



Notes on a Collection of Order Dermaptera (Insecta) from some States of North East India

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Abstract

Based on the studies of order Dermaptera (Insecta) deposited in the National Zoological Collections of Zoological Survey of India, Shillong, Meghalaya, the current paper deals with 22 species belonging to 11 genera under seven subfamilies, four families and three superfamilies. This study revealed six new records from the state of Meghalaya, three species from Manipur and one each from Assam and Arunachal Pradesh. The distributional records of each species are also provided.

Keywords: Assam, Arunachal Pradesh, Ear-wigs, Manipur, Meghalaya, Mizoram, New Records

Introduction

Dermaptera, commonly known as earwigs, are soft-bodied, elongated insects and mainly characterized by the presence of three jointed tarsi and unsegmented, chitinous forceps at the hind end of the body. They occur in a variety of habitats. Some of the species are capable of adapting themselves above the timber-line in the Himalayas and crawl freely even on snow. Although there is a comprehensive work on the Dermaptera fauna of India (Srivastava, 1988, 2003, 2013) and in the Fauna of Meghalaya (Srivastava, 1995), and other scattered literature from Manipur (Srivastava, 1975, Srivastava & Lahiri, 1983), there is not much information on the Dermaptera fauna of different states of the Northeastern region. The present study is based on the Dermaptera specimens deposited in the unidentified collection of the Zoological Survey of India (ZSI), Shillong. An attempt has been made to identify the Dermaptera through the available literature of few North-east Indian states.

Material and Methods

The specimens of Dermaptera collected by different researchers since 1960 and deposited at the North Eastern Regional Centre (NERC), ZSI, Shillong and some recent collections by the authors were sorted out, set-pinned and

identified based on their morphological characters and genitalia, following Srivastava (1988, 2003, 2013). The distribution is based on Srivastava (1988, 2003, 2013). All the identified specimens were registered under the collection of the NERC, ZSI, Shillong.

Results

A total of 97 specimens were identified into 22 species belonging to 11 genera under seven subfamilies, four families and three superfamilies. This paper reports six new records to Meghalaya: *Euborellia annandalei* (Burr, 1906), *Anisolabella dohrni* (Kirby, 1891), *Forcipula elongata* Srivastava, 1970; *F. jayarami* Srivastava, 1972; *Paracordax politus* (Burr, 1911); *Pterygida temora* (Burr, 1904); three new records to Manipur: *F. clavata* Liu, 1946; *F. indica* Brindle, 1966; *F. davidi* Burr, 1905; *F. clavata*, new record to Assam; *A. dohrni*, new record to Arunachal Pradesh. The systematics of all the identified species and distributional details are provided.

Taxonomic Account

Superfamily ANISOLABOIDEA

Family ANISOLABIDIDAE

Subfamily ANISOLABIDINAE

Genus *Aborolabis* Srivastava, 1969

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Aborolabis pervicina Burr, 1913

Material examined: 1 ex., Reg. No. I/DER/NERC-35, Meghalaya: East Khasi Hills Dist., 17.ix.2019, Coll. I. J. Kharkongor & Party; 1 ex., I/DER/NERC-36, Meghalaya: East Khasi Hills, Law-U-Sib, 15.ix.2019; 1 ex, I/DER/NERC-37, Meghalaya: East Khasi Hills, Law-U-Sib, 22.iv.2020, Coll. V.D. Hegde.

Distribution: India: Arunachal Pradesh, Assam, Himachal Pradesh, Meghalaya and Uttar Pradesh. *Elsewhere:* Bhutan and Nepal.

Genus ***Euborellia*** Burr, 1910***Euborellia annandalei*** Burr, 1906*

Material examined: 1 ex., Reg. No. I/DER/NERC- 57, Meghalaya: East Khasi Hills, Risa Colony, Shillong, 29.i.2020, Coll. V. D. Hegde.

Distribution: India: Assam, Bihar, Meghalaya (new record), Uttar Pradesh and West Bengal. *Elsewhere:* Sri Lanka.

Euborellia annulipes Lucas, 1837

Material examined: 1ex., Reg. No. I/DER/NERC- 61, Meghalaya: East Khasi Hills Dist., Meghalaya, BSI Campus, 24.vii.2019, Coll. V. D. Hegde; 1ex., I/DER/NERC- 78, Meghalaya: East Khasi Hills Dist., Shillong, 10.xi.2019, Coll. B. Saikia; 1ex., I/DER/NERC- 79, Meghalaya: East Khasi Hills Dist., 17.ix.2019, Coll. I. J. Kharkongor and Party; 2exs., I/DER/NERC-80, Meghalaya: East Khasi Hills Dist., Law-U-Sib, 26.iv.2020; 1ex., I/DER/NERC-81, Meghalaya: East Khasi Hills Dist, Fruit Garden, Shillong, 21.xi.2019; 1ex., I/DER/NERC- 82, Meghalaya: East Khasi Hills Dist., Laityngkut, 06.xii.2019, Coll. V.D. Hegde & Party.

Distribution: INDIA: Assam, Bihar, Meghalaya, Maharashtra, Manipur Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal. *Elsewhere:* Bangladesh, Bhutan, China, Myanmar, Nepal, Pakistan and Sri Lanka.

Genus ***Anisolabella*** Zacher, 1911***Anisolabella dohrni*** Kirby, 1891**

Material examined: 2exs, I/DER/NERC- 08, Assam: Kaziranga Century, Mihimukh, 17.xi.1974, Coll. M. Datta and Party; 1ex, I/DER/NERC- 09, Arunachal Pradesh: Subansiri Dist., Hapoli, 10.xi.1975, Coll. K. R. Rao and Party; 1ex, I/DER/NERC- 10, Arunachal Pradesh: Subansiri Dist., Nara (Taliha), 21.xi.1975, Coll. K. R. Rao and Party;

1ex, I/DER/NERC- 11, Meghalaya: East Khasi Hills Dist., Happy Valley, Shillong, 30.vii.2020, Coll. Manjeet Kaur.

Distribution: India: Arunachal Pradesh (new record), Andhra Pradesh, Assam (new record), Maharashtra and Tamil Nadu. *Elsewhere:* Sri Lanka, Central and North Central Provinces.

Family LABIDURIDAE

Subfamily LABIDURINAE

Genus ***Labidura*** Leach, 1815***Labidura riparia*** Pallas, 1773

Material examined: 1ex, Reg. No- I/DER/NERC- 22, Arunachal Pradesh: Bansari Hawa camp, Range River, 11.xii.1975, Coll. K. R. Rao and Party; 2exs, I/DER/NERC- 23; 28, Assam: Kaziranga, Mihimukh, 17.ii. 1974, Coll. M. Datta and Party; 1ex, I/DER/NERC- 26, Meghalaya: Garo Hills, Songsak, 12.xi.1978, Coll. K. P. Singh; 1ex, I/DER/NERC- 27, Mizoram: North Vanlaiphai, 13.v.1993, Coll. S. J. S. Hattar and Party; 1ex, I/DER/NERC- 29, Meghalaya: South Garo Hills Dist., Siju cave and around, 3.vi.1992, Coll. Y. P. Sinha and Party; 1ex, I/DER/NERC- 89, Manipur: Tamenglong, 06.x.2019, Coll. U. Saikia and Party.

Distribution: India: Cosmopolitan, ranging from seashore to mountains in diverse ecological niches.

Remarks: This species is most common in tropical parts of the world.

Genus ***Forcipula*** Bolivar, 1897***Forcipula aborensis*** Brindle, 1966

Material examined: Reg. No - I/DER/NERC- 33, 1 ex, Assam: Haflong Hills, 21.xii.1972, Coll. S. K. Chanda.

Distribution: India: Arunachal Pradesh and Assam.

Forcipula borelli Chopard, 1924

Material examined: 1ex., Reg. No- I/DER/NERC- 62, Meghalaya: South Garo Hills Dist.: Siju village, Near Siju cave, 04.i.2020I; 1ex., I/DER/NERC- 63, Meghalaya: East Khasi Hills Dist., Nongiri, 09.i.2020, Coll. I. J. Kharkongor and Party.

Distribution: INDIA: Assam, Meghalaya and Sikkim. Endemic to North East India.

Forcipula clavata Liu, 1946

Material examined: 1 ex, Reg. No- I/DER/NERC- 60, Manipur: Lower Khatang, 04.xi.2019, Coll. S.

D. Gurumayum and Party; 1ex., I/DER/NERC- 64, Meghalaya: East Khasi Hills Dist., 3rd Mile: Upper Shillong, 05.x.2020, Coll. P.Burathoki coll.; 1ex., I/DER/NERC- 70, Assam: Kaziranga, 17.ii.1974, Coll. M. Datta; 1ex., I/DER/NERC- 71, Arunachal Pradesh: Subansiri: Tamen Boa: Simla, 16.xi.1975, Coll. K.R. Rao and Party 1ex., I/DER/NERC- 91, Meghalaya: East Khasi Hills Dist: Mairong, 25.ix.1978, Coll. S. K. Chanda; 1ex., I/DER/NERC- 95, Meghalaya: East Khasi Hills Dist., Kench Trace, Shillong, 10.iii.1960, Coll. T. G. Vazirani.

Distribution: India: Arunachal Pradesh, Assam (new record), Manipur (new record) and Meghalaya. *Elsewhere:* China, Nepal and New Guinea.

Forcipula elongata Srivastava, 1970

Material examined: 4exs (♀), (Reg. No- I/DER//NERC-56, Meghalaya: East Khasi Hills Dist., Sohra, 09.xi.2020, Coll. V. D. Hegde and Party.

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

Forcipula indica Brindle, 1966

Material examined: 3 exs. (♀), Reg. No-I/DER/NERC-05, Manipur: Lower Khatang, 04.xi.2019, Coll. S. D. Gurumayum; 4 exs (♂), I/DER/NERC- 06, Meghalaya: East Khasi Hills Dist., Sohra, 09.xi.2020, Coll. V. D. Hegde and Party, 1 ex (♂), I/DER/NERC- 65, Meghalaya: Garo Hills: Rambogiri, 05.xi.1978, Coll. K. P. Singh; 1 ex (♂), I/DER/NERC- 66, Arunachal Pradesh: Subansiri Dist.: Tamen Boa, 16.xi.1975, Coll. K. R. Rao and Party; 1 ex (♀), I/DER/NERC- 67, Arunachal Pradesh: Basans D. S, 07.ii.1973, Coll. R. S. Pillai and Party.

Distribution: India: Arunachal Pradesh, Assam, Manipur (new record), Meghalaya and Sikkim. *Elsewhere:* Bhutan.

Forcipula trispinosa Dohrn, 1863

Material examined: 1 ex (♂), Reg. No- I/DER/NERC- 01, Meghalaya: East Khasi Hills Dist., Risa colony, Shillong, 06.ix.2019, Coll. V. D. Hegde; 1 ex (♂), I/DER/NERC- 02, Meghalaya: South Garo Hills: Siju Cave, 12.xii.2018, Coll. I. J. Kharkongor and party; 4 exs (♀), I/DER/NERC- 03 ; 04, Meghalaya: Garo Hills: Rambogiri, 05.xi.1978, Coll. K. P. Singh.

Distribution: India: All along the Himalayas in India. *Elsewhere:* Bhutan, Myanmar, Nepal and Pakistan.

Forcipula quadrispinosa Dohrn, 1863

Material examined: 1 ex (♂), Reg. No- I/DER/NERC- 58, Arunachal Pradesh: Basan SO, ., 07.ii.1973, Coll. R. S. Pillai and Party; 1 ex (♂), I/DER/NERC- 59, Meghalaya: East Khasi Hills Dist., Risa Colony, Shillong, 15.xi.2019, Coll. V. D. Hegde.

Distribution: India: All over India below 30,00 ft. in Himalayas and Chhattisgarh. *Elsewhere:* Bhutan, Java, Mauritius, Myanmar, Nepal, the Philippines, South China, Sri Lanka, Thailand and Vietnam.

Superfamily PYGIDICRANOIDEA

Family PYGIDICRANIDAE

Subfamil PYGIDICRANINAE

Genus *Acrania* Burr, 1915

Acrania fletcheri Bharadwaj and Kapoor, 1967

Material examined: 1ex (♂), Reg. No- I/DER/NERC-20, Meghalaya: East Khasi Hills Dist., Law- U- Sib, 15.xii.2020, Coll. V. D. Hegde.

Distribution: India: Assam, Manipur and Meghalaya.

Remark: This species is endemic to Assam, Meghalaya and Manipur.

Super family ANISOLABOIDEA

Family FORFICULIDAE

Subfamily OPISTHOCOSMINAE

Genus *Paracordax* Srivastava, 1998

Paracordax politus Burr, 1911

Material examined: 1ex., Reg. No- I/DER/NERC- 68, Meghalaya: East Khasi Hills: Madan Umroi, 04.ix.2019, Coll. V. D. Hegde.

Distribution: India: Arunachal Pradesh, Manipur, Meghalaya (new record), Sikkim and West Bengal. *Elsewhere:* Chinese Frontier, Myanmar.

Genus *Eparchus* Burr, 1907

Eparchus insignis Haan, 1842

Material examined: 1 ex (♂), Reg. No- I/DER/NERC- 13, Meghalaya: East Khasi Hills Dist., Risa colony, Shillong, 25.v.2020, Coll. N. Sapkota; 2 exs (♀), I/DER/NERC- 14, Meghalaya: East Khasi Hills Dist., Mawlyngot, 17.ix.2019, Coll. I. J. Kharkongor and Party; 1 ex (♀), I/DER/NERC- 15, Meghalaya: East Khasi Hills Dist, 02.viii.2019, Coll. B.

Saikia; 1 ex (♂), I/ DER/ NERC- 16, Meghalaya: Ri-Bhoi Dist.: Umiam Lake, 07.x.2019, Coll. V. D. Hegde; 1 ex (♂), I/DER/NERC- 17, Meghalaya: East Khasi Hills Dist., Law- U- Sib, 19.xi.2019, Coll. V. D. Hegde; 3 exs (♂), I/ DER/NERC- 19, Meghalaya: East Khasi Hills Dist., Law- U- Sib, 25.i.2020, Coll. V. D. Hegde.

Distribution: India: It occurs in plains and Himalaya (2,133 m). *Elsewhere:* Widely distributed in the Oriental Region.

Eparchus simplex Bormans, 1894

Material examined: 1ex., Reg. No- I/DER/NERC- 90, Meghalaya: East Khasi Hills Dist., Law-U- Sib, Shillong, 15.ix.2019, Coll. V. D. Hegde.

Distribution: India: Arunachal Pradesh, Assam, Manipur, Meghalaya, Sikkim, Uttarakhand and West Bengal. *Elsewhere:* Bhutan, China, Myanmar, Nepal and Thailand

Subfamily FORFICULINAE

Genus ***Forficula*** Linnaeus, 1758

Forficula beelzebub Burr, 1900

Material examined: 1ex., Reg. No- I/DER/NERC- 39, Meghalaya: East Khasi Hills, Law-U-Sib, Shillong, 27.x.2019, Coll. V. D. Hegde; 2exs., I/DER/NERC- 40, Meghalaya: East Khasi Hills, Law-U-Sib, Shillong, 26.iv.2020, Coll. V. D. Hegde; 7exs., I/DER/NERC- 43, Meghalaya: East Khasi Hills, Botanical Garden, Shillong, 25.iv.1960, Coll. S. N. Prasad; 1ex., I/DER/NERC- 75, Meghalaya: Ri- Bhoi Dist., Nongkhylliem, 01.vii.2020, Coll. V. D. Hegde; 1ex., I/DER/NERC-76, Meghalaya: East Khasi Hills Dist., BSI Campus, 22.vii.2019, Coll. V. D. Hegde; 1ex., I/DER/NERC- 105, Meghalaya: East Khasi Hills Dist., Lalchand Basti, 06.v.1963, Coll. V. D. Srivastava; 1ex., I/DER/NERC- 109, Meghalaya: East Khasi Hills Dist., Risa Colony Shillong, 17.vii.1972, Coll. K. Deb.

Distribution: India: All along the Himalaya in India. *Elsewhere:* Bhutan, Kenya, Myanmar, Mountains of South China and Nepal.

Forficula davidi Burr, 1905

Material examined: 1ex., Reg. No- I/DER/NERC-111, Manipur: K. Lamjao, 11.ii.1993, Coll. A. Bhattacharji.

Distribution: India: Himachal Pradesh and Manipur (new record). *Elsewhere:* China: Szechwan, Yunnan, Gansu and Tibet.

Remark: this species is a new record for Manipur.

Forficula jayarami Srivastava, 1972

Material examined: 1ex., Reg. NO-I/DER/NERC- 86, Meghalaya: East Khasi Hills Dist., Law-U-Sib, Shillong, 14.xii.2019, Coll. V. D. Hegde.

Distribution: India: Arunachal Pradesh, Meghalaya (new record) and Sikkim.

Remark: Endemic to North-East India

Forficula planicollis Kirby, 1891

Material examined: 1ex., Reg. No- I/DER/NERC- 85, Meghalaya: East Khasi Hills Dist., Risa Colony, Shillong, 06. ix. 2019, Coll. V. D. Hegde.

Distribution: India: Arunachal Pradesh, Manipur, Meghalaya, Sikkim, Uttarakhand and West Bengal. *Elsewhere:* Bhutan, China, Myanmar and Nepal.

Subfamily EUDOHRNIINAE

Pterygida temora Burr, 1904

Material examined: 1ex., Reg. No- I/DER/NERC- 38, Meghalaya: East Khasi Hills Dist., Risa Colony, 20.v.2020, Coll. V. D. Hegde.

Distribution: India: Meghalaya (new record), Sikkim, Uttarakhand and West Bengal. *Elsewhere:* China and Indonesia.

Subfamily ALLODAHLINAE

Genus ***Allodahlia*** Verhoeff, 1902

Allodahlia scabriuscula Serville, 1839

Material examined: 4 exs (♂), Reg. NO- I/DER/NERC- 30, Meghalaya: East Khasi Hills Dist., Mawlyngot, 17.ix.2019, Coll. I. J. Kharkongor and Party; 3 exs (♂), I/ DER/NERC- 31, Meghalaya: East Khasi Hills Dist., Fruit Garden, Shillong, 23.vi.1977, Coll. M. S. Jyrwa; 1 ex (♂), I/DER/NERC- 32, Meghalaya: East Khasi Hills Dist., Happy Valley, 16.xii.2019, Coll. Manjeet Kaur; 5 exs (♀), I/DER/NERC- 54, Meghalaya: East Khasi Hills Dist., Fruit Garden, Shillong, 23.vi.1977, Coll. M. S. Jyrwa; 2 exs (♀), I/DER/NERC- 55, Meghalaya: East Khasi Hills Dist., Happy Valley, Shillong, 16.xii.2019, Coll. Manjeet Kaur.

Distribution: India: Arunachal Pradesh, Meghalaya, Sikkim, Uttarakhand and West Bengal. *Elsewhere:* Bali, Bhutan, Borneo, China, Indonesia, Laos, Myanmar, the Philippines, Taiwan, Thailand and Vietnam.

Discussion

The present study recorded 22 species based on the collection of Dermaptera from five states of North East India. The genus *Forcipula* is the most dominant genus with 7 species. *Anisolabella dorhni* is a new record to Meghalaya and Arunachal Pradesh, whereas *Forcipula clavata* is new record to Manipur and Assam. Six species from Meghalaya, one species each from Arunachal Pradesh and Assam and three species from Manipur are new records to the respective states. Mizoram is represented by only one species, *Labidura riparia*, which

is the most common species found in all five states. Since North-east India is one of the biodiversity hotspots, further studies in the region may reveal interesting findings of Dermaptera fauna.

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