

TAXONOMIC STATUS OF CERTAIN GENERA OF
PYGIDICRANIDAE (DERMAPTERA)

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Steinmann (1986) erected three different genera viz., *Mucrocranopygia*, *Epicranopygia*, and *Paracranopygia* for some of the species earlier included under *Cranopygia*. Of these, the first one was based on the shape of parameres and the other two on the shape and size of distal lobes and virga.

It is now well known that genera even based on the shape of parameres pose problems in certain closely related genera in Carcinophorinae, yet these structures afford valuable characters in the classification of the Order at different levels. Therefore, to much reliance on the shape and size of virga and distal lobes and its associated chitinous plates might lead to a lot of confusion in the recognition of various genera and sub-genera.

The shape of parameres does not alter during mounting whereas the shape and arrangement of virga are likely to vary to some extent. Besides, the length of distal lobes is more or less constant in repose but it varies greatly in flexed condition. Being thin and membranous, outline of the distal lobes is often difficult to observe.

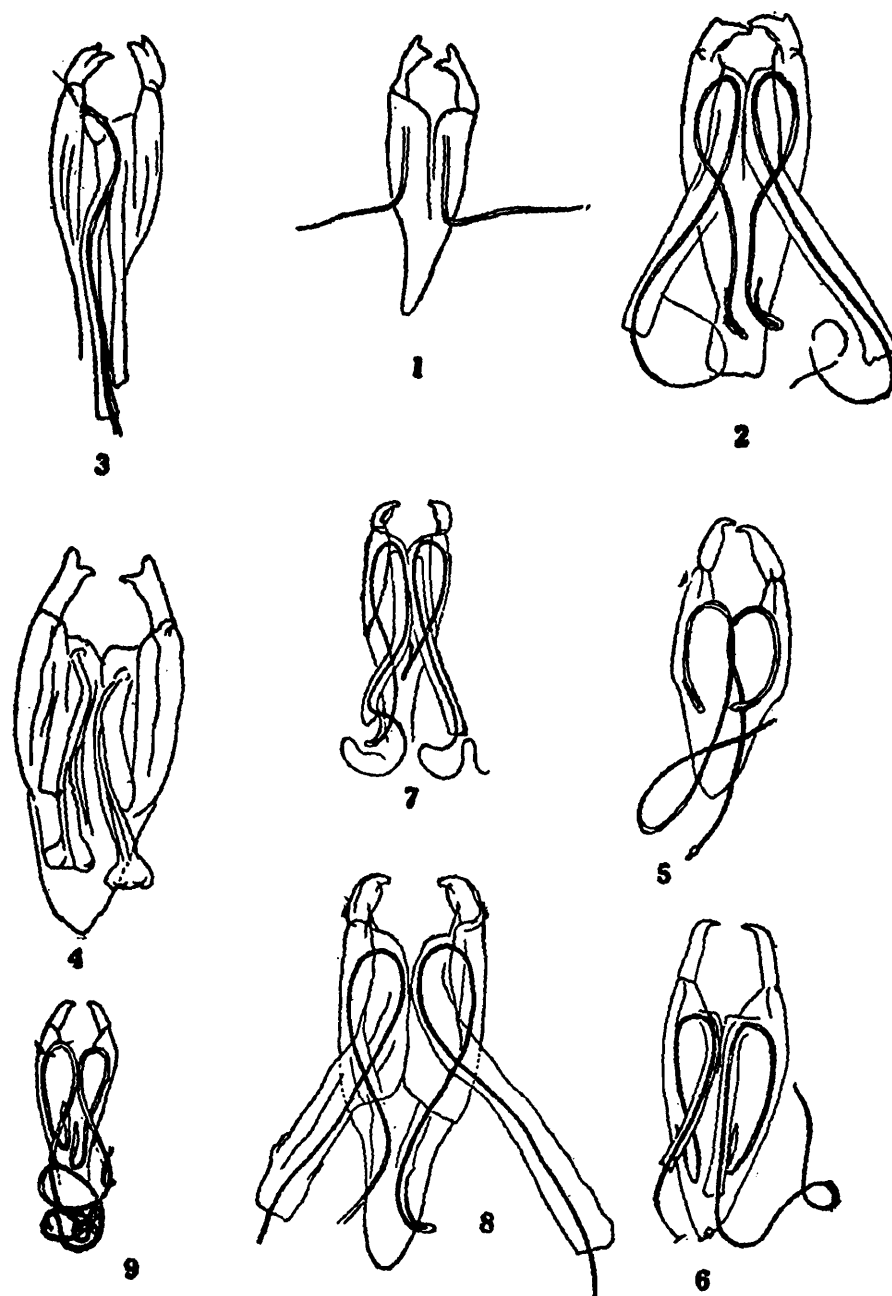
It would be worthwhile to quote here Burr's (1915) opinion—".....I certainly think that Zacher over rates the importance of the armature of the preputial sac.....I also consider the virga to afford specific rather than generic characters, for we find great diversity in the length of this organ in species that are undoubtedly closely related and in my opinion, congeneric."

Thus from the above discussion it becomes clear that details of distal lobes including virga and other accessory structures will be of great use in the discrimination at specific level together with certain morphological details. It would be safer to base genera or subgenera on the shape of parameres along with other such details that are necessary for the stability of various taxa. Moreover, parameres are chitinised and their shape remains constant on mounting. Virga being elastic and tubular it is subject to great variation during eversion or while mounting on a slide as a result of even slight pressure sometimes.

PYGIDICRANINAE

The genus *Cranopygia* Burr, 1908 is now characterised as having the parameres that may be provided with tooth or process internally or externally with distal lobes

and virga longer or shorter than proparameres. As a result, genera *Epicranopygia* Steinmann and *Paracranopygia* Steinmann are considered synonym of *Cranopygia* Burr. *Acrania* Burr, 1915 is reinstated and is characterised by knobless parameres that may be broad or narrow and curved into a sharp hook apically, often apex faintly bifid. The genus *Mucrocranopygia* Steinmann (1986) is also characterised by similar parameres, is treated as synonym of *Acrania*.



Figs. 1-9 : Male genitalia, 1. *Cranopygia bhallaie* Kapoor, 2. *Cranopygia vitipennis* Hincks, 3. *Cranopygia eximia* (Dohrn), 4. *Cranopygia brindleyi* Srivastava, 5. *Acrania sarawacensis* (Hincks), 6. *Acrania horsfeldi* (Kirby), 7. *Acrania picta* (Guérin—Ménéville), 8. *Acrania constricta* (Hincks), 9. *Acrania bakeri* Borelli (Figs 1-4, 7 and 8 redrawn after Srivastava, 1988; figs.5 and 6 after Hincks, 1959 and fig. 9 after Srivastava, 1978).

Cranopygia Burr

1908. *Cranopygia* Burr, *Ann. Mag. nat. Hist.*, (8) 2 : 384, 389 (Type-species : *Pygidicrana cumingi* Dohrn, 1863).
1986. *Epicranopygia* Steinmann, *Das Tierreich*, 102 : 269 (Type-species : *Pygidicrana picta* Guérin—Ménéville, 1838)—Syn. n.
1986. *Paracranopygia* Steinmann, *Das Tierreich*, 102 : 277 (Type-species : *Forficula pallidipennis* Haan, 1842)—Syn. n.

Diagnostic characters : Parameres armed or provided with tooth or process internally or externally ; distal lobes and virga may be shorter or longer than the proparamere.

List of species :

- C. carinata* Hincks, 1959
- C. ophthalmica* (Dohrn, 1863)
- C. daemeli* (Dohrn, 1863)
- C. dravida* (Burr, 1914)
- C. parva* Brindle, 1975
- C. bhallaie* Kapoor, 1966
- C. cumingi* (Dohrn, 1863)
- C. nietneri* (Dohrn, 1863)
- C. javana* Hincks, 1955
- C. kallipyga* (Dohrn, 1863)
- C. valida* (Dohrn, 1867)
- C. raja* (Burr, 1911)
- C. sauteri* (Burr, 1912)
- C. imperatrix* (Burr, 1899)
- C. burri* (Hincks, 1955)
- C. curtula* Hincks, 1955
- C. philippinica* Burr, 1914
- C. appendiculata* Hincks, 1955
- C. marmoricrura* (Audinet—Serville, 1839)
- C. celebensis* (Bormans in Burr, 1903)
- C. viticollis* (Stål, 1855)
- C. vittipennis* Hincks, 1955

- C. eximia* (Dohrn, 1863)
 (= *Cranopygia angulata* Srivastava, 1975)
 (= *Cranopygia meghalayana* Biswas, Lahiri and Ghosh, 1974)
- C. brindlei* Srivastava, 1988
- C. formosa* Hincks, 1955
- C. burmensis* Hincks, 1955
- C. modesta* (Bormans, 1894)
- C. tonkinensis* Hincks, 1955
- C. semenov* (Burr, 1912)
- C. proxima* Hincks, 1959
- C. comata* Hincks, 1955
- C. maculipes* Hincks, 1955
- C. siamensis* (Hincks, 1959)
- C. variegata* Brindle, 1965
- C. similis* (Zacher, 1911)

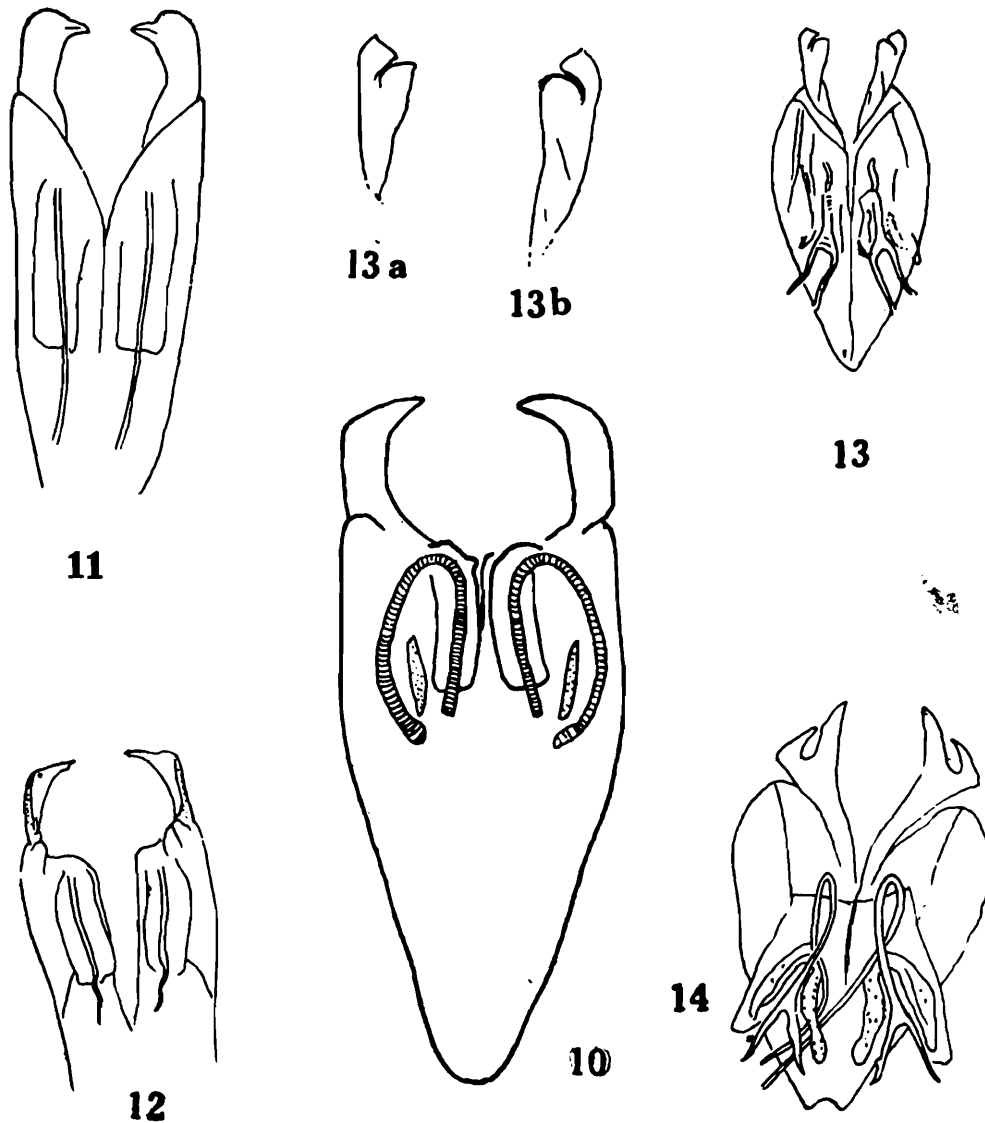
Species with doubtful position

- C?* *vanderdoesi* (Boeseman, 1954)
- C?* *angustata* (Dohrn, 1863)
- C?* *guttata* (Kirby, 1903)
- C?* *okunii* (Shiraki, 1928)
- C?* *pluto* Hebard, 1923
- C?* *tumida* Borelli, 1931

Acrania Burr Stat. n.

1915. *Acrania* Burr, *J. R. micr. Soc.*, 1915 : 436 (Type-species : *Pygidicran picta* Guérin—Ménéville, 1838).
1986. *Mucrocranopygia* Steinmann, *Das Tierreich*, 103 : 266 (Type-species : *Pygidicrana horsefieldi* Kirby, 1991)—Syn. n.

Diagnostical characters : Parameres are neither knobbed nor hooked externally or internally, occasionally external apical angle with a faint convexity, may be inflated internally ; narrow, of uniform width or dilated at base and tapering apically, tip hooked or bifid.



Figs. 10-14 : Male genitalia, 10. *Acrania assamensis* (Hincks), 11. *Acrania rostrata* (Brindle), 12. *Acrania luzonica* (Brindle), 13. *Nannopygia gerstaeckeri* (Dohrn), 13a and 13b. *Nannopygia gerstaeckeri* (Dohrn)—Paramere of left and right sides, enlarged. 14. *Nannopygia nigriceps* (Kirby). (Fig. 10. redrawn after Hincks, 1959 ; figs. 11 and 12 after Brindle, 1970 and 1967 and figs. 13—14 after Srivastava, 1988).

List of species :

- A. sarawacensis* (Hincks, 1959)
- A. jacobsoni* (Boeseman, 1954)
- A. horsfieldi* (Kirby, 1891)
- A. fletcheri* (Bharadwaj and Kapoor, 1967)
- A. picta* (Guérin—Ménéville, 1838)
 - (=*Cranopygia triangulata* Ramamurthi, 1965)
 - (=*Cranopygia livingstoni* Kapoor, 1966)

- A. constricta* (Hincks, 1955)
- A. bakeri* Borelli, 1921
- A. pallidipennis* (Hann, 1843)
- A. vicina* (Hincks, 1955)
- A. assamensis* (Hincks, 1955)
- A. rostrata* (Brindle, 1970)
- A. luzonica* (Brindle, 1967)
- A. steinmanni* (Srivastava, 1988)

DIPLATYINAE

A new generic classification of the subfamily Diplatyinae was proposed by Steinmann (1986a) which dealt with several new subgenera based upon virgal characters. As already pointed out in preceding pages that genera and sub-genera based on such characters may present lot of difficulty in discrimination from each other. For this reason, it is proposed that only those genera that are based on the shape of parameres should be considered as valid and others treated as synonyms as summarised below.

Nannopygia Dohrn Stat. n.

1863. *Nannopygia* Dohrn, *Stettin. ent. Ztg.*, 24 : 60 (Monobasic : *Nannopygia gerstaeckeri* Dohrn, 1863).
 1974. *Schizodiplatys* Steinmann, *Acta zool. Hung.*, 20 (1-2) : 199 (Type-species : *Cylindrogaster nigriceps* Kirby, 1891)

List of species :

- N. nigreiceps* (Kirby, 1891)
- N. vosselri* (Burr, 1907)
- N. gerstaeckeri* (Dohrn, 1863)
- N. subangustatus* (Steinmann, 1974)
- N. angustatus* (Burr, 1910)
- N. mixtus* (Borelli, 1923)
- N. hoogstrali* (Srivastava, 1978)
- N. palawanensis* (Srivastava, 1978)
- N. sublobatus* (Borelli, 1923)
- N. malayanus* (Hincks, 1932)
- N. karnyi* (Borelli, 1926)

N. sumatranus (Boeseman, 1952)

N. komodoensis (Bey-Bienko, 1965)

N. bensoni (Hincks, 1955)

Remarks : Srivastava (1988) has figured the ♂ genitalia from the Holotype of *Nannopygia gerstaeckeri* Dohrn which is the type-species of *Nannopygia* Dohrn, shows that parameres are divided by a deep, narrow or wide cleft apically. The genus *Schizodiplatys* was erected by Steinmann, 1974 for *Cylindrogaster nigriceps* Kirby, 1891 on similar characters of male genitalia, especially parameres. Since, *Nannopygia* has priority it is re-instated with *Schizodiplatys* as its synonym.

Genus *Diplatys* Serville

1831. *Diplatys* (pars) Serville, *Ann. Sci. Nat.*, 22 : 23 (Monobasic—*Forficula macrocephala* Palisot de Beauvois, 1805).
1881. *Dyscritina* Westwood, *Trans. R. ent. Soc. Lond.*, 1881 : 601, (Nymph—Monobasic : *Dyscritina longisitosa* Westwood, 1881).
1986. *Neodiplatys* (subgen.) Steinmann, *Acta. zool. Hung.*, 32 (1-2) : 174 (Type-Species-*Diplatys aethiops* Burr, 1904)—Syn. n.
1986. *Hypodiplatys* (subgen.) Steinmann, *Acta zool. Hung.*, 32 (1-2) : 175 (Type-Species-*Diplatys bormansi* Burr, 1910)—Syn. n.
1986. *Syndiplatys* (subgen.) Steinmann, *Acta zool. Hung.*, 32 (1-2) : 175 (Type-species-*Diplatys ernesti* Burr, 1910).

List of species :

- D. macrocephalus* (Palisot de Beauvois, 1805)
- D. pictus* (Zacher, 1910)
- D. gedyi* Hincks, 1955
- D. simplex* Hincks, 1961
- D. aethiops* Burr, 1904
- D. longipennis* Brindle, 1969
- D. leleupi* Brindle, 1966
- D. ugandanus* Hincks, 1955
- D. rehni* Hincks, 1955
- D. fella* Burr, 1911
- D. raffrayi* Dubrony, 1879
- D. brindleyi* Steinmann, 1974
- D. chopardi* Hincks, 1955

- D. devlensis* Srivastava, 1974
D. papovi Bey-Bienko, 1959
D. annandalei Burr, 1911
D. excidense Hincks, 1954
D. confusus Hincks, 1955
D. coelebs Hincks, 1955 (= *D. jogiensis* Kapoor, 1968)
D. jawalagiriensis Kapoor, Bharadwaj and Banerjee, 1968
D. chowdhuryi Srivastava, 1989
D. nathani Hincks, 1960
D. dolens Hincks, 1959 (= *D. poonaensis* Kapoor, 1968)
D. tikaderi Srivastava, 1988
D. lefroyi Burr, 1910
D. borelli Hincks, 1955
D. menoni Kapoor and Bharadwaj, 1968
D. bormansi Burr, 1910
D. ernesti Burr, 1910
D. fletcheri Burr, 1910
D. anamalaiensis Srivastava, 1970
D. greeni Burr, 1904
D. carli Srivastava, 1988
D. adjacens Hincks, 1955
D. sinuatus Hincks, 1955
D. denticulatus Hincks, 1957
D. propinquus Hincks, 1955
D. santoshi Srivastava, 1975 (= *D. incisus* Brindle, 1975)
D. griffithsi Burr, 1911
D. fallax Borelli, 1926
D. jacobsoni Burr, 1911
D. yunnaeus Bey-Bienko, 1959
D. nilgiriensis Hincks, 1955
D. carinatus Srivastava, 1988
D. javanicus Hincks, 1955
D. degerboliae Ramamurthi, 1973

D. singularis Steinmann, 1968

D. liberatus Burr, 1910

D. flavicollis Shiraki, 1907

D. reconditus Hincks, 1955

D. nayasonei Nishikawa, 1973

D. hayashidai Nishikawa, 1973

Species with doubtful position

D ? baijali Duda and Malhotra, 1970

D ? croixi Burr, 1904

D ? dohrni Burr, 1911

D ? ridleyi Kirby, 1903

D ? flavobrunneus Chopard, 1924

Genus *Paradiplatys* Zacher

1910. *Paradiplatys* Zacher, *Ent. Rdsch.*, 27 : 105 (Monobasic—*Diplatys conardti* Burr, 1904).

1974. *Lobiodiplatys* Steinmann, *Acta zool. Hung.*, 20 (1-2) : 198 (Type-species : *Forficula coriaceus* Kirby, 1891).

1986. *Heterodiplatys* (subgen.) Steinmann, *Acta. zool. Hung.*, 32 (1-2) : 177 (Type-species : *Labia bicolour*·Dubrony, 1879).—Syn. n.

1986. *Epidiplatys* (subgen.) Steinmann, *Acta. zool. Hung.*, 32 (1-2) : 178 (Type-species : *Diplatys 'adiator*; Burr, 1910).—Syn. n.

List of species :

P. coriaceus (Kirby, 1891)

P. beroni (Brindle, 1982)

P. taurinus (Brindle, 1982)

P. rotundicollis (Hincks, 1952)

P. burri (Hincks, 1936)

P. schoudeteni (Hincks, 1937)

P. bicolour (Dubrony, 1879)

P. conardti (Burr, 1904)

P. spinulosus (Hincks, 1961)

P. lamottei (Hincks, 1954)

P. bihamatus (Hincks, 1955)

P. pectinatus (Hincks, 1955)

P. salvazai (Burr, 1917)

P. gladiator (Burr, 1905)

Haplodiplatys Hincks

1955. *Haplodiplatys* Hincks, *Syst. mono. Dermaptera*, 1 : 17 (Type-species : *Haplodiplatys niger* Hincks, 1955).
1986. *Eudiplatys* (subgen.) Steinmann, *Acta zool. Hung.*, 32 (1-2) : 171 (Type-species : *Diplatys milloti* Chopard, 1940).—Syn. n.
1986. *Mesodiplatys* (subgen.) Steinmann, *Act. zool. Hung.*, 32 (1-2) : 171 (Type-species : *Diplatys nanus* Burr, 1941).—Syn. n.

List of species :

H. niger Hincks, 1955

H. jansoni (Kirby, 1891)

H. severus (Bormans, 1893) (= *Diplatys malcolmi* Hincks, 1955)

H. convexiusculus Brindle, 1984

H. coerulescens (Brindle, 1980)

H. hamatus (Brindle, 1972)

H. hincksi Steinmann, 1974

H. milloti (Chopard, 1940)

H. ruwenzoricus (Hincks, 1955)

H. sexeus (Brindle, 1982)

H. kivuensis (Hincks, 1951)

H. basilewskyi (Brindle, 1966)

H. mucronatus (Hincks, 1957)

H. raharizoninai (Brindle, 1966)

H. olsufiewi (Borelli, 1932)

H. longicornis (Hincks, 1955)

H. nanus (Burr, 1914)

H. major (Brindle, 1966)

H. gracillimus (Hincks, 1955)

H. similis (Bey-Bienko, 1959)

H. wallacei (Bey-Bienko, 1959)

H. rileyi (Hincks, 1955)

- H. signatus* (Bey-Bienko, 1970)
- H. lobatus* Srivastava, 1988
- H. simlaensis* (Kapoor, 1968)
- H. rufescens* (Kirby, 1881)
- H. srivastavai* (Kapoor, 1974)
- H. darwini* (Bey-Bienko, 1959)
- H. stemmleri* (Brindle, 1975)
- H. triangulatus* Brindle, 1987
- H. trisinuatus* Srivastava, 1988
- H. malaisei* (Hincks, 1947)
- H. orientalis* Steinmann, 1974
- H. urbani* (Brindle, 1975)
- H. tonkinensis* (Hincks, 1955)
- H. siva* (Burr, 1904)
- H. kurseongensis* Srivastava, 1988
- H. bilobus* (Bey-Bienko, 1959)
- H. bhowmiki* (Srivastava and Saha, 1975)
- H. bidentatus* (Hincks, 1955)
- H. flavens* (Hincks, 1955)
- H. tibetanus* (Hincks, 1955)
- H. chinensis* (Hincks, 1955)
- H. transversalis* (Brindle, 1983)
- H. brancuccii* Srivastava, 1983 (= *H. schawalleri* Brindle, 1983)

SUMMARY

The genera based on male parameres should be recognised and those based on virga do not appear to be stable since its shape and length might vary either during mounting or the process of eversion. Accordingly, *Epicranopygia* Steinmann, 1986 and *Paracranopygia* Steinmann, 1986 are synonymised under *Cranopygia* Burr, 1908. *Acrania* Burr, 1915 with *Mucrocranopygia* Steinmann, 1986 as its synonym and *Nannopygia* Dohrn, 1863 with *Schizodiplatys* Steinmann, 1974 as its synonym, are reinstated. Besides, it is proposed to synonymise various subgenera viz. *Neodiplatys* Steinmann, 1986, *Haplodiplatys* Steinmann, 1986 and *Syndiplatys* Steinmann, 1986 under genus *Diplatys* Serville, 1831; *Heterodiplatys* Steinmann, 1986 and *Epidiplatys* Steinmann, 1986 under *Paradiplatys* Zacher, 1910 and *Eudiplatys* Steinmann, 1986 and

Mesodiplatys Steinmann, 1986 under *Haplodiplatys* Hincks, 1955. List of species under each genera is given.

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