ON THE HIGHER CLASSIFICATION OF CHELISOCHIDAE (INSECTA : DERMAPTERA) WITH A CHECK LIST OF SPECIES

G. K. SRIVASTAVA*
Zoological Survey of India, M-Block, New Alipore, Kolkata-700 053

INTRODUCTION

Family Chelisochidae is mainly characterised by the second tarsal segment narrowed apically, extending below the third approximately up to the middle.

Srivastava (1987) on the basis of the syntype Male of Chelisoches doriae Bormans, 1900, treated it as a synonym of Lobophora superba Dohrn, 1865. He pointed out that the costal fold is prominent but lacks costal carina. In the present paper, this species is placed under the genus Chelisochella Verhoeff, subfamily Chelisochellinae Steinmann, 1975. Chelisochella is the type genus of Chelisochellinae, and since it lacks costal carina of elytra, the Chelisochellinae is treated as a synonym of Chelisochinae. The genus Chelisochella, however, is retained in being distinct from others by having stout build, metallic sheen on body, elytra with humeral angles very prominent and hind tarsi not sulcate or deplanate at apex.

A new subfamily Kinellinae is proposed for the genus Kinesis Burr, 1907 which is characterised by the medium size (12.0 mm approx.), elytra abbreviated with a distinct ridge along the costal margin.

Amongst the genera included under Chelisochinae, the Adiathus Burr, 1907 now includes only the type species viz., Chelisoches shelfordi Burr, 1901, from Borneo & Sikkim and is different from other species (now transferred to the genus Adiathella Brindle, 1970) in having punctate elytra and densely pubescent body.

Sizochedisoches Steinmann, 1987 and Schizoproreus Steinmann, 1987 are treated as synonym of Chelisoches and Proreus, respectively. The above two synonymised genera were erected by splitting above two genera, on the basis of male parameres having vertical cleft or indentation, recognised earlier on morphological characters alone. The shape of paramere, as whole, in Forficulidae is not of much significance except in certain cases for separating closely related species along with other external features.

*Present address : 19/335, Indira Nagar Extn., Lucknow-226 016
Key to the various taxa of *Chelisochidae*

1(2). Elytra along the costal margin with a raised ridge; wings concealed ................................................................. Kinellinae subfam. n. ................................................................. Kinesis Burr, 1907

2(1). Elytra along the costal margin without any ridge; wings normally well developed............. Chelisochinae Burr, 1907 (= Chelisochellinae Steinmann, 1975—Syn. n.)

3(6). Hind tibiae neither flattened nor sulcate at extreme apex

4(5). Build robust, glabrous; elytra and wings smooth, former with humeral angle prominent ............................................................. *Chelisochella* Verhoeff, 1902

5(4). Build not so robust, hairy; elytra and wings punctulate, former with humeral angles not prominent ............................................................. *Adiathetus* Burr, 1907

6(3). Hind tibiae flattened or sulcate at extreme apex or in apical ¼ to ½

7(14). Hind tibiae flattened or sulcate at extreme apex

8(9). Elytra short, posterior margin obliquely truncate; wings absent; forceps, in males, undulate with three teeth internally, forceps, in females, with long, slender branches; Male parameres wide apically ............................................................. *Tauropygia* Brindle, 1970

9(8). Elytra longer, posterior margin not obliquely truncate; wings visible; male forceps not as above

10(11). Pronotum transverse; hind tarsi with segments stout, less compressed................................. *Euenkrates* Rehn, 1927

11(10). Pronotum longer than broad; hind tarsi with segments slender, compressed

12(13). Male and females forceps similar in shape and length, former with teeth internally; pygidium, in both sexes, posteriorly excised medially but in females narrower .................

............................................................. *Gressittolabis* Brindle, 1970

13(12). Male and female forceps dissimilar in shape and length; pygidium in both sexes normally sexually dimorphie ............................................................. *Adiathella* Brindle, 1970

14(7). Hind tibiae sulcate in apical ¼ to ½

15(16). Hind tibiae sulcate in apical ¼; 1st tarsal segment longer than 3rd segment ............................................................. *Exypuus* Burr, 1907

16(15). Hind tibia sulcate in apical 1/3 to ½

17(18). Long and slender build; elytra abbreviated, wings wanting............. *Solenosoma* Burr, 1907

18(17). Build stout; elytra wing well developed

19(20). Body strongly depressed; tibiae depressed .................................................. *Laprophorella* Mzöberg, 1924

20(19). Body not strongly depressed; tibiae compressed
21(22). Elytra and wings punctured, pubescent; male parameres deplanate or projecting externally .................................................................\textit{Hamaxas} Burr, 1907

22(21). Elytra and wings smooth, glabrous; male parameres feebly dilated in middle or narrow

23(24). Distal segments of antennae long and slender, elytra with yellow markings, wings yellow ...........................................\textit{Proreus} Burr, 1907 (= \textit{Schizoproreus} Steinmann, 1987-Syn. n)

24(23). Distal segments of antennae broad and short; elytra and wings unicolourous, dark ...............\textit{Chelisoches} Scudder, 1876 (= \textit{Schizochelesoches} Steinmann, 1987-Syn. n)

\textbf{CHECKLIST OF TAXA}

\textbf{FORFICULOIDEA}

\textbf{CHEISOCHIDAE}

\textbf{KINELLINAE Subfam. n.}

Type genus: \textit{Kinesis} Burr, 1907.

\textit{Kinesis} Burr, 1907

Type species: \textit{Chelisoches punctulatus} Burr, 1897.

\textit{List of species}:

\textit{K. mounseyi} Burr, 1916—Philippine Isls: Mindanao
\textit{K. punctulata} (Bur, 1897)—Indonesia: Java & Celebes

\textbf{CHELISOCHINAE} Burr, 1907

(= CHLISOCHELLINAE Steinmann, 1987—Syn. n.)

Type genus: \textit{Chelisoches} Scudder, 1876.

\textit{Chelisochella} Verhoeff, 1902

Type species: \textit{Lobophora superba} Dohrn, 1865.

Known by the type species distributed in the Oriental Region.

\textit{Adiathetus} Burr, 1907

Type species: \textit{Chelisoches shelfordi} Burr, 1901.

Now this genus contains only the type species in having the body hairy; elytra and wings punctulate and hind tarsi hardly sulcate apically. All other species included under this genus earlier are transferred to \textit{Adiathella} Brindle, 1970.
**Tauropygia** Brindle, 1970

Type species: *Tauropygia tridentata* Brindle, 1970.

Only type species, distributed in Solomon Islands: Bougainville, is included. The taxonomic position of this genus is doubtful according to Steinmann (1989).

**Euenkrates** Rehn, 1927

Type species: *Sphingolabis variegata* Kirby, 1891.

*List of Species:*

- *E. boesmani* Steinmann, 1981—Sumatra

**Gressitolabis** Brindle, 1970

Type species: *Gressitolabis delicatulus* Brindle, 1970.

*List of Species:*

- *G. delicatulus* Brindle, 1970—Solomon Isls: Bougainville

**Adiathella** Brindle, 1970

Type species: *Adiathella lingua* Brindle, 1970.

*List of Species:*

- *A. dravidius* (Burr, 1910)—India
- *A. elegans* (Bormans, 1900)—Sumatra and Java
- *A. glaucopterus* (Bormans, 1888)—India, Myanmar, China (Yunnan) and Vietnam
- *A. incisa* Brindle, 1970—Solomon Isls: Guadalcanal
- *A. lingua* Brindle, 1970—Solomon Isls: Guadalcanal
- *A. metallicus* (Srivastava, 1985)—India (Arunachal Pradesh)
- *A. nigrocastaneous* (Burr, 1910)—India (south) and Malay Peninsula
- *A. philippinensis* Srivastava, 1976—Philippine Isls: Mindanao
- *A. phoenix* (Steinmann, 1993)—India (South)
- *A. proreoides* (Ramamurthi, 1967)—Bismarck Isls: New Britain
- *A. tenebrator* (Kirby, 1891)—India (South) and Borneo

**Exypnus** Burr, 1907

Type species: *Chelisoches pulchripennis* Bormans, 1883.
List of species:

*E. chinensis* Steinmann, 1974—China

*E. koorgensis* Hebard, 1923—India and Malaysia

*E. pulchripennis* (Bormans, 1883)—Oriental Region and New Guinea

*E. nathani* Srivastava—in press—India: Karnataka, Coimbatore, 1400 ft.

**Solenosoma** Burr, 1907

Type species: *Auchenomus birmanus* Bormans, 1888.

This genus is known by its type species only, originally described from Myanmar and subsequently reported from India (India: Assam) and China (Yunnan).

**Laprophorella** Mzöberg, 1924

Type species: *Mecomera kervillei* Burr, 1905.

This genus is known by its type species only distributed in India (Assam and West Bengal) and Java.

**Hamaxas** Burr, 1907

Type species: *Cheliscoches feae* Bormans, 1894.

List of species:

*H. bidentatus* Ramamurthi, 1965—South India

*H. crassus* Borelli, 1926—Philippine Isls: Mindoro

*H. delicatulus* (Burr, 1911)—Sri Lanka

*H. dohertyi* (Burr, 1899)—Celebes

*H. feae* (Bormans, 1894)—Oriental Region, New Guinea & New Zealand

*H. fuscus* (Borelli, 1927)—Sumatra

*H. kempi* (Burr, 1913)—India (Arunachal Pradesh)

*H. kozlovi* Semenov & Bey-Bienko—Myanmar, China (Yunnan) and Mangolia

*H. melanocephalus* (Dohrn, 1865)—India, Myanmar, Vietnam and Java

*H. nigrorufus* (Burr, 1902)—Philippine Isls, New Guinea and Micronesia

*H. pusillus* (Borelli, 1918)—Philippine Isls.

*H. semiluteus* (Bormans, 1899)—Java

*H. singhi* Kapoor, 1966—India

*H. tenebrosus* Brindle, 1968—Philippine Isls: Siargao

*H. varicornis* (Bormans, 1903)—Celebes

*H. versicolor* Borelli, 1923—Philippine Isls: Luzon

Proreus Burr, 1907

(= Schizoproreus Steinmann, 1987—Syn. n.)

Type species: Forficula simulans Stål, 1860.

List of species:

*P. abdominalis* Ramamurthi, 1965—South India

*P. biratnagarensis* Kapoor, Malla & Shah, 1978—Nepal

*P. chatterjeei* Kapoor, Bharadwaj & Banerjee, 1978—India

*P. coalescens* (Borelli, 1927)—Philippine Isls and Sumatra

*P. coloratus* (Burr, 1906)—New Guinea

*P. corporaali* Boeseman, 1954—Sumatra

*P. cunctator* Burr, 1911—India

*P. dentatus* Srivastava, 1976—Philippine Isls.

*P. duro ides* Hebard, 1933—Australia Queensland

*P. fletcheri* Hebard, 1923—India (NE)

*P. fuscippennis* (Haan, 1842)—Sumatra, Java, Malaysia and New Guinea

*P. horsfieldi* (Kirby, 1891)—Java

*P. inermis* Bey-Bienko, 1959—China : Yunnan

*P. laetior* (Dohrn, 1865)—Celebes, New Guinea, Bismarck Isls and Solomon Isls

*P. ledyardi* Srivastava, 1990—Philippine Isls Los Banos

*P. longiforceps* Ramamurthi, 1962—South India

*P. ludekingi* (Dohrn, 1865)—Oriental Region

*P. minor* (Caudell, 1904)—Philippine Isls : Luzon

*P. orpheus* Steinmann, 1993—Bismarck Isls : Chimbu

*P. persuasus* Steinmann, 1993—Borneo

*P. ramamuarthii* Kapoor, 1967—South India

*P. ritsemaei* (Bormans, 1883)—Oriental Region

(= *P. shaffii* Bharadwaj and Kapoor, 1967)

*P. simulans* (Stål)—Oriental Region

*P. sobrius* (Bormans, 1985)—Sumatra and Borneo

*P. tezpurensis* (Srivastava, 1969)—India : Assam

*P. torrevilasi* Srivastava, 1976—Philippine Isls : Mindanao

*P. unidentatus* Bey-Bienko, 1970—China : Yunnan

*P. variopictus* (Bormans, 1900)—Oriental Region

*P. weissi* (Burr, 1904)—Philippine Isls : Mindanao, Vietnam, China and India (Arunachal Pradesh)
SRIVASTAVA : On the higher classification of Chelisochidae (Insecta : Dermaptera)

*Chelisoches* Scudder, 1876

(= *Lobophora* Serville, 1839)

(= *Enkrates* Burr, 1907)

(= *Kleiduchus* Burr, 1911)

(= *Schizochelisoches* Steinmann, 1987—Syn. n.)

Type species: *Forficula morio* Fabricius, 1775.

List of species:

*C. annulata* Burr, 1906—New Guinea and Celebes

*C. ater* Bormans, 1879—North Australia

*C. australicus* (Guillon, 1841)—New Guinea and North Australia

*C. brevipennis* (Borelli, 1923)—Philippine Isls, Malaysia and Sumatra

*C. calopteryx* Günther, 1929—New Guinea and Solomon Isls

*C. cheesmanae* Hincks, 1952—New Hebrides

*C. chopardi* Hincks, 1951—Madagascar

*C. diadonatus* Ramamurthi, 1967—Bismarck Islands

*C. flavipennis* (Fabricius, 1793)—West Africa

*C. formosanus* (Burr, 1912)—Taiwan

*C. handschini* Günther, 1934—North Australia

*C. kimberleyensis* Mżoberg, 1913—Australia

*C. malagachus* Bormans, 1903—Madagascar

*C. morio* (Fabricius, 1775)—Oriental and Australian Regions

*C. paravicinii* Günther, 1993—Solomon Isls

*C. persimilis* Menozzi, 1938—Sumatra

*C. semirufus* Borelli, 1926—Sumatra, Mentawei Isl, Java and Malaysia

*C. variegatus* (Burr, 1917)—Vietnam

SUMMARY

A taxonomic list of various taxa of Chelisochidae is provided besides giving a key to subfamilies and genera. Subfamily *Chelisochellinae* Steinmann, 1975 is synonymised under Chelisochinae Burr, 1907. A new subfamily Kinellinae with *Kinesis* Burr, 1907 as the type genus is proposed. *Chelisochella* Verhoeff, 1902, is transferred to Chelisochinae. The genus *Adiathetus* Burr, 1907 now contains only the type species and other species are transferred to *Adiathella* Brindle, 1970.
ACKNOWLEDGEMENTS

I am thankful to the Director, Zoological Survey of India, Kolkata for providing necessary facilities.

REFERENCES

