*, 2016). Thereafter, Chopard (1924) ^[3] included 48 species from Barkuda Island of Chilika Lake. 11 species added from Balugaon and Ramba by Bhowmik, 1983 ^[2]. After wards, Shisodia (1987 & 1989) ^[7, 8, 9] and Shisodia & Tandon (1987) ^[7, 8] identified the Annandale collections and reported seven species under the family of Gryllidae and Tetrigidae in State fauna series of Odisha published by Zoological Survey of India.

This present study was carried out to (i) know the orthopteran species composition of this Ramsar site of India (ii) provide an inventory of the 100 years of study with updated species list and (iii) prepare a consolidated baseline information of the order Orthoptera for their conservation and management.

This communication is the outcome of the third faunal survey in Chilika lake areas (2016) under the leadership of the fourth author and the compilation of the earlier works on the order Orthoptera of Chilika Lake and surroundings. Altogether, 74 species represented by 58 genera under 9 families of the order Orthoptera were reported from the surroundings and islands of Chilika Lake. Eighteen species were collected during this investigation. Of them, 07 species (marked with *) are reported for the first time from this Ramsar site of India. The Indian Checklist of Shishodia *et al*. (2010) ^[10] have been followed for the classification, taxonomic and distributional details. The Website referred with Eades *et al*. (2016) ^[5] has also been followed for some of the classification details

2. Materials and Methods

2.1 Study Sites

Chilika Lake is the largest brackish water lake of India, lies in between 85°20' E, 19°40' N and designated one of the Ramsar sites in India. This lake is connected with Bay of Bengal.

This connection is made by a narrow 32 km long channel south to the mouth of Mahanadi River in Odisha, India. The area of the lake varies from the 1165 km² to 906 km² during the monsoon and dry season, respectively. Closely to the north eastern end of the lake the mouth connecting the channel to the sea. It is spread over Puri, Khurda and Ganjam

districts of Odisha state on the east coast of India, at the mouth of the Daya River, flowing into the Bay of Bengal (Fig. 1). The villages near this area have a typical climate with an average annual maximum temperature of 39 °C and minimum of 14 °C. (Dash *et al.*, 2011)^[4].

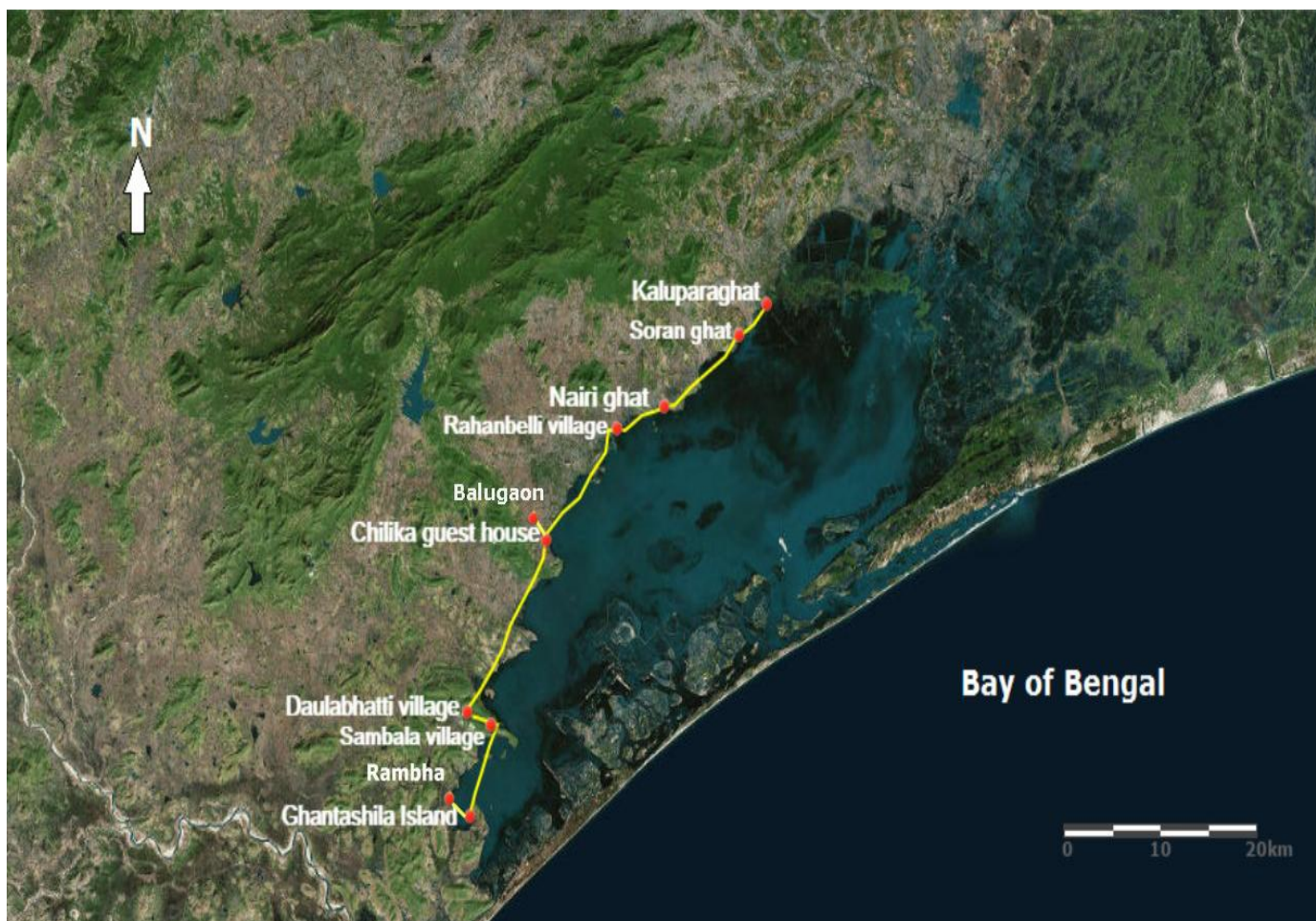


Fig 1: Map showing the collection localities of Orthoptera in and around Chilika Lake.

2.2 Methods

The study was carried out during July to August, 2016 from 8 selected sites of Chilika Lake and its adjoining areas including one Island, Ghantasila. Insect nets were used for collection of orthopteran species. The collected specimens were dry preserved in the insect envelope in field. To make these materials soft, these were allowed to keep in desiccator with the vapour of phenol-camphor solution (3:1 ratio) in laboratory. After pinning and setting, the specimens were identified with the help of Leica EZ4 stereo zoom microscope. Later on, the identified materials were photographed by photo capturing software via Leica DFC 500 camera under Leica M205A microscope and dry preserved in the insect boxes. All

the collections are deposited in the National Zoological Collection of Zoological Survey of India, Kolkata

3. Results

A total of 74 species represented by 58 genera of 9 families belonging to the order Orthoptera were reported from the surroundings and islands of Chilika Lake (Table.1). The family Acrididae was found to be the most dominant and represented by 28 species, followed by Tetrigidae (12), Gryllidae (10), Tettigonidae (8), Pygromorphidae (6), Gryllotalpidae and Tridactylidae 3 species each, Trigonodiidae and Gryllacrididae 2 species each respectively (Fig. 2).

Table 1: List of species and their collection localities in and around Chilika Lake.

No.	Valid name	Reported as	Collection locality
Suborder CAELIFERA Superfamily ACRIDOIDEA Macleay, 1821. Family ACRIDIDAE Macleay, 1821. Subfamily ACRIDINAE Macleay, 1821. Tribe ACRIDINI MacLeay, 1821			
*1	<i>Acrida exaltata</i> (Walker, 1859)		1♂, Daulabhatti village, 25.vii.2016, 1♀, Nairi ghat, 27.vii.2016
2	<i>Truxalis nasuta</i> (Linnaeus, 1758)	<i>Acridella nasuta</i> Linneus.	Balugaon (Bhowmik,1983)
Subfamily CATANTOPINAE Brunner von Wattenwyl, 1893			
3	<i>Pachyacris violascens</i> (Walker, 1870)	<i>Pachyacris violascens</i> (Walker)	Balugaon (Bhowmik,1983)
4	<i>Choroedocus illustris</i> (Walker, 1870)	<i>Choroedocus illustris</i> (Walker)	Balugaon and Barkuda Island, (Bhowmik,1983)
Tribe CATANTOPINI Brunner von Wattenwyl 1893 Subtribe CATANTOPINA Brunner von Wattenwyl, 1893			
5	<i>Diabolocatantops innotabilis</i> (Walker, 1870)	<i>Catantops indicus</i> Bolivar.	3♂, 2♀, Sambala village, 25.vii.2016, 3♂, 2♀, Daulabhatti village, 25.vii.2016. Barkuda Island (Chopard(1924)
6	<i>Xenocatantops karnyi</i> (Kirby, 1910)	<i>Catantops karnyi</i> Kirby.	Barkuda Island (Chopard(1924)
Subfamily CYRTACANTHACRIDINAE Kirby, 1902 Tribe CYRTACANTHACRIDINI Kirby, 1910			
7	<i>Cyrtacanthacris tatarica tatarica</i> (Linnaeus, 1758)	<i>Cyrtacanthacris tatarica</i> (Linnaeus)	1♀, Sambala village, 25.vii.2016 Chilika Lake (Shisodia (1989)
8	<i>Anacridium flavescens</i> (Fabricius, 1793)	<i>Anacridium flavescens</i> (Fabricius)	Barkuda Island, (Bhowmik,1983)
Subfamily OEDIPODINAE Walker, 1871			
9	<i>Morphacris fasciata</i> (Thunberg, 1815)	<i>Morphacris fasciata sulcata</i> (Thunberg)	1♂, Sambala village, 25.vii.2016, 1♀, Daulabhatti village, 25.vii.2016 Ramba (Bhowmik,1983) Chilika Lake (Shisodia (1989)
10	<i>Morphacris citrina</i> Kirby, 1910	<i>Morphacris citrina</i> Kirby.	Barkuda Island (Chopard(1924)
11	<i>Ditopternis venusta</i> (Walker, 1870)	<i>Ditopternis venusta</i> (Walker)	Barkuda Island, (Bhowmik,1983)
Tribe EPACROMIINI Brunner von Wattenwyl, 1893			
12	<i>Aiolopus simulatrix simulatrix</i> (Walker, 1870)	<i>Aeolopus affinis</i> Bolivar.	Barkuda Island (Chopard(1924)
13	<i>Aiolopus thalassinus tamulus</i> (Fabricius, 1798)	<i>Aiolopus thalassinus tamulus</i> (Fabricius)	Ramba (Bhowmik,1983)
Tribe ACROTYLINI Shumakov, 1963			
14	<i>Acrotylus insubricus inficitus</i> (Walker, 1870)	<i>Acrotylus inficita</i> Walker.	1♂, 3♀, Rahanbelli village, 26.vii.2016 Barkuda Island (Chopard(1924)
15	<i>Acrotylus humbertianus</i> Saussure,1884	<i>Acrotylus humbertianus</i> Saussure.	Ramba (Bhowmik,1983)
Tribe LOCUSTINI Kirby, W., 1825			
*16	<i>Oedaleus abruptus</i> (Thunberg, 1815)		1♂, Daulabhatti village, 25.vii.2016
*17	<i>Gastrimargus africanus africanus</i> (Saussure, 1888)		1♀, Sambala village, 25.vii.2016
18	<i>Pternoscirta bimaculata</i> (Thunberg, 1815)	<i>Pternoscirta bimaculata</i> Thunberg.	Barkuda Island (Chopard(1924)
Tribe TRILOPHIDIINI Shumakov, 1963			
19	<i>Trilophidia annulata</i> (Thunberg, 1815)	<i>Trilophidia annulata</i> Thunberg. <i>Trilophidia cristella</i> Still.	2♂, 2♀, Chilika Guest House, 24.vii.2016, 1♂, Ghantashila Island, 25.vii.2016, 1♂, 1♀, Sambala village, 25.vii.2016, 1♂, 1♀, Daulabhatti village, 25.vii.2016, 1♀, Soran, 27.vii.2016, 2♂, Narighat, 27.vii.2016. Barkuda Island (Chopard(1924)
20	<i>Trilophidia turpis</i> (Walker, 1870)	<i>Trilophidia turpis</i> Walker.	Barkuda Island (Chopard(1924)
Subfamily TROPIDOPOLINAE Jacobson, 1905 Tribe TRISTRINI Mistshenko, 1945			
21	<i>Tristria pulvinata</i> (Uvarov, 1921)	<i>Tristria pulvinata</i> (Uvarov)	Balugaon, (Bhowmik,1983)
Subfamily OXYINAE Brunner von Wattenwyl, 1893 Tribe OXYINI Brunner von Wattenwyl, 1893			
*22	<i>Oxya nitidula</i> (Walker, 1870)		2♀, Chilika Guest House, 25.vii.2016
23	<i>Oxya chinensis</i> (Thunberg, 1815)	<i>Gryllus chinensis</i> Web.	Barkuda Island (Chopard (1924)
24	<i>Oxya velox</i> (Fabricius,1787)	<i>Oxya velox</i> Fabricius.	Barkuda Island (Chopard (1924)
Subfamily SPATHOSTERNINAE Rehn, 1957 Tribe SPATHOSTERNINI Rehn, J.A.G. 1957			
*25	<i>Spathosternum prasiniferum prasiniferum</i> (Walker, 1871)		1♀, Ghantashila Island, 25.vii.2016, 1♀, Daulabhatti village, 25.vii.2016.
Subfamily EYPREPOCNEMIDINAE Brunner von Wattenwyl, 1893			

26	<i>Tylotropidius varicornis</i> (Walker, 1870)	<i>Tylotropidius varicornis</i> Walker.	Balugaon, (Bhowmik,1983)
Tribe EYPREPOCNEMIDINAE Brunner von Wattenwyl, 1893			
27	<i>Heteracris pulchra</i> (Bolívar, 1902)	<i>Eupreprocnemis pulchra</i> Bolivar.	Barkuda Island (Chopard(1924)
Subfamily HEMIACRIDINAE Drish, 1956 Tribe HIEROGLYPHINI Bolivar, 1912			
28	<i>Hieroglyphus banian</i> (Fabricius, 1798)	<i>Hieroglyphus banian</i> (Fabricius)	Balugaon, (Bhowmik,1983)
Superfamily PYRGOMORPHOIDEA Brunner von Wattenwyl, 1874 Family PYRGOMORPHIDAE Brunner von Wattenwyl, 1874 Subfamily PYRGOMORPHINAE Brunner von Wattenwyl, 1874 Tribe ATRACTOMORPHINI Bolivar, 1905			
29	<i>Atractomorpha crenulata</i> (Fabricius, 1793)	<i>Atractomorpha crenulata</i> Fabricius.	1 ♀, Chilika guest house, 24.vii.2016, 1 ♂, Daulabhathi village, 25.vii.2016, 1 ♂, 1 ♀, Kalupara ghat, 27.vii.2016. Barkuda Island (Chopard(1924)
Tribe CHROTOGONINI Bolivar, 1904			
*30	<i>Chrotogonus (Chrotogonus) trachypterus trachypterus</i> (Blanchard, 1836)		1 ♂, Rahanbelli village, 26.vii.2016, 2 ♀, Nairi ghat, 27.VII.2016, 1 ♂, Soran ghat, 27.vii.2016.
31	<i>Chrotogonus (Chrotogonus) oxypterus</i> (Blanchard, 1836)	<i>Chrotogonus saussurei</i> Bolivar.	Barkuda Island (Chopard(1924)
32	<i>Chrotogonus (Chrotogonus) brachypterus</i> Bolívar, 1902	<i>Chrotogonus brachypterus</i> Blanchard.	Barkuda Island (Chopard(1924)
Tribe POEKILO CERINI Bolivar, 1884			
*33	<i>Poekilocerus pictus</i> (Fabricius, 1775)		3 ♂, Sambala village, 25.vii.2016 3 ♂, Soran ghat, 27.vii.2016.
Tribe TAPHRONOTINI Bolívar, 1904			
34	<i>Aularches miliaris miliaris</i> (Linnaeus, 1758)	<i>Aularches miliari</i> Linnaeus.	Barkuda Island (Chopard(1924)
Superfamily TERTRIGOIDEA, Serville, 1838 Family TETRIGIDAE Serville, 1838 Subfamily TETRIGINAE Serville, 1838			
35	<i>Hedotettix gracilis</i> (De Haan, 1842)	<i>Hedotettix gracilis</i> (De Haan)	Barkuda Island (Shisodia (1987)
Tribe TETRIGINI Serville, 1838			
36	<i>Euparatettix histricus</i> (Stal, 1861)	<i>Euparatettix histricus</i> (Stal)	1 ♀, Ghantashila Island, 25.vii.2016, 3 ♂, Chilika guest house, 26.vii.2016, 1 ♀, Nairi ghat, 27.vii.2016. Barkuda Island (Shisodia (1987)
37	<i>Euparatettix tricarinatus</i> (Bolivar, 1887)	<i>Paratettix tricarinatus</i> (Bolivar)	Barkuda Island (Shisodia (1987)
38	<i>Euparatettix scabripes</i> (Bolívar, 1898)	<i>Euparatettix scabripes</i> Bolivar.	Barkuda Island (Chopard(1924)
39	<i>Euparatettix indicus</i> (Bolivar, 1887)	<i>Paratettix indicus</i> Bolivar.	Barkuda Island (Chopard(1924)
40	<i>Paratettix variabilis</i> (Bolivar, 1887)	<i>Paratettix variabilis</i> Bolivar.	Barkuda Island (Chopard(1924)
41	<i>Paratettix scaber</i> (Thunberg, 1815)	<i>Paratettix scaber</i> Thunberg.	Barkuda Island (Chopard(1924)
42	<i>Paratettix cingalensis</i> (Walker,1871)	<i>Paratettix cingalensis</i> (Walker)	Barkuda Island (Shisodia (1987)
43	<i>Coptotettix fossulatus</i> Bolivar,1887	<i>Coptotettix fossulatus</i> Bolivar	Balugaon, Shisodia (1987)
44	<i>Coptotettix testaceus</i> Bolivar, 1887	<i>Coptotettix testaceus</i> Bolivar.	Barkuda Island (Chopard(1924)
Subfamily SCHELMENINAE Bolívar, 1887 Tribe CRIOTETTIGINI Bolívar, 1887			
45	<i>Criotettix inornatus</i> (Walker, 1871)	<i>Acanthalobus inornatus</i> Walker.	Barkuda Island (Chopard(1924)
Subfamily METRODORINAE Bolívar, 1887			
46	<i>Mazarredia (Mazarredia) cristulata</i> Bolivar, 1902	<i>Mazarredia cristulata</i> Bolivar.	Barkuda Island (Chopard(1924)
Family TRIDACTYLIDAE Brullé, 1835 Subfamily TRIDACTYLINAE Brullé, 1835			
47	<i>Tridactylus thoracicus</i> Guerin, 1844	<i>Tridactylus thoracicus</i> Guerin.	Barkuda Island (Chopard(1924)
48	<i>Xya riparia</i> (Saussure, 1877)	<i>Tridactylus riparius</i> Saussure.	Barkuda Island (Chopard(1924)
49	<i>Asiotridactylus fasciatus</i> (Guerin, 1844)	<i>Tridactylus savignyi</i> Guerin.	Barkuda Island (Chopard(1924)
II. Suborder ENSIFERA Superfamily GRYLLOIDEA Laicharding, 1781 Family GRYLLIDAE Laicharding, 1781 Subfamily GRYLLINAE Laicharding, 1781 Tribe MODICOGRYLLINI Otte & Alexander, 1983			
50	<i>Gryllodes sigillatus</i> (Walker, 1869)	<i>Gryllodes sigillatus</i> Walker.	2 ♀, Chilika guest house, 24.vii.2016. Barkuda Island (Chopard(1924)
51	<i>Modicogryllus (Modicogryllus) confirmatus</i> (Walker, 1859)	<i>Modicogryllus confirmatus</i> (Walker)	1 ♂, 3 ♀, Chilika guest house, 24.vii.2016; 1 ♀, Ghantashila Island, 25.vii.2016. Barkuda Island, Shisodia & Tandon (1987)
52	<i>Modicogryllus (Modicogryllus) consobrinus</i> (Saussure, 1877)	<i>Gryllus consobrinus</i> Saussure.	Barkuda Island (Chopard(1924)

53	<i>Modicogryllus (Modicogryllus) facialis</i> (Walker, 1871)	<i>Scapsipedus hastatus</i> Saussure.	Barkuda Island (Chopard(1924))
Tribe GRYLINI Laicharting, 1781			
54	<i>Teleogryllus (Brachyteleogryllus) occipitalis</i> (Serville, 1838)	<i>Gryllus mitratus</i> Burm.	Barkuda Island (Chopard(1924))
Subfamily NEMOBIINAE Saussure, 1877 Tribe PTERONEMOBIINI Otte, D. & R.D. Alexander, 1983			
55	<i>Dianemobius fascipes</i> (Walker, 1869)	<i>Pteronemobius histrio</i> Saussure	1♂, 1♀, Chilika guest house, 26.vii.2016. Barkuda Island (Chopard(1924))
56	<i>Pteronemobius (Pteronemobius) heydenii concolor</i> (Walker, 1871)	<i>Pteronemobius gravelyi</i> , sp. nov.	1♂, Chilika guest house, 26.vii.2016. Barkuda Island (Chopard(1924))
57	<i>Polionemobius taprobanensis</i> (Walker, 1869a)	<i>Pteronemobius javanus</i> Saussure	Barkuda Island (Chopard(1924))
Subfamily ENEOPTERINAE Saussure, 1874 Tribe XENOGRYLLINI Robillard, 2004			
58	<i>Xenogryllus marmoratus marmoratus</i> (Haan, 1844)	<i>Madasomma marmorata</i> Haan.	Barkuda Island (Chopard(1924))
Subfamily EUSCYRTINAE Gorochov, 1985			
59	<i>Euscyrthus (Osus) concinnus</i> (Haan, 1842)	<i>Euscyrthus concinnus</i> Haan.	Barkuda Island (Chopard(1924))
Family GRYLLOTALPIDAE Blanchard, 1845 Subfamily GRYLLOTALPINAE Blanchard, 1845 Tribe GRYLLOTALPINI Leach, 1815			
60	<i>Gryllotalpa africana</i> Beauvois, 1805	<i>Gryllotalpa africana</i> Beauvois.	Chilika Lake, Annandale and Kemp (1915) Barkuda Island (Chopard(1924))
Family MOGOPLISTIDAE Brunner von Wattenwyl, 1873 Subfamily MOGOPLISTINAE Brunner von Wattenwyl, 1873 Tribe MOGOPLISTINI Brunner von Wattenwyl, 1873			
61	<i>Derecotaotus leucopygus</i> (Chopard, 1924b)	<i>Ornebius leucopygus</i> , sp. nov.	Barkuda Island (Chopard(1924))
62	<i>Micronebius annandalei</i> (Chopard, 1924b)	<i>Ornebius annandalei</i> , sp. nov.	Barkuda Island (Chopard(1924))
Family TRIGONIDIIDAE Saussure, 1874 Subfamily TRIGONIDIINAE Saussure, 1874 Tribe TRIGONIDIINI Saussure, 1874			
63	<i>Trigonidium (Trigonidium) humbertianum</i> (Saussure, 1878)	<i>Metioche humbertiana</i> Saussure.	Barkuda Island (Chopard(1924))
64	<i>Natula longipennis</i> (Serville, 1838)	<i>Anaxipha longipennis</i> Serville.	Barkuda Island (Chopard(1924))
Superfamily TETTIGONIOIDEA Krauss, 1902 Family TETTIGONIDE Subfamily PHANEROPTERINAE Burmeister, 1838			
65	<i>Isopsera pedunculata</i> Brunner von Wattenwyl, 1878	<i>Isopsera pedunculata</i> Brunner.	Barkuda Island (Chopard(1924))
Tribe TRIGONOCORYPHINI Bey-Bienko, 1954			
66	<i>Trigonocorypha unicolor</i> (Stoll, 1787)	<i>Trigonocorypha crenulata</i> Thunberg	Barkuda Island (Chopard(1924))
Tribe HOLOCHLORINI Brunner von Wattenwyl, 1878			
67	<i>Holochlora indica</i> Kirby, 1906	<i>Holochlora indica</i> Kirby.	Barkuda Island (Chopard(1924))
Tribe LETANINI Hebard, 1922			
68	<i>Letana inflata</i> (Brunner von Wattenwyl, 1878)	<i>Pyrrhicia inflata</i> Brunner.	Barkuda Island (Chopard(1924))
Subfamily MECONEMATINAE Burmeister, 1838 Tribe MECONEMATINI Burmeister, 1838			
69	<i>Alloteratura delicatula</i> (Chopard, 1924)	<i>Amytta delicatula</i> , sp. nov.	Barkuda Island (Chopard(1924))
Subfamily MECOPODINAE Walker, 1871 Tribe MECOPODINI Walker, 1871			
70	<i>Mecopoda elongata</i> (Linnaeus, 1758)	<i>Mecopoda elongata</i> Linnaeus	Barkuda Island (Chopard(1924))
Subfamily CONOCEPHALINAE Burmeister, 1838 Tribe COIPHORINI Karny, 1912			
71	<i>Euconocephalus incertus</i> (Walker, 1869)	<i>Euconocephalus incertus</i> Walker.	Barkuda Island (Chopard(1924))
Subfamily PSEUDOPHYLLINAE Burmeister, 1838 Supertribe PSEUDOPHYLLITI Burmeister, 1838 Tribe CYMATOMERINI Brunner von Wattenwyl, 1895			
72	<i>Sathrophyllia fuliginosa fuliginosa</i> Stål, 1874	<i>Sathrophyllia carinata</i> , sp. nov.	Barkuda Island (Chopard(1924))
Superfamily STENOPELMATOIDEA Burmeister, 1838 Family GRYLLACRIDIDAE Blanchard, 1845 Subfamily GRYLLACRIDINAE Blanchard, 1845			
73	<i>Haplogryllacris hieroglyphicoides</i> (Chopard, 1924)	<i>Gryllacris hieroglyphicoides</i> , sp.nov.	Barkuda Island (Chopard(1924))
74	<i>Niphetogryllacris barkudensis</i> (Chopard, 1924)	<i>Gryllacris barkudensis</i> , sp. nov.	Barkuda Island (Chopard(1924))

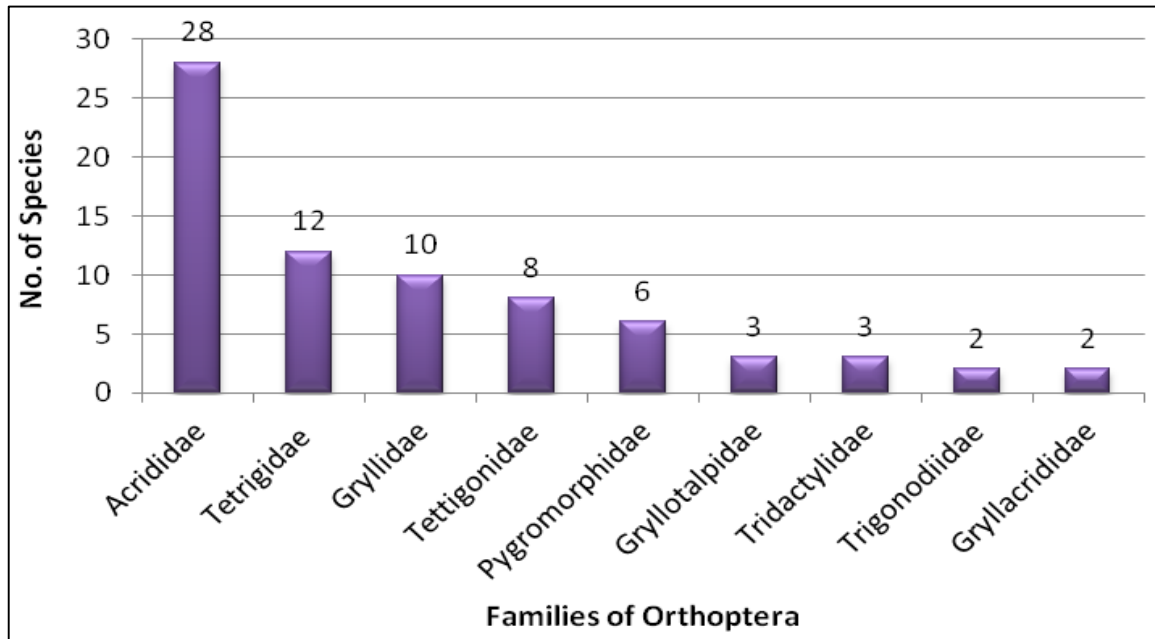


Fig 2: Number of species of the order Orthoptera reported from Chilika and surroundings (Family-wise)

4. Conclusion

Present communication reports 74 species of the 58 genera belonging to 9 families of the order Orthoptera from Chilika Lake and its adjoining areas. Of them, 07 species are reported for the first time from this Ramsar sites of Odisha state.

Orthoptera is one of the most important groups of herbivorous insect living in the grassland ecosystems. They are mostly diurnal insects and often abundant in both natural as well as anthropogenic landscapes, and for this reason that many people consider Orthoptera in general as pests. It is not necessary that all the orthopterans to be considered as harmful pest.

In the last hundred years of faunal survey/ exploration, only 74 species of Orthoptera are reported from this Ramsar site of Odisha, which is very unfortunate. This may be due to local anthropogenic activities, tourism, preconception of Orthoptera as pests and also less number of diurnal surveys. Very few islands are also surveyed during this 100 years of study on the orthopteran faunal diversity.

The Chilika lake of Odisha have been designated as “Ramsar sites” in 1991. On the bank of the lake there are 8 fairly large towns and 122 villages. The area of Chilika Lake in the early nineties was 914 sq.km. Today it is restricted to only 800 sq.km. (Tripathy, 2012). Its degradation is so severe, therefore it is an urgent need to explore all the islands, villages and coastal areas systematically and prepare an inventory of orthopteran diversity of this lake and surrounding coastal areas for better management and conservation. This present communication will definitely serve as baseline data for making of conservation strategies as far as the biodiversity of Chilika Lake is concerned.

5. Acknowledgment

The authors wish to express their gratitude to Dr. Kailash Chandra, Director, Zoological Survey of India, Kolkata for constant encouragement in the pursuit of the work. The first authors are deeply indebted to Shri K.C. Gopi, Scientist-F and in charge of Entomology division (A & B) for making useful suggestions. Authors are also thankful to Priyanka Das, Junior Research Fellow, Zoological Survey of India for preparation of Map.

6. References

1. Annandale N, Kemp S. Fauna of the Chilika Lake: Aquatic insects, other than Coleoptera, with notes on some marginal species. Mem. Indian Mus, Calcutta, Part 2, 1915; V:177, 181-190.
2. Bhowmik HK. Report on a collection of Orthoptera (Insecta) from three Northeastern districts of Andhra Pradesh and Chilka Lake. Indian Mus. Bull. 1983; 18:63-75.
3. Chopard L. The Fauna of an island in the Chilka Lake. The Dermaptera and Orthoptera of Barkuda Island. Rec. Indian Mus, 1924, 26:165-191.
4. Dash S, Hazra RK. Mosquito diversity in the Chilika lake area, Odisha, India. Tropical Biomedicine. 2011; 28(1):1-6.
5. Eades DC, Otte D, Cigliano MM, Braun H. Orthoptera Species File. Version 5.0/5.0. [27th November, 2016; 09:00 P.M.]. 2016. <<http://Orthoptera.SpeciesFile.org>>.
6. Kirby WF. The Fauna of British India, including Ceylon and Burma, Orthoptera (Acridoidea). 1914; 9:276.
7. Shisodia MS, Tandon SK. Insecta: Orthoptera: Grylloidea and Tridactyloidea. In: Fauna of Odisha, State Fauna Series. Zool Survey of India, Calcutta, Part 1, 1987; 1:113-128..
8. Shisodia MS. Tetrigidae: Orthoptera: Insecta (grouse locusts). In: Fauna of Odisha, State Fauna Series. Part 1, zool. Surv. India, Calcutta, 1987; 1:91-102.
9. Tandon SK, Shisodia MS. Insecta: Orthoptera: Acridoidea. In: Fauna of Odisha, State Fauna Series. zool. Surv. India, Calcutta, Part 1. 1989; 2:93-145.
10. Shishodia S, Chandra K, Gupta SK. An Annotated Checklist of Orthoptera (Insecta) from India. Rec. zool. Surv. India, Occ. Paper No. 2010; 314:1-366.