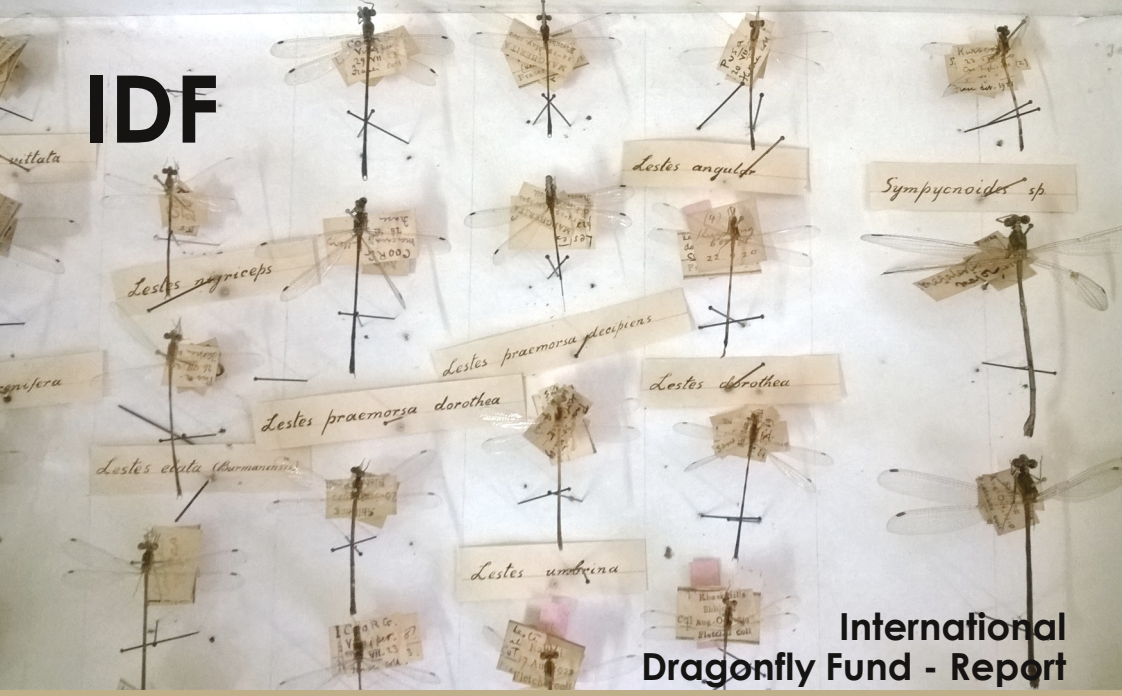

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Ahmed Zia

Noteworthy records of damselflies (Odonata: Zygoptera) housed at National Insect Museum, Pakistan (Damselflies of Pakistan: Part II)

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Noteworthy records of damselflies (Odonata: Zygoptera) housed at National Insect Museum, Pakistan (Damselflies of Pakistan: Part II)

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Abstract

Damselflies recorded before the administrative partition of the Indian Subcontinent and now housed at National Insect Museum (NIM), Islamabad were reviewed and catalogued. This collection is the divided part of National PUSA Collection (NPC) transferred to the Pakistan during 1947. Data for this collection had never been available or published. A record of 104 taxa is reported herein. Few of the species were found double named, misidentified and not updated as per valid classification. Some of the specimens were found unidentified. All such issues were resolved by following regional literature.

Key words: Damselflies, Zygoptera, Odonata, PUSA, Sub-Continent, Pakistan, India, Myanmar, Sri Lanka

Introduction

Political background of partition story of Indian subcontinent

Partition of the British Indian Empire (Indian Sub-continent) led to the creation of two independent states i.e. Pakistan [East and West] on 14th August 1947 and India (on 15th August 1947). This is to be clarified that partition does not simply mean (i) the division of British Indian Bengal province into East Pakistan and West Bengal (India) and (ii) partition of the British Indian Punjab province into West Pakistan and Punjab (India). It also refers to the divisions of all assets, including the British Indian Army, the Indian Civil Service and administrative services like railways and the central treasury (Khan 2007). Further division of Pakistan (during 1971) that resulted in separation of East Pakistan from Pakistan (East and West) resulting in erection of Bangladesh (previous East Pakistan) as a separate country is not covered by the above mentioned Partition of India. Also it doesn't cover the secession of Burma (present Myanmar) and Ceylon (present Sri Lanka) from the British India administration. Ceylon remained the part of Madras Presidency of British India from 1795 to 1798. However thereafter, it became a separate Crown Colony of the Empire. Whereas Burma was step by step taken over by the British during 1826–86 and announced as a part of the British Indian administration until 1937. Burma however granted independence on January 4, 1948 and Ceylon on February 4, 1948. The other countries of present-day South Asia (i.e. Maldives, Nepal and Bhutan) stayed unaffected by this whole partition. Among these, Nepal and Bhutan had already signed treaties with the British declaring them as independent states, thus their borders remained unaffected by this whole

partition of India. The Maldives, which had become a protectorate of the British crown in 1887 and gained its independence in 1965, was also unaffected by the partition (Anonymous 2016).

Indian Subcontinent and the Insect collections

Before partition of the Indian subcontinent, “Division of Entomology” was established in 1905 as one of the five major Divisions of the Imperial Agricultural Research Institute located at Pusa city of Bihar, North East India. Eminent entomologists like Harold Maxwell-Lefroy (20 January 1877 - 14 October 1925), Thomas Bainbrigge Fletcher (March 25, 1878 - 1950) and Hamg Sing Pruthi (23 February 1897 - 23 December 1969) laid strong foundation for basic and applied research in insect science. Faunistic surveys led to the establishment of National Pusa Collection (NPC) which, later on due to a massive earth quake (of 1936) was shifted from Pusa city to Imperial Agricultural Research Institute (IARI), New Delhi - India. This oldest repository contained insect specimens collected from different ecological regions of British India and it was the largest collection of its kind in world.

On partition of Indian subcontinent, whole NPC collection was divided into two parts. A part of this collection was handed over to Pakistan as Pakistan’s share and the other part of collection was kept at IARI as India’s share. In Pakistan, department of Plant Protection took the task for maintaining valuable collection of insects consisting of local fauna and inherited NPC collection as mentioned above. This national asset was thereafter handed over to Agricultural Research Council (Karachi Office) now called Pakistan Agriculture Research Council (PARC) during 1980s. Due to lack of any central repository with PARC this collection was transferred to CABI Regional Biosciences Centre at Rawalpindi in 1988 where it remained housed till 2005.

In order to take care of this inherited NPC (Pakistan’s Share) collection based on over millions of insect specimens and to explore and document insect fauna of Pakistan, National Insect Museum (NIM) was launched at National Agricultural Research Centre (NARC), Islamabad in July, 2005 as central insect repository of the country. Whole of the inherited NPC was finally kept at NIM which took the task for maintaining existing collection as well as to strengthen it by undertaking faunal surveys and preparing inventory of housed collection on modern scientific and systematic lines. Until launching of NIM, access to this commendable resource has not been easily available and thus it remained underutilized. In lieu of this, it was decided to review, inventoried and publish data for inherited NPC housed herein. An analysis of inherited damselflies species housed at NIM, NARC Islamabad – Pakistan is therefore conducted as a starting point to this. Present manuscript is therefore purely based on information regarding Zygoptera specimens that are received as part of NPC share to Pakistan. Information on housed Zygoptera collection recorded since partition (after 1947) has already been addressed by Zia et al. (2011).

Material and Methods

National Insect Museum (NIM) at NARC Islamabad (Pakistan) has two major sections. One section is Pre-Partition section based on NPC collection, representing specimens recorded before 1947. While other is Post Partition section that includes insect fauna recorded since independence. Insect fauna of Pakistan has been continuously explored

and reported by the researchers since its birth. But the fauna of Pre-Partition section (Inherited NPC collection) has never been brought forward.

In this study Zygoptera specimens kept under pre-partition section were reviewed. The record of whole NPC was maintained in hard form (Registers) by the British. While handing over NPC's Pakistani share to the Govt. of Pakistan in 1947, original registers carrying information for this inherited Pakistani collection were also handed over (Fig. 1). Knowing that this collection had never been sorted since independence and in doing

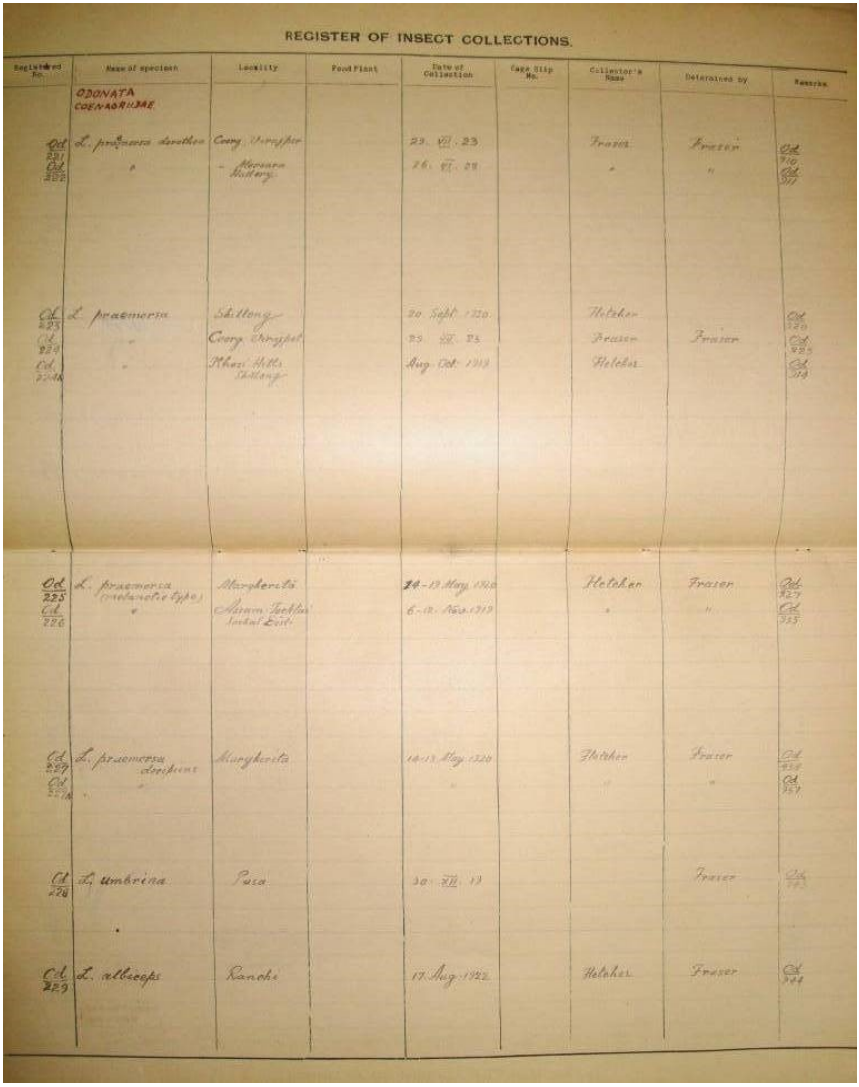

Figure 1. A sample picture showing NPC's collection Register data.

so, limiting its potential utility, all specimens were re-examined and data for all specimens were electronically inventoried and presented here. Few unidentified specimens were also identified following literature dealing with the regional odonate fauna. At many places species names were observed to be synonymized or revised and thus species are headed with their valid names. To preview the originality of work, information for names of all such specimens are provided as such as cited over attached labels but within inverted commas. Species are arranged systematically in families. The nomenclature follows World Odonata List (Paulson et al. 2021).

Results

From the inherited Odonata collection to Pakistan, complete record of Zygoptera spreading to 104 taxa is provided below.

Calopterygidae

Caliphaea confusa Hagen in Selys, 1859

Material examined: Assam (5000'): Shillong, 08.v.1924, 1♂ 1♀, Fletcher leg., Zia det.; 19.iv.1924, 1♀, Fletcher leg., Zia det.; Shillong, 18.vi.1920, 1♂, Fletcher leg., Zia det., 29.iv.1920, 1♀, collector not cited, Zia det.

State of preservation: Intact, whole specimens present.

Echo margarita tripartita Selys, 1879

Material examined: Shillong: Khassi Hills, August-October 1919, 1♂, Fletcher leg., Fraser det.; Assam (Shillong - 5000ft), 29.v.1924, 2♂ ♂, Bose leg., Zia det.; Shillong (5000ft), June-July 1918, 2♀ ♀, Fletcher leg., Fraser det.

State of preservation: Left hind wing of one specimen recorded during June-July is damaged, however the other has left as well as right hind wing damaged.

Matrona basilaris nigripectus Selys, 1879

Material examined: Shillong: 08.ix.1920, 1♂, 04 June 1920, 1♂, Fletcher leg., Zia det.; Khassi hills (Shillong): August – October, 1919, 1♂, 23 August, 1♂, August – October, 1919, 1♀, Fletcher leg., Zia det.

State of preservation: Forewings of male specimen recorded from Khassi hills during August - October 1919 are broken apically while female recorded from same locality and male recorded on 23th August have left hind wing missing.

Neurobasis chinensis (Linnaeus, 1758)

Material examined: Siddapur: Coorg, 03.vii.1917, 1♂ 1♀, leg. T. R. Rao, Zia det.; Shillong, Sep./Oct. 1918, 1♂, Fletcher leg., Zia det.; Assam: Shillong (4900'), 31.v.1918, 1♂, A. C. R., leg., Zia det.; Panchenai road: Sukna (500'), 28.xi.1919, 1♂, C.M. Inglis, leg., Zia det.

State of preservation: Specimens recorded from Coorg and Sukna lack abdomens.

Vestalis amoena Hagen in Selys 1853

Material examined: Mergui, 1921, 1♀, Bott, leg., Fraser det.

State of preservation: Missing head specimen.

Vestalis apicalis apicalis Selys, 1873

Material examined: Ceylon (Matale Suduganga), 14.ix.1919, 1♀, R. Senior, leg., Fraser det.; Nilgiris (2000ft), date not cited, 1♂, Fraser leg. & det.; Kallar (1250ft), 07.v.1921, 1♂, Mujtaba, leg., Zia det.; Margherita (Madras), 14-19.v.1920, 1♂, Fletcher leg., Fraser det.; North Coorg (Mercara), 01-11.v.1914, 1♀, Fletcher leg., Zia det.

State of preservation: Female recorded from Ceylon and male recorded from Kallar have broken abdomens (having first two segments only). While male from Madras have terminally broken abdomen.

Vestalis gracilis gracilis (Rambur, 1842)

Material examined: Shillong (Khassi hills), 29.x.1919, 1♀, Fletcher leg., Fraser det., 23.x.1919, 1♀, Fletcher leg., Fraser det.; Cachar, 05.ix.1921, 1♂, Anthoni, leg., Fraser det.; August 1921, 1♀, Anthoni, leg., Fraser det.; Mer-gui, June 1921, 1♂, Bott, leg., Fraser det.

State of preservation: Both specimens recorded from Cachar are missing head specimens.

Vestalis smaragdina Selys, 1879

Material examined: Shillong (Khassi hills), 20.ix.1919, 1♀, Fletcher leg., Fraser det., 29.viii.1919, 2♀♀, Fletcher, leg., Zia det., 04.ix.1919, 1♂, Fletcher, leg., Zia det.

State of preservation: Among specimens two females recorded on 29.viii.1919 lacks head and have damaged forewing. Also the male specimen has damaged forewing.

Chlorocyphidae

Aristocypha spuria (Selys, 1879)

Material examined: Assam; Shillong (5000'), 10.v.1924, 1♀, Fletcher leg., Zia det.; 10.v.1924, 1♂, Fletcher leg., Zia det.; Shillong, 21.iv.1920, 1♀, Fletcher leg., Zia det.

State of preservation: Intact, whole specimens present.

Aristocypha cuneata (Selys, 1853)

Material examined: Mangpu (3000'), date not cited, 2♂♂, C.M. Inglis leg., Fraser det.; Darjeeling, date not cited, 1♂, Stevens leg., Fraser det.; Shillong (500'), June/July 1918, 1♀, Fletcher leg., Zia det., 04.vi.1918, 1♀ Fletcher leg., Zia det.; Khassi Hills, Aug./Oct. 1919, 1♂, Fletcher leg., Zia det.; Shillong, August/October, 1919, 1♀, collector not cited, leg., Zia det.

State of preservation: Intact, whole specimens present.

Calocypha laidlawi (Fraser, 1924)

Material examined: "*Rhinocypha laidlawi*", Coorg (2000'): Sampaji Ghat, 05.xi.1923, 1♂, Fraser leg. & det.

State of preservation: Intact, whole specimen present.

Libellago lineata (Burmeister, 1839)

Material examined: "*Micromerus lineatus*" Poona, leg., date & collector not cited, 1♀, Zia det.; Gauhati: collected from Jungle, 16.xi.1919, 2♀♀, Fletcher leg., Zia det.; "*Libel-*

lago lineata" 16.xi.1919, Fletcher leg. Muphulani T. E: 25.ii.1920, 1♂, Fletcher leg., Fraser det.; Burma: Pooktaw: Golaghat: Assam, 30.x.1921, 1♂, Mrs. Swithinbank, leg., Fraser det.; Coorg, 29. 01. 1924, 2♂♂, Fletcher leg., Zia det.

Comment: Fraser (1934: 58) listed *Micromerus* as a synonym of *Libellago*. In NPC collection two specimens i.e. 1♀ recorded from Poona and 1♀ from Gauhati were labeled as *Libellago lineata*. However, five specimens i.e. 1♂ recorded from Muphulani T. E., 1♂ from Assam, 1♂ from Gauhati and 2♂♂ from Coorg were labeled as *M. lineatus*. It was observed that females were labeled as *L. lineata* while males were labeled as *M. lineatus*. All of these were re-examined and they all clearly appeared to be same species i.e. *Libellago lineata*.

State of preservation: Female specimen recorded from Poona lacks few segments of abdomen and the male recorded from Burma - Assam lacks right hind wings and carries terminally broken abdomen.

Chlorocypha dispar (Palisot de Beauvois, 1805)

Material examined: "*Pseudophaea disper*", Nilgiris (6000'), date not cited, 1♂, Fraser leg. & det. 1919; Nilgiris (6000'); Ochterlony valley, 05.viii.1921, 1♀, Fraser leg. & det.

State of preservation: The female specimen has terminally broken abdomen.

Heliocypha biforata (Selys, 1859)

Material examined: "*Rhinocypha beesoni*", Mergui, 1921, 3♂♂, Bott, leg., Fraser det.; Nilgris (2000'), date not cited, 1♂, Fraser, leg., Zia det.

State of preservation: Intact, whole specimens present.

Rhinocypha bifasciata Selys, 1879

Material examined: Mangpu, date collector not cited, 1♀, C.M. Inglis, leg., Fraser det.; Darjeeling, 25.x.1919, 1♀, Stevens leg., Fraser det.; 15.x.1919, 1♀, Stevens leg., Fraser det.; 1920, 1♂, Stevens leg. , Fraser det.; Lebong (5000'), Sep. 1908, H.M.L. leg., Fraser det.

State of preservation: The first and last specimens have terminally broken abdomens. The first one also lacks head.

Rhinocypha bisignata Hagen in Selys, 1853

Material examined: N. Coorg: Somwarpet Road: 12 miles North of Mercora, 30.i.1924, 1♂, Fletcher leg., Fraser det.; Siddapur Coorg, 08.vii.1917, 1♂, G.R. Rao, leg., Zia det.; 18.vi.1917, 1♂, T.R.N. leg., Zia det.; Khandala, 07.iv.1920, 2♂♂ 1♀, Fraser leg. & det.

State of preservation: All the specimens except first one have broken abdomens. The Khandala specimen also lacks its head.

Rhinocypha ignipennis Selys, 1879

Material examined: Khassi Hills, Aug./Oct., 1919, 2♂♂ 1♀, Fletcher leg., Zia det.; Shillong, 10.ix.1918, 1♀, collector not cited, Zia det.; 06.xi.1918, 1♂, collector not cited, Zia det.

State of preservation: Intact, whole specimens present.

Rhinocypha perforata perforata (Percheron, 1835)

Material examined: Mirphulani: Golaghat: Assam, 21.xi.1920, 3♂♂, collector not cited leg., Zia det.; 22.xi.1920, 1♂, collector not cited, Zia det.; Burma: Prome District: Myaseikbin, 20.x.1921, 1♂, Mrs. Swithin Bank leg., Zia det.

State of preservation: Two out of three male specimens recorded on 21.xi.1920 lack their heads.

Rhinocypha perforata (Percheron, 1835)

Material examined: "*Rhinocypha whiteheadi*", Cachar, August 1921, 4 ♂♂, leg. Antram, Fraser det.; Shillong, September - October 1921, 1♂, leg. Antram, Fraser det.

State of preservation: One male recorded from Cachar has terminally broken abdomen.

Rhinocypha quadrimaculata Selys, 1853

Material examined: Lachiwala: Dehra Dun District, 01.xi.1920, 3♂♂ 1♀, leg. C.F.C. Beeson, Fraser det.; Mergui, 1921, 1♂, leg. Butt, Fraser det.

State of preservation: Two male specimens recorded from Dehra Dun have terminally broken abdomen, while female recorded from the same site lacks full abdomen. The specimen recorded from Mergui is a teneral.

Rhinocypha trimaculata Selys, 1853

Material examined: Cachar, 1921, 3♂♂ 2♀♀, Antram leg., Fraser det.

State of preservation: Two male and one female have terminally broken abdomen.

Rhinocypha unimaculata Selys, 1853

Material examined: Darjeeling, date not cited, 1♂ 1♀, Stevens leg., Fraser det.

State of preservation: Intact; whole specimens present.

Coenagrionidae

Aciagrion hisopa (Selys, 1876)

Material examined: Nilgiris (1500'), 09.ii.1920, 1♀, Fletcher leg., Fraser det.; Nilgiris (Coenoor, 6800ft), 28.ii.1920, 1♂, Fletcher leg., Fraser det.; Coimbatore, 13.xii.1921, 1♀, Fraser leg & det.; Ceylon: Matale Suduganga, 09.xi.1919, 1♀, R. Senior, leg., Fraser det.

State of preservation: The specimen recorded from Ceylon (Matale Suduganga) on 09.xi.1919 lacks whole abdo-men.

Aciagrion occidentale Laidlaw, 1919

Material examined: Coorg: Sidapur, 1♀, 26.iv.1923, Fraser leg. & det.; Coorg: Hallery, 02.ii.1924, 1♀, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimens present.

Aciagrion olympicum Laidlaw, 1919

Material examined: Kumaon (7000'): Muktesar, 12.v.1923, 1♀, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimen is present.

Aciagrion pallidum Selys, 1891

Material examined: Khassi Hills: Shillong, 01.xi.1919, 2♀ ♀ 1♂, Fletcher leg., Zia det.; 27.x.1912, 1♂, collector not cited, Zia det.; 28.x.1919, 1♂, Fletcher leg., Zia det.

State of preservation: Intact; whole specimens present.

Aciagrion approximans (Selys, 1876)

Material examined: Shillong, 1♂, 21.iv.1920, Fletcher leg., Fraser det.; 12.viii.1919, 1♂, Fletcher leg., Fraser det.; 20.x.1919, 1♂, Fletcher leg., Fraser det.; 10.x.1919, 1♂, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimens present.

Agriocnemis clauseni Fraser, 1922

Material examined: Margherita, 14-19.v.1920, 1♀, Fletcher leg., Fraser det.; Shillong, [August - October, 1920, 1♂, 02.vi.1920, 1♂, 01.x.1920, 1♂], Fletcher leg., Fraser det.; Gauhati, 28.v.1920, 1♂, Fletcher leg., Fraser det.

State of preservation: The specimen recorded from Margherita is a missing head specimen.

Agriocnemis dabreui Fraser, 1919

Material examined: Gauhati, 18.xi.1919, 2♂♂, Fletcher leg., Fraser det.; Assam: Tocklai Jorhat District, 06-12.xi.1919, 1♂, Fletcher leg., Fraser det.; 06.xi.1919, 1♀, Fletcher leg., Fraser det.; 11.xi.1919, 1♀, Fletcher leg., Fraser det.

State of preservation: One specimen recorded from Gauhati is a terminally broken abdomen specimen.

Agriocnemis femina (Brauer, 1868)

Material examined: Gauhati, 14.xi.1919, 1♂, Fletcher leg., Zia det.; 14.xi.1919, 1♀, Fletcher leg., Zia det.; 26.v.1920, 1♂, Fletcher leg., Fraser det.; Assam: Tocklai Jorhat District, 4/10.xi.1919, 1♀, Fletcher leg., Zia det.; 6-12.xi.1919, 1♂ Fletcher leg., Zia det.

State of preservation: Intact; whole specimens present.

Agriocnemis lacteola Selys, 1877

Material examined: Assam: Tocklai Jorhat District, 06-12.xi.1919, 1♂ 1♀, Fletcher leg., Fraser det.

State of preservation: Right hind wing missing in the male specimen.

Agriocnemis pieris Laidlaw, 1919

Material examined: Wynaad: Gudalur, 16.x.1921, 1♂ 3♀ ♀, Fletcher leg., Fraser det.; Coorg: Somwarpet, 04.v.1923, 1♀, Fraser leg. & det.

State of preservation: Intact; whole specimens present.

Agriocnemis pygmaea (Rambur, 1842)

Material examined: Assam: Tocklai Jorhat District, 6-12.xi.1919, 1♀, Fletcher leg., Zia det.; 07.xi.1919, 1♂, Fletcher leg., Zia det.; Gauhati, 04.xi.1919, 1♂, Fletcher leg., Zia

det.; Pusa Bihar, 02.viii.1920, 1♀, Fletcher leg., Fraser det.; Margherita, 14-19.v.1920, 1♀, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimens present.

Agriocnemis splendidissima Laidlaw, 1919

Material examined: Coorg: Somwarpet, 30.i.1924, 1♀, Fletcher leg., Fraser det.; Virajper, 04.ix.1923, 1♂, Fraser leg. & det., Mhow C.P., 20.ii.1921, 1♂, Fraser leg. & det.

State of preservation: Intact; whole specimens present.

Amphiallagma parvum (Selys, 1876)

Material examined: Pusa, 11.viii.1918, 1♂, leg. Rangi, Fraser det.; Pusa Bihar, 06.ii.1920, 1♀, Fletcher leg., Fraser det.; 01.iii.1919, 1♂, A. G. R. leg., Fraser det.; 10.iii.1914, 1♂ 1♀, A. G. R. leg., Fraser det.

State of preservation: Intact; whole specimens present.

Ceriagrion cerinorubellum (Brauer, 1865)

Material examined: Gauhati, 01.viii.1919, 1♂, Fletcher leg., Zia det.; 18.xi.1919. 1♀, Fletcher leg., Zia det.; Margherita, 14/19.v.1920, 1♂, Fletcher leg., Zia det.; Mergui, 1921, 2♂♂, leg. Butt, Zia det.

State of preservation: Abdomens of male specimen from Gauhati and one male from Mergui are missing.

Ceriagrion coromandelianum (Fabricius, 1798)

Material examined: Madras, date & collector not cited, 1♂, Zia det., Wynaad (4000'): Gudatur, 14.xii.1922, 1♀, Fletcher leg., Fraser det.; Coimbatore 13.x.1921, 1♂ 1♀, Fletcher leg., Fraser det.; Margherita, 14/19.v.1920, 1♂, Fletcher leg., Fraser det.; Upper Burma: Maymyo (500'), 10/21.viii.1914, 1♂, Fletcher leg., Fraser det.

State of preservation: The female from Coimbatore is a missing head specimen while male from Madras and female from Burma lack abdomen.

Ceriagrion melanurum Selys, 1876

Material examined: Khasi Hills: Shillong, 07.viii.1919, 1♂, Fletcher leg., Zia det.; August-October 1919, 2♂♂, collector not cited, Zia det.

State of preservation: Specimen from Shillong lacks abdomen.

Ceriagrion olivaceum Laidlaw, 1914

Material examined: Khasi Hills: Shillong, 20.x.1919, 2♂♂ 1♀, Fletcher leg., Zia det.; Shillong, 27.x.1919, 2♀♀, Fletcher leg., Zia det.; 16.ix.1920, 1♀, Fletcher leg., Zia det.

State of preservation: Specimens from Shillong (recorded on 27.x.1919) have terminally broken abdomen while one recorded on 16.ix.1920 has left forewing broken.

Ceriagrion rubiae Laidlaw, 1916

Material examined: Coorg: Somwarpet, 30.i.1924, 2♀♀, Fletcher leg., Zia det.; Coorg: Mansalne Ghat, 02.ii.1924, 1♂, Fraser leg., Zia det.; Coorg: Marcura 3rd mile, 08.ix.1923, 1♂, Fraser leg & det.

State of preservation: Intact; whole specimens present.

Ischnura rubilio (Selys, 1876)

Material examined: Khassi Hills: Shillong, 26.x.1919, 1♂, Fletcher leg., Zia det.; Shillong, 01.x.1920, 1♀, Fletcher leg., Fraser det.; Assam: Tocklai Jorhat District, 6/12.ix.1919, 1♀, Fletcher leg., Fraser det.; Nilgiris (6800'): Coorg, 28.ii.1920 & 07.i.1922, 1♀, collector not cited, Fraser det.

State of preservation: The male specimen recorded from Shillong is a missing head specimen specimen. The female from Nilgiris lacks right forewing.

Ischnura forcipata Morton, 1907

Material examined: Kumaoon (7500'): Muktesar, 13.ix.1922, 1♂, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimens present.

Ischnura nursei Morton, 1907

Material examined: "*Rhodischnura nursei*", Pusa, 26.iii.1919, 1♂, Fletcher leg., Zia det.; Bihar, 21.iii.1921, 1♂, Fletcher leg., Zia det.; Bengal, 22.iii.1911, 1♂ (from Lucerne), leg. S.S, Zia det.; Baghauni, Laheria Sarai, 01.i.1921, 1♂, C.M. Inglis leg., Zia det., Fraser det.; locality and collector not cited, 07 .vi. 1921, 1♂, Fraser det.

State of preservation: Intact; whole specimens present.

Ischnura rufostigma Selys, 1876

Material examined: Assam: Tocklai Jorhat district, 6/12.xi.1919, 1♀, Fletcher leg., Zia det.; Kumaoon: Bhim Jol, 10.ix.1922, 1♀, Fletcher, leg. & det.; Mhow C.P., 05.ii.1921, 1♂, Fraser leg., Zia det.; 20.ii.1921, 1♀, Fraser leg., Zia det.

State of preservation: The specimen recorded on 26.iii.2019 is a missing head specimen.

Ischnura senegalensis (Rambur, 1842)

Material examined: Burma: Prome district, Nabebyn, 26.x.1921, 1♀, Mrs. Swithinbank leg., Fraser det.; Mandlay, October 1920, 1♀, leg. Rangi, Fraser det.; Gauhati, 18.xi.1919, 1♀, Fletcher leg., Fraser det.; Baghauni: Bihar, 08.ii.1921, 1♀, C.M. Inglis, leg., Fraser det.; Ceylon: Kanthalai Tank, 06.x.1919, 1♂, R. Senior White, leg., Fraser det.

State of preservation: The female recorded from Nabebyn lacks head and has terminally broken abdomen as well.

Paracercion calamorum (Ris, 1916)

Material examined: "*Coenagrion dyeri*", Ranchi, 16.viii.1922, 3♂♂, Fletcher leg., Fraser det.; 22.viii.1922, 1♂, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimens present.

Pseudagrion bengalense Laidlaw, 1919

Material examined: Assam; Tocklai Jorhat district, 06.xi.1919, 1♀, Fletcher leg., Zia det.; Ranchi, 22.viii.1922, 1♂, Fletcher leg., Fraser det.; 24.viii.1922, 1♂, Fletcher leg., Fraser det.; 06.xi.1921, 1♂, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimens present.

Pseudagrion decorum (Rambur, 1842)

Material examined: Calcutta, 01.xi.1921, 1♂, Fletcher leg., Fraser det.; Ranchi, 1♀, 23.viii.1922, collector not cited, Fraser det.; 17.viii.1922, 1♂, Fletcher leg., Fraser det.; Coimbatore, 20.ii.1920, 1♂, collector not cited, det. Fletcher; Pusa Bihar, 30.xii.1919, 1♀, Fletcher leg., Fraser det.

State of preservation: The specimen recorded from Calcutta is a missing head specimen.

Pseudagrion hypermelas Selys, 1876

Material examined: Mhow C.P., 20.ii.1921, 1♂ 1♀, Fraser leg. & det. 29.i.1921, 1♀, Fraser leg. & det.

State of preservation: The specimen recorded on 29.i.1921 has terminally broken abdomen.

Pseudagrion indicum Fraser, 1924

Material examined: Wynaad (4000'): Gudatur, 14.x.1922, 1♂, Fletcher leg., Fraser det.; Nilgris (3000'): Nadgani, 27.viii.1922, 1♀, Fraser leg. & det.; Coorg: Hallery, 08.ix.1923, 1♀, Fraser leg. & det.

State of preservation: The specimen from Gudatur is a missing head specimen.

Pseudagrion laidlawi Fraser, 1922

Material examined: Pusa Bihar, 30.x.1920, 1♂, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimen present.

Pseudagrion malabaricum Fraser, 1924

Material examined: Coorg: Mercara, 10.x.1923, 1♂, Fraser leg. & det.; Coorg: Somwarpet, 1♂, 22.x.1923, Fletcher leg., Fraser det.; 30.i.1924, 2♂♂, 1♀, Fraser leg. & det.

State of preservation: Intact; whole specimens present.

Pseudagrion microcephalum (Rambur, 1842)

Material examined: "*Pseudagrion burmanensis*", Mergui, 1921, 2♀♀, Bott, leg., Fraser det.; Khassi Hills (1800'): Nongpoh, 17.iv.1920, 1♂, Fletcher leg., Fraser det.; Pusa Bihar, 1♂, 23.iii.1921, Fletcher leg., Fraser det.; 26.iii.1920, 1♀, Fletcher leg., Fraser det.; 22.iii.21, 1♂, Fletcher leg., Fraser det.; Ranchi, 1♀, 17.viii.1922, Fletcher leg., Fraser det.; Baghauni Bihar. 20.x.1920, 1♀, C.M. Inglis, leg., Fraser det.

State of preservation: Intact; whole specimens present.

Pseudagrion pruinosum (Burmeister, 1839)

Material examined: Mergui: 1921, 1♂, Boy, leg., Fraser det.

State of preservation: The specimen lacks head as well as abdomen.

Pseudagrion rubriceps Selys, 1876

Material examined: Assam: Tocklai Jorhat District, 08.xi.1919, 1♀, Fletcher leg., Fraser det.; Kumaon (9500'): Bhim Tal, 1♀, 10.ix.1920, Fletcher leg., Zia det.; Mhow. C.P., 29.i.1921, 1♀, Fraser leg. & det.; Coimbatore, [13.x.1921, 1♂, 23.x.1921, 1♀], Fraser leg. & det.

State of preservation: The specimen recorded from Assam lacks left wings as well as its head is missing.

Pseudagrion spencei Fraser, 1922

Material examined: Shillong, 22.iv.1920, 1♀, Fletcher leg., Fraser det.; Pusa Bihar, 26.iii.1920, 1♂, 1♀, Fletcher leg., Fraser det.; 07.x.1920, 1♀, Fletcher leg., Fraser det.; 18.x.1920, 1♂, Fletcher leg., Fraser det.

State of preservation: The female specimens recorded on 22.iv.1920 from Shillong and on 07.x.1920 from Pusa Bihar lacks head; the male specimen recorded on 26.iii.1920 from Pusa Bihar lacks right hind wing.

Pseudagrion williamsoni Fraser, 1922

Material examined: Margui, 1921, 2♂♂, Butt, leg., Fraser det.

State of preservation: Intact; whole specimens present.

Euphaeidae

Anisopleura comes Hagen, 1880

Material examined: Darjiling, 19.v.1919, 1♂ 1♀, Stevens leg., Fraser det.; Sikkim: Kurseong (5000'), 18-30.iv.1922, 1♂, Fletcher leg., Zia det.; Sikkim (3500'): Mungpu, 05.v.1922, 1♂, collector not cited, Fraser det.

State of preservation: Abdomen of male specimen from Darjiling is repaired through glue, while female's abdomen is broken terminally. Sikkim specimen is a teneral with body pressed and forewing damaged apically.

Anisopleura lestoides Selys, 1853

Material examined: Khassi Hills: Shillong, Aug./Oct. 1919, 2♂♂ 1♀, Fletcher leg., Zia det.; Shillong, 07.ix.1920, 1♂ 1♀, collector not cited, Zia det.

State of preservation: One forewing of female recorded from Shillong is damaged apically.

Bayadera hyalina Selys, 1879

Material examined: Assam (800'): Elephant Falls: Shillong, 03.vi.1924, 1♂, Fletcher leg., Zia det.

State of preservation: Abdomen of specimen was broken but now repaired through glue.

Bayadera indica (Selys, 1853)

Material examined: Nainital District (6000 - 7000'), 01/04.vii.1937, 1♂, R. Saran leg., Zia det.

State of preservation: Apically broken abdomen.

Dysphaea ethela Fraser, 1924

Material examined: Coorg; Canvery River, 1♂, 31.iii.1924, Fraser leg. & det.

State of preservation: Apically broken abdomen

Euphaea ochracea Selys, 1859

Material examined: "*Allophaea ochracea*", Assam (5000'): Shillong, 31.v.1924, 1♀, 08.vi.1924, 1♂, Fletcher leg., Zia det.

State of preservation: Intact; whole specimens present.

Pseudophaea cardinalis Fraser, 1924

Material examined: Palnis (6000'); Shem beganur, 1 ♂, date & collector not cited,, Zia det.

State of preservation: The specimen has apically broken abdomen.

Pseudophaea fraseri Laidlaw, 1920

Material examined: Coorg: Mercara Hallery, [10.v.1923, 1 ♀; 25.v.1923, 1 ♂], Fraser leg. & det.; Coorg: Sampaji Ghat, 07.x.1923, 1 ♀, Fraser leg. & det. Nilgiris: Wynaad, 14.viii.1921, 1 ♀, collector not cited, Zia det.; Siddapur: Coorg, 08.vii.1917, 1 ♂, T. R. Rao, leg., Fraser det.

State of preservation: The female specimen recorded from Mercara Hallery lacks right hind wing while the female recorded from Sampaji Ghat lacks head. The abdomen of male recorded from Mercara Hallery is also broken apically.

Lestidae

Indolestes indicus Fraser, 1922

Material examined: "*Indolestes indica*", Khassi Hills: Shillong, 27.x.1919, 1 ♂, Fletcher leg., Fraser det.; Aug./Oct., 1919, 1 ♀, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimens present.

Indolestes pulcherimus Fraser, 1924

Material examined: "*Indolestes pulcherima*", Coorg, 05.x.1923, 1 ♀, Fraser leg. & det., Coorg; Hallery Hoskoti swamp, 03.x.1923, 1 ♀, Fraser leg. & det.

State of preservation: Intact; whole specimens present.

Indolestes veronica Fraser, 1924

Material examined: Muktesar: Kumaon (7500ft), 22.ix.1922, 1 ♀, Fletcher leg., Fraser det.

Comments: Fraser (1924: 85) stated: "Two females from Kumaon, Muktesar, 7,000 feet, collected by Mr. Bain-brigge Fletcher, 1st October 1922. Type in Pusa collection. Differs from other species of the genus by the great length of pterostigma and by the dorsal stripes on segment 2 separated for their entire length or coalescent only a point apicalward. Apparently closely related to *I. helena*." The specimen in NIM is probably one of the two females collected by Mr. Bainbrigge Fletcher. The publication documented above mentioned 01/x/1922 as collection date. Probably that was written erroneously and the actual date is 22/ix/1922.

State of preservation: Intact; whole specimen present.

Lestes angularis Fraser, 1929

Material examined: "*Lestes albiceps*" Ranchi, 17.viii.1922, 1 ♀, Fletcher leg., Fraser det.

Comments: The specimen was re-checked and it turned to be a *L. angularis*.

State of preservation: Intact; whole specimens present.

Lestes dorothea Fraser, 1924

Material examined: "*Lestes dorothea*" Kurseong (6000'), 22.ix.1920, 1♂, collector not cited., Fraser det.; "*Lestes praemorsa dorothea*" Coorg: Virajpel, 29.viii.1923, 1♂, Fraser leg & det.; Mercara Hallery, 26.vi.1923, 1♂, Fraser leg. & det.

Comments: In collection, specimens recorded from Kurseong (6000') during 1920 were kept with labels "*Lestes dorothea*", however the two recorded from Virajpel and Mercara Hallery during 1923 were kept separately and labeled as "*Lestes praemorsa dorothea*". To remove confusion, these three specimens were re-examined, and they clearly appeared to be *Lestes dorothea*.

State of preservation: Intact; whole specimen present.

Lestes elatus Hagen in Selys, 1862

Material examined: "*Lestes elata* (Burmanensis)", Pusa, 26.vii.1924, 1♂, Fletcher leg., Zia det.; Coimbatore, 20.ii.1920, 2♀♀, collector not cited, Fraser det.; Ceylon, Matale Suduganga, 26.viii.1919, ♂ or ♀ (no abdomen present), R. Senior leg., Fraser det.; N. C. Province: Pahalawewa, 30.ix.1919, 1♂, R. Senior leg., Fraser det.; Coorg: Virajpel, 29.vii.1923, 1♀, Fraser leg. & det.

State of preservation: The specimen recorded from Matale Suduganga lacks abdomen.

Lestes nodalis Selys, 1891

Material examined: Margherita, 14/19.v.1920, 1♂, Fletcher leg., Fraser det.; Jorhat district, 04.xi.1919, 1♂, Fletcher leg., Fraser det.; Nomaligarh Sadiya, 21/25.v.1920, 1♀, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimens present.

Lestes praemorsus decipiens Hagen in Selys, 1862

Material examined: "*Lestes praemorsa*" Shillong, 20.ix.1920, 1♀, Fletcher leg., Fraser det.; Khassi Hills: Shillong, Aug./Oct. 1919, 1♀, Fletcher leg., Fraser det.; Coorg: Virajpet, 29.vii.1923, 1♂, Fraser leg. & det.; "*Lestes praemorsa* (melanotic type)", Margherita, 14.v.1920, 1♂, Fletcher leg., Fraser det., "*Lestes praemorsus decipiens*" 19.v.1920, 2♂♂, Fletcher leg., Fraser det.; Assam: Jocklai: Jorhat district, 12.xi.1919, 1♀, Fletcher leg., Fraser det.

Comments: In collection, few specimens were labeled as "*Lestes praemorsa*" and few were kept separately and labeled as "*Lestes praemorsa decipiens*". There were some others which were labeled as "*Lestes praemorsa* (melanotic type)". All of these specimens were carefully re-examined, and they all turned to be same i.e. *Lestes praemorsus decipiens*. The specimen recorded from Assam and labeled as "melanotic" was observed to be a teneral. This is similar to what Fraser (1933: 33) discussed by mentioning the presence of melanosis in few specimens and called them melanotic forms and even teneral form of melanotic species was discussed.

State of preservation: One male specimen recorded on 19.v.1920 lacks abdomen.

Lestes umbrinus Selys, 1891

Material examined: Pusa, 30.xii.1919, 1♀, collector not cited, Fraser det.; *"Lestes nigriceps*" Pusa, 14.vii.1922, 1♂, Fletcher leg. & det.

State of preservation: Intact; whole specimens present.

Lestes viridulus Rambur, 1842

Material examined: Pusa, 14.xi.1921, 4♂♂, Fletcher leg., Fraser det.; Baghowni: Bihar, 25.x.1920, 1♂, C.M. Inglis, leg., Fraser det.; Bombay (Elephant falls), November 1917, 1♂, Fraser leg. & det.; "*Lestes nigriceps*" Pusa, 20. vii. 1922, 1 ♀, Fletcher leg., Zia det.

State of preservation: Intact; whole specimens present. The specimen recorded on 20. vii. 1922 was found wrongly identified.

Megalestes major Selys, 1862

Material examined: Punjab: Murree, June, 1♂, leg. Dutt, Zia det.; Khassi Hills (7500'), Aug./Oct. 1919, 1♀, Fletcher leg., Zia det.; Mashobra: Shillong, 07.vi.1921, 1♂, collector not cited, Zia det.; Kumaon (6000'), 17.ix.1922, 1♂, collector not cited, Zia det.; Mangpu (3860'): Ritani Muktesar, 04.ix.1920, 1♂, C.M. Inglis, leg., Fraser det.

State of preservation: Intact; whole specimens present.

Lestidae indet.

Collection has an additional specimen in Lestidae: "*Sympycnoides* sp." Kurseong, 23.ix.1920, 1♂, C.M. Inglis, leg., Fraser det. 1921". It was also labelled as sp.nov. (Fig. 2 & 3).

State of preservation: The specimen is damaged: lacks head, right hind wing and terminal abdominal segments and therefore could not be identified. Field studies are encouraged within the known locality, i.e. Kurseong, India and its vicinities.

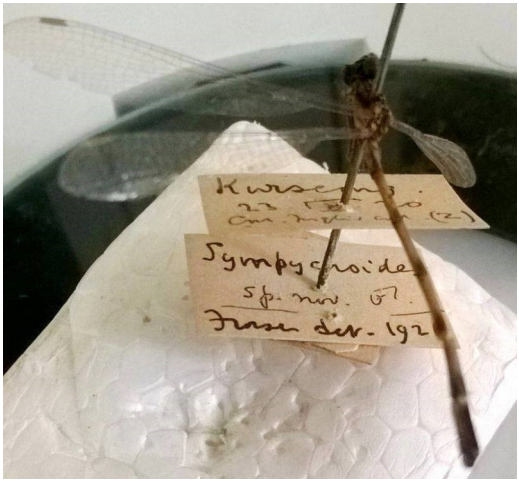

Figure 2. Close-up view of label attached to *Sympycnoides* sp. specimen.

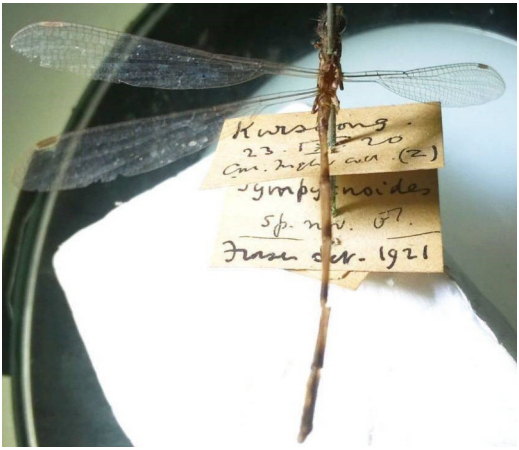

Figure 3. Close-up view of *Sympycnoides* specimen.

Philogangidae

Philoganga montana (Hagen in Selys, 1859)

Material examined: Shillong, 05.vi.1920, 1♂, Fletcher leg., Fraser det.; Assam: Shillong, 01.v.1924, 1♂, Fletcher leg., Zia det.

State of preservation: Intact; whole specimens present.

Platycnemididae

Caconeura sita (Kirby, 1894)

Material examined: Ceylon: Matate Suduganga, 26.x.1919, 1♂, R. S. White leg., Fraser det.

State of preservation: Abdomen missing.

Calicnemis chromothorax Selys, 1891

Material examined: Shillong, 06.vi.1920, 2♂♂, Fletcher leg., Fraser det.; Shillong: Khassi Hills, 03. viii.1919, 1♂, Fletcher leg., Fraser det.

State of preservation: Intact; whole specimens present.

Calicnemia eximia Selys, 1863

Material examined: Mangpu, 04.ix.1920, 1♀, C.M. Inglis, leg., Zia det.; Mangpu (3860'), 04.ix.1920, 1♂ 1♀, C.M. Inglis, leg., Fraser det.; Tista Road (1500'), 01.vi.1920, 1♂, C.M. Inglis, leg., Fraser det.; Sikkim (5000'): Kurseong, 08.vi.1922, 1♀, Fletcher leg., Zia det.

State of preservation: Abdomen of Tista Road specimen is broken terminally.

Calicnemia miniata Selys, 1886

Material examined: Assam (5000'): Shillong, 13.vi.1924, 1♀, Fletcher leg., Zia det.; Gauhati: Shillong (about 1000'), 05.viii.1919, 1♂, collector not cited, Zia det.

State of preservation: Male specimen lacks abdomen.

Calicnemia pulverulens (Selys, 1886)

Material examined: Darjeeling, March 1920, 1♂, collector not cited, Fraser det.

State of preservation: Left hind wing and abdomen of specimen is damaged.

Coeliccia didyma (Selys, 1863)

Material examined: Cachar, 05.ix.1921, 1♂, Antron, leg, Fraser, det.

State of preservation: Intact; whole specimen is present.

Coeliccia fraseri Laidlaw, 1932

Material examined: Shillong: Khassi Hills, 16.ix.1919, 1♂, Fletcher leg., Zia det.

State of preservation: Specimen lacks head and right hind wing.

Coeliccia chromothorax Selys, 1891

Material examined: Assam (5800ft, Elephant falls), 03.vi.1924, 2♂♂, Fletcher leg., Zia det.

State of preservation: Specimen lacks head and right hind wing.

Coeliccia renifera (Selys, 1886)

Material examined: "*Disparoneura nigerrima*" [Mhow C.P., 20.ii.1921, 1♂; 04.ii.1921, 1♂ 1♀], Fraser leg. & det., Manpu (3680'), 02.ix.1920, 1♀, collector not cited, Fraser det.

State of preservation: Intact; whole specimen is present.

Copera imbricata (Hagen in Selys, 1863).

Material examined: Margherita, 15.v.1920, 1♀, Fletcher leg., Fraser det.

State of preservation: Lacks whole meso and meta legs.

Copera vittata (Selys, 1863)

Material examined: "*Copera bivittata*", Burma; Prome district: Middle Nawis hills: Myaseikbin, 20.x.1921, 1♀, leg. Mrs. Swithinbank, Fraser det.; 24.x.1921, 1♀, Mrs. Swithinbank leg., Fraser det.; "*Copera vittata*", Margui, 1921, 1♂, Bott, leg., Fraser det.; Marherita, 14/19.v.1920, 1♂, Fletcher leg., Fraser det.; Coorg: 01.ii.1924, 1♂, leg. Hallery, Fraser det.

State of preservation: The specimens recorded from Myaseikbin on 20.x.1921 and from Coorg have missing abdomens, while the one recorded on 24.x.1921 have both; abdomen and head missing.

Copera marginipes (Rambur, 1842)

Material examined: Coimbatore, 23.ii.1920, 1♂, collector not cited, Fraser det.; Coorg, 29.i.1924, 1♂, Fletcher leg., Zia det.; Mhow C.P., 29.i.1921, 2♂♂ 1♀, Fraser leg. & det.

State of preservation: Among male specimens recorded from Mhow, one has left fore wing slightly damaged while other has left hind wing missing.

Disparoneura apicalis (Fraser, 1924)

Material examined: "*Chloroneura apicalis*", Coorg: 29.i.1924, 2♂♂, Fletcher, leg. & det.; Coorg: Cavvery, 06.v.1923, 1♂, Fraser leg. & det., 26.xi.1923, 1♀, Fraser leg. & det.

State of preservation: Intact, whole specimens present.

Disparoneura quadrimaculata (Rambur, 1842)

Material examined: "*Chloroneura quadrimaculata*", Poona: 1919, 1♂, Fraser leg. & det.

State of preservation: The specimen lacks abdomen, head and right hind wing.

Elattoneura atkinsoni Selys, 1886

Material examined: "*Disparoneura fletcheri*", Khassi Hills: Shillong, [August 1919, 1♀, 12.viii.1919, 1♂; 01.vi.1920, 1♀; 02.i.1920, 1♀; 19.vi.1920, 1♀], Fletcher leg., Fraser det.

State of preservation: Intact, whole specimens present.

Elattoneura nigerrima (Laidlaw, 1917)

Material examined: "*Disparoneura nigerrima*" [Mhow C.P., 20.ii.1921, 1♂; 04.ii.1921, 1♂ 1♀], Fraser leg. & det.

State of preservation: The male recorded on 20th February lacks right fore and hind wings and the male recorded on 4th February lacks left forewing.

Elattoneura tetrica (Laidlaw, 1917)

Material examined: "*Disparoneura tetrica*", Coorg: Sampaji Ghat, [18.iv.24, 1♀, 06.v.1923, 1♂], Fraser leg. & det.

State of preservation: The male is missing head specimen.

Caconeura gomphoides (Rambur, 1842)

Material examined: "*Disparoneura gomphoides*", Gercaud: Shervaroys (3000 - 5000'), 04.viii.1917, 1♂, Nagnath leg. & det.; Nilgiris (6000'), 1♂ 1♀, date & collector not cited, Fraser leg. & det., Ootacamund, 1-4.v.1921, 1♀, Mujtaba leg., Fraser det.

State of preservation: The male specimen recorded from Nilgiris is a damaged specimen; lacks head, left hind wing, Right forewing and abdomen. The female is a missing head specimen.

Caconeura ramburi (Fraser, 1922)

Material examined: "*Phylloneura ramburi*", Wynaad: Gudalur (4000'), 14.xii.1922, 1♂, Fletcher, leg. & det.

State of preservation: The specimen's abdomen is damaged apically.

Melanoneura bilineata Fraser, 1922

Material examined: Coorg: Sampajighal, [07.iv.1924, 1♂; 17.iv.1924, 1♀] Fraser leg. & det.; Coorg: Santikoppa (3000'), 01.vi.1923, 1♀, Fraser leg & det.: Coorg: Manglora Ghat (3000'), 23.v.1923, 1♀, Fraser leg. & det.

State of preservation: The female specimen recorded on 23.v.1923 is a missing head specimen.

Onychargia atrocyana Selys, 1865

Material examined: Gauhati, 28.v.1920, 1♂, Fletcher leg., Zia det.; Margherita, 14/19.v.1922, 1♂, Fraser leg., Zia det.; Coorg: Mansera tank, 03.x.1923, 2♂♂, Fraser, leg. & det.;

Mysore: Periapatam, 03.xi.1923, 1♂ 1♀, Fraser leg. & det.

State of preservation: Intact, whole specimens present.

Phylloneura westermanni Hagen in Selys, 1860

Material examined: Coorg: Malabar Ghat, 04.ix.1923, 1♀, Fraser le g. & det.

State of preservation: Missing head specimen.

Prodasineura verticalis (Selys 1860)

Material examined: "*Caconeura annandalei*", Nilgiris: Wynaad: Masnagudi, 08.viii.1921, 1♀, Fraser leg. & det. Wynaad: Gudalur, 16.x.1921, 1♀, Fletcher leg., Zia det.

State of preservation: Left forewing of specimen recorded from Gudalur is missing.

Platystictidae

Drepanosticta carmichaeli (Laidlaw, 1915)

Material examined: Sikkim: Regans River (1700'), 21.v.1922, 1♀, collector not cited, Fraser det.

State of preservation: Head is missing and abdomen is pressed and broken terminally.

Protosticta gravelyi Laidlaw, 1915

Material examined: Coorg: Siddapur, 29.iv.1917, 1♂, collector not cited, Zia det.; "*Protosticta mortoni*", Coorg: Mercara, 06.viii.1923, 1♀, collector not cited, Fraser det., "*Protosticta stevensi*" [Nilgiris: Burliyar (2000'), 19.x.1921, 1♂, Fletcher leg., Fraser det.; 11.vi.1922, 1♂, Fraser leg. & det. 18.viii.1921, 1♂, Fraser leg., Zia det.; 07.viii.1921, 1♂, Fraser leg., Zia det.; 30.viii.1921, 1♂, Fraser leg., Zia det.].

State of preservation: Intact, whole specimens present.

Protosticta sanguinostigma Fraser, 1922

Material examined: Nilgiris: Burliyar (2000'), 07.viii.1921, 1♂, collector not cited, Fraser det.; 11.viii.1921, 1♀, collector not cited, Fraser det.

State of preservation: Intact, whole specimens present.

Discussion

Present paper is an effort to bring forward records of Zygoptera specimens received through National Pusa Collection (NPC) that are now housed at National Insect Museum (NIM) of Pakistan in NARC, Islamabad. The collection of only Pre-Partition section has been dealt here. Pre-Partition section of museum contains over a million insects belonging to various insect orders including many types. This applaudable resource has never been reached nor described as it was not openly accessible in past due to many reasons and thus remained underutilized and undiscovered. It could safely be assumed that the list of insect species in this part of the world has increased several folds since creation of Pakistan especially in those groups which have attracted the attention of research workers.

Order Odonata is one of the group in which active work is in process at NIM. In the current document a record of 104 Zygoptera species has been brought forward. The collection

includes more than 100 year old specimens. The oldest specimen among Zygoptera collection is of *Rhinocypha bifasciata* recorded during 1908 i.e. 113 years ago. Among the housed species, only a single species i.e. *Megalestes major* came up from a locality (Murree) which is now part of Pakistan. All the other species are recorded from the Indian, Sri Lankan (Ceylon), Burma/Myanmar's territories and thus producing a very poor reflection for Zygoptera of territories that are now part of Pakistan. It does not mean that no species were recorded by British from areas that are under administrative boundaries of Pakistan, and these may possibly be present in the other part of NPC that is placed in Indian Museums. Information on those species, if any, should also come forward to enhance knowledge on Zygoptera of areas, now under Pakistan but recorded before partition in 1947.

Present paper not only provides an inventory for the inherited Zygoptera specimens, it also informs about their present condition and identification status at pre-partition time. As this collection was recorded approximately a century earlier, since then many species have been synonymized and re-described following latest classification of time to time, but due to unavailability of open access to this resources, here species were still labeled and tagged with the names as were given in those times by Fletcher, Fraser and many other taxonomists. In the current exercise all specimens were re-examined. The species whose names were found synonymized, revised, re-described or wrongly identified were addressed by providing validated names but, with original cited names within inverted commas. It is fortunate that even besides repeated transfers of this collection during 1947, 1980s and 2005, most of the specimens were found intact and in good condition. However only two species i.e. *Lestes angular* ("*Lestes angularis*" L. Burma: 6/8.viii.2014, Sex not cited, Fletcher leg.) and *Pseudagrion becoruin* (Pusa: 07.iv.2021. Sex and leg. not cited, Fraser det.) are the unfortunate species whose specimens are lost and no more physically present in collection. Their data is taken from the original tags and the register. One species i.e. *Lestes nigriceps* was found wrongly identified or with wrong label. On re-examination, its male turned to be a *Lestes umbrinus* specimens and female was identified as *Lestes viridulus*. Therefore in contrast to register entries, there isn't any Lestes nigriceps specimen at NIM in inherited Pusa collection section.

The inherited PUSA collection included two species i.e. *Coeliccia fraseri* and *Coeliccia chromothorax* that were found unidentified. These and some other unidentified specimens of few other species were examined, identified and labeled. In addition to these, there observed few species whose specimens were physically present in inherited collection but their data were not reflected in registers. These species includes *Calicnemia pulverulens, Coeliccia didyma, Matrona basilaris nigripectus, Echo margarita tripartita, Vestalis amoena, Vestalis apicalis, Vestalis gracilis gracilis, Vestalis smaragdina, Euphaea ochracea* and *Lestes viridulus.* All of these specimens were actually present in Anisoptera cabinets which may be a result of shifting process that caused mixing up of few Anisoptera and Zygoptera collections. Similarly few species with double names cited to them were found. All such cases were also settled. In addition to Zygoptera there is a handsome collection of Anisoptera housed at NIM (both in Pre-partition and Post partition section); data for these should also come forward. All these species were re-examined and settled.

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Authors are advised to avoid any formatting of the text. The manuscripts will be stylised according to the font type and size adopted by the journal. However, check for: a) all species names must be given in italic, b) the authority and year of publication are required on the first appearance of a species name in the text, but not thereafter, and c) citations and reference list must be arranged following the format below.

Reference cited in the text should read as follows: Tillyard (1924), (Tillyard 1924), Swezey & Williams (1942).

The reference list should be prepared according to the following standard:
Swezey, O. & F. Williams, 1942. Dragonflies of Guam. Bernice P. Bishop Museum Bulletin 172: 3-6.
Tillyard, R., 1924. The dragonflies (Order Odonata) of Fiji, with special reference to a collection made by Mr. H.W. Simmonds, F.E.S., on the Island of Viti Levu. Transactions of the Entomological Society London 1923 III-IV: 305-346.

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