On the family- and genus-series nomina in Gyrinidae Latreille, 1810 (Coleoptera, Adephaga)

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Abstract

All available genus- and family- group nomina for the Gyrinidae (Coleoptera: Adephaga) are listed along with original citation, original and current status, type nominal taxon with method of designation, and known synonymies and incorrect subsequent spellings. The nomina included follow the most current classification. Discussion is provided clarifying numerous nomenclatural problems with original spellings, correct authorship and type designation. Dineutini Ochs, 1926 syn. nov. is found to be a junior homonym of Dineutini Desmarest, 1851, and Enhydrini Régimbart, 1882 syn. nov. and its justified emendation Enhydrusini (Anonymous 2012) are here synonymized with Dineutini Desmarest, 1851.

Keywords: Coleoptera, Adephaga, Gyrinidae, taxonomy, classification, nomenclature

Introduction

Supraspecific Gyrinidae nomenclature is in great need of review and clarification. The nomenclature suffers from persistent issues of homonymy, synonymy, multiple attributions of authorship, and other problems, especially among genus-series nomina (Dubois 2000), i.e. “genus-group names” in the Code (ICZN 1999). Some of these problems have persisted for a long time, with one, the use of the two different spellings for the same “scientific name” or nomen (Dubois 2000), Dineutus and Dineutes, continuing for over one hundred and eighty years. The last author to treat some of the issues concerning gyrinid nomenclature was Balfour-Browne (1945), whose main focus was fixing types for several generic nomina, but his work was far from a complete review and failed to resolve many problems. Although Guignot (1946) produced a similar more recent paper, his treatment resulted in no change in gyrinid nomenclature. Bouchard et al. (2011) reviewed the family-series nomina in Gyrinidae and pointed out or solved certain problems including clarification of authorship of the subtribe Dineutina Desmarest, 1851. Miller & Bergsten (2012) recently treated the phylogeny of the family Gyrinidae providing the most current classification for the family, and their changes have been incorporated into this work.

A review of the nomenclature above the species-series will facilitate development of a modern catalogue to the Gyrinidae species-series nomina. Several catalogues for the family Gyrinidae exist (Gemminger & Harold 1868; Severin 1889; Alhwarth 1910). These catalogues are greatly out of date given the large numbers of species described in the 20th century (particularly by G. Ochs and P. Brinck), and they include numerous problems including misspellings and incorrect authorship attributions. This paper attempts to catalogue all the nomina associated with the Gyrinidae above the species-series, resolve the issues of authorship of the gyrinid generic nomina, resolve problems with homonymy, clarify correct spellings, and provide for stability and uniformity in gyrinid nomenclature.
Materials and methods

A literature review was performed starting with Linnaeus (1758) and is complete through 2012. All genus- and family-group nomina for members of Gyrinidae are arranged and treated.

For each nomen the original citation is provided along with the original status as described, if this does not differ from its current status it is simply listed as its status. For those nomina that have changed status since the nomen’s first publication, the original status is included as well as the current status. Current status for family- and genus-group nomina follows Miller & Bergsten (2012), while those of the subgenera follow Brinck (1955a–b, 1956). Current status for fossil taxa nomina follows Nel (1989) and Ponomarenko (2011). The current status for all available genera in the taxon formerly known as Enhydrini will now be Dineutini following this paper (see the discussion under Enhydrini). Common mispellings are included. Fossil taxa are indicated with “†”. Nomina are provided alphabetically as well as according to their classification as of 2012 (Miller & Bergsten, 2012) and an index to the aponyms is provided at the end.

Treatment of the nomina and authors directly follows the fourth edition of the International Code of Zoological Nomenclature (Anonymous 1999) and decisions made by the Commission. Authorship of the Code and the Commission are given as “Anonymous” following Dubois (2000). Some terminology used follows Dubois (2000).

Results

Alphabetical listing of nomina

Afrogyrus Brinck, 1955a: 48
Type species by original designation: Gyrinus caffer Aubé, 1838: 712.

Allogyrus Brinck, 1955b: 429
Type species by original designation: Orectogyrus alluaudi Régimbart, 1889: 250.
Status: Subgenus of the genus Orectogyrus Régimbart, 1884a: 439.

Amaurogyrus Guignot, 1955: 70
Type species by original designation: Orectogyrus jucundus Régimbart, 1892: 730.
Status: Subgenus of the genus Orectogyrus Régimbart, 1884a: 439.

† Anagyrinus Handlirsch, 1908: 447
Type species by original designation: Gyrinus atavus Heer, 1865: 90.
Status: Genus of the family Gyrinidae, incertae sedis with respect to tribe or subfamily.

Andogyrus Ochs, 1924a: 236
Type species by subsequent designation of Balfour-Browne (1945: 109): Gyrinus ellipticus Brullé, 1836: 51.
Original status: Genus of the family Enhydrinae.
Current status: Genus of the tribe Dineutini.
Aponym (incorrect subsequent spelling): Androgyrus: Hatch 1925: 444.
† *Angarogyrus* Ponomarenko, 1977: 57
Type species by original designation: *Angarogyrus minimus* Ponomarenko, 1977: 57.
Original status: Genus of the tribe *Enhydrini*.
Current status: Genus of the tribe *Dineutini*.

*Aulonogyrini* Ochs, 1953: 8
Type genus by implicit etymological designation: *Aulonogyrus* Motschulsky, 1853: 9.
Original status: Tribe of the subfamily *Gyrininae*.
Current status: Junior subjective synonym of *Gyrinini*, synonymy by Brinck (1955a: 37).

*Aulonogyrus* Motschulsky, 1853: 9
Type species by subsequent designation of Ochs (1930b: 3) [see Balfour-Browne (1945:106–107) for discussion]:
*Gyrinus concinus* Klug, 1834: 34.
Original status: Genus of the family *Gyrinidae*.
Current status: Genus of the tribe *Gyrinini*.

*Australogyrus* Ochs, 1949: 177
Type species by original designation: *Gyrinus oblongus* Boisduval, 1835: 52.

† *Avitortor* Ponomarenko, 1977: 54
Type species by original monotypy: *Avitortor primitivus* Ponomarenko, 1977: 55.
Status: Genus of the family *Gyrinidae, incertae sedis* with respect to tribe and subfamily.

† *Baissogyrus* Ponomarenko, 1973: 503
Type species by original designation: *Baissogyrus savilovi* Ponomarenko, 1973: 503.
Original status: Genus of the tribe *Enhydrini*.
Current status: Genus of the tribe *Dineutini*.

*Ballogyrus* Ochs, 1949: 177
Type species by original designation: *Macrogyrus leopoldi* Ball, 1932: 21.

*Callistodineutus* Ochs, 1926a: 65
Type species by original designation: *Dineutes fairmairei* Régimbart, 1882: 394.
Status: Subgenus of the genus *Dineutes* MacLeay, 1825: 30.

*Capogyrus* Brinck, 1955b: 429
Type species by original designation: *Orectogyrus dorsiger* Régimbart, 1884a: 443.

*Ceylorhynchus* Brinck, 1955a: 103
Type species by original designation: *Dineutes indicans* Walker, 1858: 205.
**Chipogyrus** Brinck, 1956: 39
Type species by original designation: *Orectogyrus gigas* Ochs, 1934: 227.

*Clarkogyrus* Ochs, 1949: 177
Type species by original designation: *Enhydrus reichei* Aubé, 1838: 654.

*Clypeogyrus* Guignot, 1952: 282
Type species by original designation: *Orectogyrus demeryi* Régimbart, 1892: 731.

† *Cretotortor* Ponomarenko, 1973: 504
Type species by original designation: *Cretotortor zherichini* Ponomarenko, 1973: 504.
Original status: Genus of the tribe *ENHYDRINI*.
Current status: Genus of the tribe *DINEUTINI*.

*Cyclinus* Kirby, 1837: 78
Type species by original monotypy: *Cyclinus assimilis* Kirby, 1837: 78.
Original status: Genus of the family *GYRINIDAE*.
Current status: Subgenus of the genus *Dineutus* MacLeay, 1825: 30, following Hatch (1925: 447).

*Cyclominimus* Ochs, 1929: 177
Type species by original designation: *Macrogyrus purpurascens* Régimbart, 1882: 453.

*Cyclous* Dejean, 1833: 58
Original status: Genus of the family *GYRINIDAE*.
Current status: Subgenus of the genus *Dineutus* MacLeay, 1825: 3, following Hatch (1925: 447).

*Dineutes* Régimbart, 1882: 394
Type species: same as for *Dineutus* MacLeay, 1825: 30.
Status: Autoneonym (unjustified emendation) of *Dineutus* MacLeay, 1825, and invalid junior objective synonym of the latter (see Discussion).

**DINEUTIDES** Desmarest, 1851: 225
Type genus by implicit etymological designation: *Dineutus* MacLeay, 1825: 30.
Original status: Tribe of the family *GYRINIDAE*.
Current status: Valid subjective senior synonym of *ENHYDRUSINI*, synonymy in this paper.
Homonym: *DINEUTINUS* Ochs, 1926a: 63, synonymy in this paper.
Comments: see Bouchard et. al. (2011).
DINEUTINI Ochs, 1926a: 63
Type genus by implicit etymological designation: Dineutus MacLeay, 1825:30.
Original status: Tribe of the subfamily ENHYDRINAE.
Current status: Invalid junior homonym of DINEUTINI Desmarest, 1851: 225, synonymy in this paper.
Comments: see Discussion under DINEUTINI Desmarest, 1851.

Dineutus MacLeay, 1825: 30
Type species by original monotypy: Dineutus politus MacLeay, 1825: 30.
Original status: Genus of the family GYRINIDAE.
Current status: Genus of the tribe DINEUTINI.

ENHYDRINI Régimbart, 1882: 391
Type genus by original designation: Enhydrus Laporte, 1834: 110.
Original status: Tribe of the family GYRINIDAE.
Current status: Protonym spelling placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology in Opinion 2297 (Case 3514) by the Commission (Anonymous 2012), replaced by the aponym spelling ENHYDRUSINI resulting from stem emendation and placed on the Official List of Family-Group Names in Zoology in Opinion 2297 (Case 3514) by the Commission (Anonymous 2012). Invalid junior subjective synonym of DINEUTINI Desmarest, 1851: 225, synonymy in this paper.

Enhydrus Laporte, 1834: 110
Type species by original designation: Gyrinus sulcatus Wiedemann 1821: 119.
Synonyms: Epinectus Dejean, 1833: 58 (nomen nudum); Epinectus Aubé, 1836: 651; Epinectes Regimbert, 1877: 105; PROTHYDRUS Guignot, 1954: 45.

Epinectes Régimbart 1877: 105
Type species: same as for Epinectus Aubé, 1836: 651.
Status: Autoneonym (unjustified emendation) of Epinectus Aubé, 1836, and invalid junior objective synonym of the latter (see Discussion), placed on the Official Index of Invalid Generic Names in Zoology in Opinion 710 (Anonymous 1964).

EPINECTINAE Balfour-Browne, 1945: 106
Type genus by original designation: Epinectus Aubé, 1838: 651.
Status: Nomen nudum; unavailable and invalid junior objective synonym of ENHYDRUSINI.

Epinectus Dejean, 1833: 58
Type species by subsequent designation of Régimbart (1877: 105) under Epinectes Régimbart 1877: Gyrinus sulcatus Wiedemann 1821: 119.
Status: Nomen nudum; unavailable and invalid senior objective synonym of Epinectus Aubé, 1836: 651; mentioned on the Official List of Generic Names in Zoology as a nomen nudum, as a result of Opinion 710 (Anonymous 1964).
**Epinectus** Aubé, 1836: 651
Type species by subsequent designation of Régimbart (1877: 105) under *Epinectes* Régimbart 1877: *Gyrinus sulcatus* Wiedemann 1821: 119.
Original status: Published as a synonym of *Enhydrus* Laporte, 1834: 110; made available through subsequent use as *Epinecetes* by Régimbart (1877: 105).
Current status: Invalid junior objective synonym of *Enhydrus* Laporte, 1834: 110.

**Gonogyrellus** Guignot, 1955: 70
Type species by original designation: *Orectochilus cyanicollis* Aubé, 1838: 736.
Status: Subgenus of the genus *Orectogyrous* Régimbart, 1884a: 439.

**Gyretes** Brullé, 1835: 241
Type species by original monotypy: *Gyretes aeneus* Brullé 1835: 241, junior subjective synonym of *Gyrinus bidens* Olivier, 1795: 13, synonymy by Aubé (1836).
Original status: Genus of the family *Gyrinidae*.
Current status: Genus of the tribe *Orectochilini*.

**Gyrinidus** Guignot, 1951: 83
Type species: same as for *Gyrinoides* Guignot, 1948: 170.
Current status: Synonym of *Gyrinus* Geoffroy, 1762: 194, most recent synonymy by Brinck (1955a).

**GYRINITES** Latreille, 1810: 141.
Type genus by original monotypy: *Gyrinus* Geoffroy, 1762: 194.
Status: Family of the suborder *Adephaga*.

**Gyrinoides** Guignot, 1948: 170
Type species by original designation: *Gyrinus haasi* Ochs, 1933: 41.
Original status: Subgenus of the genus *Paragyrinus* Ochs, 1924: 231.

† **Gyrinoides** Motschulsky, 1856: 26
Type species by original monotypy: *Gyrinoides limbatus* Motschulsky, 1856: 26.
Original status: A fossil genus of the family *Gyrinidae*.
Current status: A fossil genus of the tribe *Gyrinini*.

**Gyrinodineutus** Ochs, 1926a: 65
Type species by original designation: *Dineutus unidentatus* Aubé, 1838: 788.
Original status: Subgenus of the genus *Dineutus* MacLeay, 1825: 30.
Current status: Invalid junior subjective synonym of *Spinosodineutes* Hatch, 1925: 447, most recent synonymy by Brinck (1955a).
† *Gyrinopsis* Handlirsch, 1908: 446
Type species by original designation: *Gyrinites antiquus* Heer, 1865: 91.
Status: A fossil of questionable placement. Handlirsch (1908) indicated that it should be ambiguously placed as a gyrinid until the legs were seen.

*Gyrinulus* Zaitzev, 1907: 238
Type species by original designation: *Gyrinus minutus* Fabricius, 1775: 276.

*Gyrinus* Geoffroy, 1762: 194
Type species by subsequent designation of Latreille (1810: 141): *Dytiscus natator* Linnaeus, 1758: 412.
Status: Genus of the tribe *Gyrinini*.

**Hysterogyrini** Brinck, 1955a: 37.
Type genus by original designation: *Heterogyrus* Legros, 1953: 63.
Original status: Tribe of the subfamily *Gyrininae*.
Current status: Subfamily *Hysterogyrinae* of the family *Gyrinidae*.

*Heterogyrus* Legros, 1953: 63
Type species by original monotypy: *Heterogyrus milloti* Legros, 1953: 63.
Original status: Genus of the subfamily *Gyrininae*.
Current status: Genus of the subfamily *Heterogyrinae*.

*Isogyrus* Brinck, 1955b: 429
Type species by original designation: *Orectogyrus semisericeus* Gestro, 1881: 202.

*Lobogyrus* Brinck, 1955b: 430
Type species by original designation: *Orectogyrus polli* Régimbart, 1884b: 165.

*Lophogyrus* Brinck, 1955a: 48
Type species by original designation: *Aulonogyrus carinipennis* Régimbart, 1895: 228.

*Macroyrus* Régimbart, 1882: 432
Original status: Genus of the tribe *Enhydrini*.
Current status: Genus of the tribe *Dineutini*. 
**Madegyrus** Brinck, 1955b: 429  
Type species by original designation: *Orectochilus cyanicollis* Aubé, 1838: 736.  
Current status: Invalid junior objective synonym of *Gonogyrus* Guignot, 1955, synonymy by Brinck (1956).

**Mandrogyrus** Brinck, 1955b: 430  
Type species by original designation: *Orectogyrus masculinus* Régimbart, 1902b: 297.  

**Megagyrus** Brinck, 1955b: 429  
Type species by original designation: *Orectogyrus mirabilis* Régimbart, 1883: 441.  

**Megalogyrus** Ochs, 1949: 177  
Type species by original designation: *Gyrinus striolatus* Guérin, 1830: 62.  

**Meiogyrus** Brinck, 1956: 89  
Type species by original designation: *Orectochilus ornaticollis* Aubé, 1838: 728.  

**Merodineutus** Ochs, 1955: 150  
Type species by original designation: *Dineutus archboldianus* Ochs, 1955: 150.  
Status: Subgenus of the genus *Dineutus* MacLeay, 1825: 30.

† **Mesodineutes** Ponomarenko, 1977: 55  
Type species by original designation: *Mesodineutes amurensis* Ponomarenko, 1977: 56.  
Original status: Genus of the tribe *Enhydrini*.  
Current status: Genus of the tribe *Dineutini*.

† **Mesogyrus** Ponomarenko, 1973: 499  
Type species by original designation: *Mesogyrus striatus* Ponomarenko, 1973: 501.  
Original status: Genus of the tribe *Enhydrini*.  
Current status: Genus of the tribe *Dineutini*.

**Metagyrinus** Brinck, 1955a: 37 (footnote)  
Type species: same as for *Paragyrinus* Ochs, 1924: 231.  
Original status: *Nomen novum* for *Paragyrinus* Ochs, 1924: 231.  
Current status: Genus of the tribe *Gyrini*.
† *Miodineutes* Hatch, 1927: 90
Type species by original designation: *Miodineutes oeningenensis* Hatch, 1927: 90.
Original status: Genus of the tribe *ENHYDRINI*.
Current status: Genus of the tribe *DINEUTINI*.

*Miragyrus* Brinck, 1956: 26
Type species by original designation: *Orectogyrus ochsi* Guignot 1938: 121.

*Monogyrus* Guignot, 1955: 70
Type species by original designation: *Orectochilus speculum* Aubé, 1838: 742.

*Necticus* Laporte, 1835: 109
Type species by original monotypy: *Gyrinus kollmanni* Perty, 1831: 32, invalid junior subjective synonym of *Dineutus politus* MacLeay, 1825: 30, synonymy by Alhwarth (1910).
Status: Invalid junior subjective synonym of *Dineutus* MacLeay, 1825: 30, synonymy by Balfour-Browne (1945).

*Neogyrinus* Hatch, 1925: 458
Type species by original designation: *Gyrinus chalybaeus* Perty, 1830: 15.

*Nesogyrus* Brinck, 1955b: 429
Type species by original designation: *Orectogyrus vestitus* Régimbart, 1892: 717.

*Notogyrus* Brinck, 1955b: 428
Type species by original designation: *Orectogyrus jucundus* Régimbart, 1892: 730.

*Ochsogyrus* Brinck, 1955b: 430
Type species by original designation: *Orectogyrus patromimus* Ochs, 1929: 133.

*Orectochilini* Régimbart, 1882: 391
Type genus by implicit etymological designation: *Orectochilus* Dejean, 1833: 59.
Status: Tribe of the subfamily *GYRININAE*.
**Orectochilus** Dejean, 1833: 59
Status: Genus of the tribe **ORECTOCHILINI**.

**Orectogyrus** Régimbart, 1884: 439
Comment: Guignot (1946: 118) published an invalid subsequent type designation for this genus: *Orectochilus specularis* Aubé, 1838: 733.
Status: Genus of the tribe **ORECTOCHILINI**.

**Orectomimus** Ochs, 1930: 15
Type species by original designation: *Macrogyrus paradoxus* Régimbart, 1882: 455.

**Oreogyrinus** Ochs, 1935: 124
Type species by original designation: *Gyrinus parcus* Say, 1834: 448.

**Oreogyrus** Brinck, 1955: 429
Type species by original designation: *Orectogyrus purpureus* Régimbart, 1892: 736.

**Paracyclus** Ochs, 1926: 65
Type species by original designation: *Dineutes ritsemae* Régimbart, 1882: 62.
Status: Subgenus of the genus *Dineutes* MacLeay, 1825: 30.

**Paragyrinus** Ochs, 1924: 231
Type species by original monotypy: *Paragyrinus sinensis* Ochs, 1924: 231.
Original status: Genus of the subfamily **GYRININAE**.

**Paragyrus** Brinck, 1955: 48
Type species by original designation: *Aulonogyrus goudoti* Régimbart, 1883: 140.

**Patrus** Aubé, 1836: 397
Type species by original monotypy: *Patrus javanus* Aubé, 1836: 398.
Original status: Genus of the family **GYRINIDAE**.
Current status: Genus of the tribe **ORECTOCHILINI**.
**Porrorhynchus** Laporte, 1834: 108
Type species by original monotypy: *Porrorhynchus marginatus* Laporte, 1834: 108.
Original status: Genus of the family **GYRINIDAE**.
Current status: Genus of the tribe **DINEUTINI**.

**Potamobius** Hope, 1838: 54
Type species by monotypy: *Gyrinus modeeri* Marsham, 1802: 99, invalid junior synonym of *Gyrinus villosus* Müller, 1776: 23, synonymy by Aubé (1836).
Original status: Genus of the family **GYRINIDAE**.
Current status: Invalid junior subjective synonym of *Orectochilus* Dejean, 1833, and junior homonym of *Potamobius* Samouelle, 1819: 95 (Crustacea).

**PROTHYDRINAE** Guignot, 1954: 45
Type genus by implicit etymological designation: *Prothydrus* Guignot, 1954: 45.
Original status: Alloneonym (*nomen novum*) for **ENHYDRINAE** Régimbart, 1882.
Aponym (change in rank and ending): *PROTHYDRINI* Guignot 1954: 45.

**Prothydrus** Guignot, 1954: 45
Type species by original designation: *Gyrinus sulcatus* Wiedemann, 1821: 119.

**Protodineutus** Ochs, 1926a: 66
Type species by original designation: *Gyrinus aereas* Klug, 1834: 34.
Status: Subgenus of the genus *Dineutus* MacLeay, 1825: 30.

† **Protogyrininus** Hatch, 1927: 92.
Type species by original designation: *Gyrinus confinis* Scudder, 1900: 80 (nec *Gyrinus confinis* Le Conte, 1868: 368), senior invalid subjective synonym of *Gyrinus sculpturatus* Mjöberg, 1905: 17, synonymy by Hatch (1927: 93).
Status: Genus of the family **GYRINIDAE**, incerta sedis with respect to subfamily and tribe.

**Pterygyrus** Brinck, 1955a: 48
Type species by original monotypy: *Aulonogyrus elegantissimus* Régimbart, 1883: 126.

**Rapogyrus** Brinck, 1956: 47
Type species by original designation: *Orectogyrus grandis* Régimbart, 1892: 715.
**Rhombodineutus** Ochs, 1926a: 65
Type species by original designation: *Dineutus neobrittanicus* Ochs, 1925a: 173.
Status: Subgenus of the genus *Dineutus* MacLeay, 1825: 30.

**Rhomborhynchus** Ochs, 1926a: 65
Type species by original designation: *Porrorhynchus depressus* Régimbart, 1892b: 996.
Original status: Subgenus of the genus *Dineutus* MacLeay, 1825: 30.

**Spanglerogyrinae** Folkerts, 1979: 7
Type genus by original designation: *Spanglerogyrus* Folkerts, 1979: 2.
Status: Subfamily of the family *Gyrinidae*.

**Spanglerogyrus** Folkerts, 1979: 2
Type species by original monotypy: *Spanglerogyrus albiventeris* Folkerts, 1979: 2.
Status: Genus of the subfamily *SPANGLEROGYRINAE*.

**Spinosodineutes** Hatch, 1925: 447
Type species by original designation: *Gyrinus spinosus* Fabricius, 1781: 298.
Status: Subgenus of the genus *Dineutus* MacLeay, 1825: 30.
Synonym: *Gyrinodineutus* Ochs, 1926a.

**Stenogyrus** Brinck, 1956: 24
Type species by original designation: *Orectogyrus orectochilinus* Ochs, 1925b: 176.

**Stephanogyrus** Ochs, 1955: 121
Type species by original designation: *Dineutes caledonicus* Fauvel, 1867: 177.

**Tribologyrus** Ochs, 1949: 185.
Type species by original designation: *Enhydrus australis* Brullé, 1835: 237.

**Tribolomimus** Ochs, 1949: 179.
Type species by original designation: *Dineutes gouldii* Hope, 1842: 427.

**Trichogyrus** Guignot, 1952: 282
Type species by original designation: *Orectogyrus sericeus* Klug, 1834: 34.
**Trigonocheilus** Dejean, 1833: 59  
Type species by monotypy: *Trigonocheilus rostratus* De Haan, a nomen nudum (see Discussion).  
Status: Nomen nudum.

**Trigonochilus** Agassiz, 1846: 377  
Type species: same as for *Trigonocheilus* Dejean, 1833: 59.  
Status: Autoneonym (unjustified emendation) of *Trigonocheilus* Dejean, 1833: 59 and nomen nudum (see Discussion).

**Vipogyrus** Brinck, 1956: 50  
Type species by original designation: *Orectogyrus fluviatilis* Régimbart, 1907: 228.  

**Nomina listed in the most current classification for the family Gyrinidae**

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- **Genus † Angarogyrus** Ponomarenko, 1977  
- **Genus † Baissogyrus** Ponomarenko, 1973  
- **Genus † Cretotortor** Ponomarenko, 1973  
  - Aponym: **Cretatortor**: Nel 1989  
- **Genus † Mesodineutes** Ponomarenko, 1977  
- **Genus † Mesogyrus** Ponomarenko, 1973  
- **Genus † Miodineutes** Hatch, 1927  
- **Genus Andogyrus** Ochs, 1924  
  - Aponym: **Androgyrus**: Hatch 1925  
- **Genus Dineutes** MacLeay, 1825  
  - Subgenus **Callistodineutes** Ochs, 1926  
  - Subgenus **Cyclinus** Kirby, 1837  
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  - Subgenus **Dineutes** MacLeay, 1825  
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    - Aponym: **Dyneutes**: Laporte 1835  
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    - Synonym: **Dineutes** Régimbart, 1882  
  - Subgenus **Merodineutes** Ochs, 1955  
  - Subgenus **Paracyclous** Ochs, 1926  
  - Subgenus **Protodineutes** Ochs, 1926
Subgenus *Rhombochineatus* Ochs, 1926
Subgenus *Spinosodineutes* Hatch, 1925
Synonym: *Gyrinodineutes* Ochs, 1926

Genus *Enhydrus* Laporte, 1834
Synonym: *Epinecetus* Dejean, 1833 (*nomen nudum*)
Synonym: *Epinecetus* Aubé, 1836
Synonym: *Epinecetes* Régimbart, 1877
Synonym: *Prothydrus* Guignot, 1954

Genus *Macrogyrus* Régimbart, 1882
Subgenus *Australogyrus* Ochs, 1949
Subgenus *Ballogyrus* Ochs, 1949
Subgenus *Clarkogyrus* Ochs, 1949
Subgenus *Cyclomimus* Ochs, 1929
Subgenus *Macrogyrus* Régimbart, 1882
Subgenus *Megalogyrus* Ochs, 1949
Subgenus *Orectomimus* Ochs, 1930
Subgenus *Stephanogyrus* Ochs, 1955
Subgenus *Tribologyrus* Ochs, 1949
Subgenus *Tribolomimus* Ochs, 1949

Genus *Porrorhynchus* Laporte, 1834
Subgenus *Ceylorhynchus* Brinck, 1955
Subgenus *Porrorhynchus* Laporte, 1834
Aponym: *Porrhorhynchus*: Régimbart 1877
Aponym: *Porrhorrhynchus*: Régimbart 1891
Synonym: *Trigonocheilus* Dejean, 1833 (*nomen nudum*)
Synonym: *Trigonochilus* Agassiz, 1846 (*nomen nudum*)

Subgenus *Rhomborhynchus* Ochs, 1926

Tribe *Gyrini* Latreille, 1810
Protonym: *Gyrinites* Latreille 1810
Aponym: *Gyrininae*: Ahlwarth 1910
Aponym: *Gyrinini*: Régimbart 1882
Synonym: *Aulonogyrini* Ochs, 1954

Genus † *Gyrinoides* Motchulsky, 1856
Genus: *Aulonogyrus* Motschulsky, 1853
Subgenus *Afrogyrus* Brinck, 1955a
Subgenus *Aulonogyrus* Motschulsky, 1853
Subgenus *Lophogyrus* Brinck, 1955
Subgenus *Paragyrus* Brinck, 1955
Subgenus *Pterygyrus* Brinck, 1955
Genus: *Gyrinus* Geoffroy, 1762
Subgenus *Gyrinus* Zaitzev, 1907
Subgenus *Gyrinus* Geoffroy, 1762
Synonym: *Gyrinoides* Guignot, 1948
Synonym: *Gyrinidus* Guignot, 1951

Subgenus *Neogyrinus* Hatch, 1925
Subgenus *Oreogyrinus* Ochs, 1935
Genus: *Metagyginus* Brinck, 1955a
Synonym: *Paragyrinus* Ochs, 1924

Tribe *Orectochilini* Régimbart, 1882
Genus *Gyretes* Brullé, 1835
Genus *Orectochilus* Dejean, 1833
Aponym: *Orectocheilus*: Hope 1838
Synonym: *Potamobius* Hope, 1838
Genus *Orectogyrus* Régimbart, 1884
Subgenus *Allogyrus* Brinck, 1955
Subgenus *Amaurogyrus* Guignot, 1955
Synonym: *Notogyrus* Brinck, 1955
Subgenus *Capogyrus* Brinck, 1955
Subgenus Chipogyrus Brinck, 1956
Subgenus Clypeogyrus Guignot, 1952
Subgenus Gonogyrellus Guignot, 1955
Synonym: Madegyrus Brinck, 1955
Subgenus Isogyrus Brinck, 1955
Subgenus Lobogyrus Brinck, 1955
Subgenus Mandrogyrus Brinck, 1955
Subgenus Meiogyrus Brinck, 1956
Subgenus Miragyrus Brinck, 1956
Subgenus Monogyrus Guignot, 1955
Synonym: Megagyrus Brinck, 1955
Subgenus Isogyrus Brinck, 1955
Subgenus Nesiogyrus Brinck, 1955
Subgenus Ochsogyrus Brinck, 1955
Subgenus Oreogyrus Réginbarten, 1884
Subgenus Oreogyrus Brinck, 1955
Subgenus Rapogyrus Brinck, 1956
Subgenus Trichogyrus Guignot, 1952
Subgenus Vipogyrus Brinck, 1956

Genus Patrus Aubé, 1836
Subfamily Heterogyrinæ Brinck, 1955
Protonym: Heterogyrini Brinck 1955
Aponym: Heterogyrinae: Miller & Bergsten 2012
Genus Heterogyurus Legros, 1953
Subfamily Spanglerogyrynæ Folkerts, 1979
Genus Spanglerogyrus Folkerts, 1979

Incertae sedis
Genus: † Anagyrinus Handlirsch, 1908
Genus: † Avitortor Ponomarenko, 1977
Genus: † Gyrinopsis Handlirsch, 1908
Genus: † Protogyrininus Hatch, 1927

Index to the aponyms (subsequent spellings of nomina)

Androgyrus: see Andogyrus
Cretator: see Cretator
Dineutes: see Dineutes
DINEUTINA: see DINEUTIDES
DINEUTINI: see DINEUTIDES
Dynaeus: see Dineutes
ENHYDRINAE: see ENHYDRINI
ENHYDRINAE: see ENHYDRINI
GYRINAE: see GYRINITES
GYRINAE: see GYRINITES
HETEROGYRINAE: see HETEROGYRINI
Orectocheilus: see Orectocheilus
ORECTOCHILINAE: see ORECTOCHILI
Porrorhynchus: see Porrorhynchus
Porrorhynchus: see Porrorhynchus
PROTHYDRINI: see PROTHYDRINAE

Discussion

Eschscholtz and authorship

In numerous older works (i.e. Dejean 1833; Brullé 1834; Aubé 1836; Aubé 1838; Hatch 1925), authorship of
several generic nomina was credited to Eschcholtz. Eschcholtz appears to have discussed many of his generic and taxonomic concepts with French entomologists, such as Aubé, Brullé and Dejean. However, his work was never published (Aubé 1838). Therefore, the authorship of his generic nomina should go to the first author who published them in an acceptable work accompanied by descriptions of species or with indication to available species nomina in accordance with Articles 10.1 and 11.1 of the Code

Some of the generic nomina credited to Eschcholtz in the older works are *Epinectus*, *Cyclous* and *Orectochilus*. *Cyclous* should be attributed to Dejean (1833), since it was introduced with indications for several described species (Code’s article 12.2.5). Dejean’s *Cyclous* was subsequently treated as a junior synonym of *Dineutus* MacLeay, 1825 by Aubé (1836). Hatch (1925) later re-established *Cyclous* as a subgenus of *Dineutus*, but attributed the nomen to Eschcholtz. However, the author should remain Dejean according to Article 50.3 of the Code which maintains that authorship is unaffected by changes in rank. For the same reason Balfour-Browne (1945) is incorrect in attributing authorship of *Cyclous* to both Hatch (1925) and to Ochs (1926–1927) because they both altered the rank and delimitation of the concept of *Cyclous* respectively. Furthermore, Balfour-Browne (1945) considered Dejean’s nomenclature to contain *nomina nuda* due to the lack of descriptions associated with nomina within the work. Balfour-Browne (1945) was operating under a different version of the Règles (1944), but according to Article 86.3 only those rules that remain in governance should continue to apply. And it is our opinion that Article 12.2.5 validates many of the genera (although not all) published by Dejean (1833), *Cyclous* included. Authorship of *Orectochilus* should be treated similarly to *Cyclous* (see below under discussion about *Orectochilus*). For information on the current status of *Epinectus* see the discussion below.

Guignot, 1946: type designation

Guignot (1946), seemingly unaware of Balfour-Browne’s (1945) earlier designation of type species, designated several types already treated by Balfour-Browne (1945). These include the types for *Andogyrus*, *Macrogyrus* and *Orectogyrus* (Guignot 1946). Of these, the type species designated for *Macrogyrus* and *Orectogyrus* differed from those chosen by Balfour-Browne (1945). Following Article 69.1 of the Code, all of Guignot’s (1946) subsequent type designations are invalid.

Laporte, 1834 & 1835

Laporte’s longer name, François Louis Nompar de Caumont La Forte, comte de Castelnau, also known as Francis de Castelnau, François Laporte and François Delaporte, has caused issues with citation of his name, mainly due to its length and the confusion of certain parts of the title, as well as numerous other variations of his name. His important work, *Études Entomologiques* (Laporte, 1834 & 1835) is frequently cited since it included descriptions of two gyrinid genera: *Porrorhynchus* Laporte (1834) and *Enhydrus* (1834), the latter of which has garnered more attention because of numerous problems with homonymy in the genus-series and, since it is a type genus, at the family-series as well. Citation for this work can be seen in works as either Castelnau 1835 (Balfour-Browne 1945; Régimbart 1877, 1882, 1902, 1907; Ochs 1926–1927; Balfour-Browne & Brinck 1961), Laporte de Castelnau 1834 (Brinck 1978) and Laporte 1835 (Aubé 1836, 1838; Anonymous 1967). Because the *Official Index of Generic Names in Zoology*, following the Commission’s Opinion 710 (1964), recognized “*Enhydrus* Laport, 1834” we suggest continued citation of the work as “Laporte” (1834 & 1835).

Ochs 1926–1927.

Ochs published several papers in 1926–1927 entitled “Die Dineutini”, revising the seemingly new tribe DINEUTINI. These papers introduced several issues from a nomenclatural aspect. Ochs (1926a) utilized previously established nomina as well as new nomina without citation and designated the type species for each subgeneric nomen, one erroneously. The issue of the incorrect type establishment is treated under the discussion section of *Cyclinus* Kirby, 1837.
Article 51A of the Code suggests that for determination of homonymy the original author and date of the nomen should be at least once somewhere in the paper. In the section of the paper entitled “VI. Historical Overview” (translated from German), Ochs (1927) provided citation of the authors for the previously existing nomina. Missing from the papers cited is Desmarest (1851), where the nomen DINEUTINI had previously been established. Therefore, Ochs’s DINEUTINI (1926) is a junior homonym of the latter, as Ochs (1926a–c, 1927) did not cite Desmarest, anywhere in his works. See the discussion below DINEUTINI Desmarest, 1851 for more information.

_Aulonogyrus_ Motschulsky, 1853

_Aulonogyrus_ has been credited to Motschulsky by Régimbart (1882) but as unpublished. Balfour-Browne (1945) stated that Motschulsky did in fact use the nomen in 1853 in association with several valid specific nomina in a published work, but Balfour-Browne, working under an older version of the Code, did not consider the nomen available and credited _Aulonogyrus_ to Régimbart. According to Article 12.2.5 of the current Code, _Aulonogyrus_ Motschulsky, 1853 is available through indication, making Motschulsky (1853) the correct author of _Aulonogyrus_. Balfour-Browne’s (1945) justification for the type designation remains sound.

_Cyclinus_ Kirby, 1827

The nomen _Cyclinus_ was first used by Kirby (1827) for a new genus accommodating a single North American species, _C. assimilis_. Subsequently, Aubé (1836) synonymized _Cyclinus_ with _Dineutus_ MacLeay, 1825. Much later, Hatch (1925) resurrected the nomen _Cyclinus_ for a subgenus of _Dineutus_, including the original species, _Dineutus assimilis_, and adding several other North American species. As with the nomen _Cyclous_, Article 50.3 of the Code applies, and although Hatch (1925) recognized the group at subgenus rank, authorship of the nomen belongs to Kirby (1827).

At the time of its original establishment, _Cyclinus_ only contained a single species, _C. assimilis_, which is therefore the type species of _Cyclinus_ through monotypy. Ochs (1926, 1927) incorrectly designated the type of _Cyclinus_ as _Dineutus americanus_ and attributed the authorship to Say without a date, despite _D. americanus_ being attributed to Linnaeus (1767). The nomenclatural history of the two species, _D. assimilis_ and _D. americanus_, is difficult and we refrain from discussing it here, as the scope of this paper is limited to genus and family nomina.

_Dineutus_, correct spelling

The genus _Dineutus_ was established by the British entomologist William S. MacLeay (1825) to accommodate a large gyrinid, which he named _D. politus_. His original spelling of the nomen is unambiguously _Dineutus_. In later editions of his _Annulosa Javanica_ (e.g. MacLeay, 1833), its spelling remained _Dineutus_, consistent with its original spelling. The first use of the spelling _Dineutes_ of which we are aware is by Cuvier (1832: 253) who stated: “Mr. Macleay (the younger), Annal. Jav. I. p. 30 forms a peculiar genus, under the name of _Dineutes..._” However, several authors, including Wood (1962), in his unpublished revision of the North American _Dineutus_, and Roughley (2000), attributed the first use of the spelling _Dineutes_ to Aubé (1838). Aubé (1838) credited MacLeay (1825) for the genus nomen, but spelled it _Dineutes_ and indicated that he was not going to accept MacLeay’s genus until after it was confirmed and described by Brullé. Brullé (1835) did mention _Dineutes_, but spelled it _Dineutus_, with credit to MacLeay (1825). So it would appear that Aubé (1838) was simply following Brullé’s (1835) lead. Aubé’s (1836) earlier work includes a similar statement further suggesting that he was deferring to Brullé on the spelling of the nomen and other matters related to the genus.

The spelling _Dineutes_ continued use in parallel with _Dineutus_ with the former used mainly by French entomologists such as Cuvier (1832), Brullé (1835), Aubé (1836, 1838) and Régimbart (1882, 1902), while the spelling _Dineutus_ was most commonly in use among British and American entomologists like Kirby (1829), Crotch (1873), and later Leech (1939; 1948) and Balfour-Browne (1945). Exceptions to this include the French entomologist Lacordaire (1854), who used the spelling _Dineutus_, and the British entomologist Sharp (1873), who
used *Dineutes*. Some authors used both spellings including Hope (1838) who used *Dineutus* in the text, but *Dineutes* in his table of gyrinid genera. Le Conte (1863, 1868) began using *Dineutes* but switched to *Dineutes* later (Le Conte, 1878). Recent authors have similarly alternated between spellings (e.g. Beutel & Roughley 1988, 1994) and the incorrect spelling has unfortunately persisted to the present (i.e. Bouchard et al., 2011).

Since the two spellings, *Dineutus* and *Dineutes*, have been used in parallel nearly since the time of original description of the genus with neither prevailing over the other (Table 1), it is clear that correct spelling of the genus needs resolution. According to Article 33.3 of the *Code*, the spelling *Dineutus* is the correct original spelling, and *Dineutes* is an incorrect subsequent spelling dating from Cuvier (1832). The first potential attempt to justify the spelling *Dineutes* was by Régimbart (1882) who used that spelling as valid, but cited the original spelling, *Dineutus*, attributed to MacLeay. Régimbart’s (1882) acknowledgement of the original spelling but choosing to use *Dineutes* suggests an intentional emendation of the nomen (Régimbart performed other similar acts: see the discussion under *Épinectus* Dejean, 1833). As Régimbart (1882) is the only author to have intentionally attempted to emend the name, however unjustifiably, *Dineutes* Régimbart, 1882 enters synonymy as an unjustified emendation, i.e. as a distinct available nomen (which an incorrect subsequent spelling is not). We therefore appeal for discontinuing use of the name *Dineutes* in accordance with Article 33, as previously has been done (Ochs, 1924a: 233; 1924b: 1, footnote; 1926c: 133, footnote), and we here regard it as a junior synonym attributed to Régimbart (1882).

It is also important to point out that several authors have erected valid genus-group nomina with spellings based on the incorrect subsequent spelling *Dineutes*, including the extant group Spinosodineutes Hatch, 1925, and the fossil genera Miodineutes Hatch, 1927, and Mesodineutes Ponomarenko, 1992. These spellings are the correct original spellings of these nomina.

Finally, another incorrect subsequent spelling of *Dineutus, Dyneutes*, was introduced by Laporte (1835). It is incorrect and unavailable.

**DINEUTINI, Desmarest, 1851**

Ochs (1926, 1927) presented a comprehensive documentation of *Dineutus* using the tribe name *DINEUTINI* without author attribution. This action seemingly implied that Ochs (1926a) was the first to use it, but harder evidence Ochs did in fact consider himself author of *DINEUTINI* comes from his checklist in the *Catalogue of Indian Insects* where he credits himself with the name (Ochs, 1930b: 8). Ochs was also credited with the family-group nomen *DINEUTINI* by Balfour-Browne (1945). Recently, Bouchard et al. (2011) discovered that the family-series nomen was actually first erected by Desmarest (1851). The discovery of *DINEUTINI* Desmarest, 1851 renders *DINEUTINI* Ochs, 1926a a junior homonym. However, Ochs separation of the two genera, *Porrorhynchus* and *Dineutes*, into their own tribe, the *DINEUTINI*, has been treated as valid, followed by Folkerts (1979) who downgraded it to subtribe rank, until it was most recently synonymized with *ENHYDRINI* by Miller & Bergsten (2012). For discussion of the use of *DINEUTINI*, see the discussion under *ENHYDRINI* Régimbart, 1882.

**Enhydrus Laporte, 1834**

The genus nomen *Enhydrus* has caused nomenclatural problems of homonymy with a sea snake and a hydrophilid generic nomina (Balfour-Browne 1945; Balfour-Browne & Brinck 1961; Brinck 1978). The genus was erected by Laporte (1834), who designated the type as *Gyrinus sulcatus* Wiedemann, 1821. Balfour-Browne (1945) appears to be the first one to have noticed an issue with the nomen *Enhydrus* after reviewing Neave’s (1939) *Nomenclator Zoologicus* (Vol. 2: 234). Neave indicated that the nomen *Enhydrus* was twice pre-occupied, by *Enhydrus* Rafinesque, 1815, a generic nomen of sea snake, and *Enhydrus* Dahl, 1823, a generic nomen of hydrophilid. Balfour-Browne (1945) stated that *Enhydrus* used by Rafinesque (1815) was either an unnecessary emendation or an incorrect subsequent spelling of *Enhydryris* Latreille (1801). He also discovered the nomen *Enhydrus* Dahl, 1823 to be a part of a “price list” without any diagnosis or description of the genera listed, and, therefore, he believed it to be a nomen nudum (Balfour-Browne 1945). Balfour-Browne (1945) requested that *Enhydrus* Laporte, 1834 be included in the Commission’s *Official List of Generic Names*, but, if rejected, he indicated that the next available
nomen was “Epinecirus (Eschsholtz) Aubé, 1838”, a junior objective synonym, basis of the subfamily nomen *EPINECINAE*. Despite his proposal, he later decided that *Epinecirus* should actually be considered a nomen nudum (Balfour-Browne 1945; Balfour-Browne & Brinck 1961; see the discussion of *Epinecirus* for more details).

Guignot (1954), apparently without knowledge of Balfour-Browne’s treatment of the issue, proposed that the generic nomen be changed to *Prothydrus*. Guignot’s, (1954) proposal was largely ignored. Balfour-Browne & Brinck (1961) followed up on the issue of *Enhydrus* and presented a case in the *Bulletin of Zoological Nomenclature* to officially deal with it. This proposal was: that *Enhydrus* Rafinesque, 1815 be officially considered an incorrect subsequent spelling of *Enhydry* Laporte, 1802; that *Enhydrus* Dahl, 1823 to be declared unavailable (for reasons discussed earlier in Balfour-Browne 1945); that *Enhydrus* MacLeay, 1825 be suppressed since MacLeay’s only species, *E. pallens*, had been in *Helochares* Mulsant, 1844 for 115 years; and finally that *Enhydrus* Castelnau, 1834 be placed on the *Official List of Generic Names*. The following 1964 official ruling by the ICZN resulted in Opinion 710 with (1) suppression of Dahl’s 1823 work and thus the nomen *Enhydrus* appearing there; (2) conservation of *Enhydrus* Laporte, 1834 by the plenary power; (3) suppression of *Enhydrus* MacLeay, 1825; (4) official acknowledgment of *Enhydrus* Rafinesque, 1815 as an incorrect subsequent spelling of *Enhydry* Latreille, 1802; and, finally, (5) suppression of the generic nomen *Prothydrus* and the family-series nomen *PROHYDRINAE* Guignot, 1954.

**ENHYDRINI** Régimbart, 1882

The Commission’s Opinion 720 (Anonymous 1964) fixed the issues with the generic nomen *Enhydrus*, but indicated that the family-series nomen was a junior homonym. The issue of the homonymy of this nomen was discussed by Brinck (1978) in his revision of the genus, noting that it was pre-occupied by *ENHYDRINAE* Gray, 1825 (for sea otters), which was already placed on the *Official List of Family-group Names*. According to Brinck (1978), “After contact with the secretary to the International Commission on Zoological Nomenclature, Dr. Richard Melville, I propose a change of the spelling to Enhydreinae pending a decision of the International Commission.” But it would appear that this case was never pursued and remained unresolved. Öz dikmen & Darilmaz (2010) submitted an official proposed emendation to resolve the issue of homonymy between these two family-series nomina.

Özdikmen & Darilmaz (2010) addressed the origins of the homonymy between both nomina, *ENHYDRINI* Gray, 1825 is based on the generic nomen *Enhydry* Fleming, 1822, whereas *ENHYDRINI* Régimbart, 1882 is based on the generic nomen *Enhydrus* Laporte, 1834. The resulting stems for both are *Enhydhr-* resulting in the homonymy of the family-series nomina. Öz dikmen & Darilmaz (2010), therefore, moved to have the official stem of *Enhydrus* Laporte, 1834 emended to *Enhydrus-*., resulting in the family-series nomen *ENHYDRUSINI* Régimbart, 1882, which should be placed on the *Official List of Family Group Names in Zoology* whereas *ENHYDRINI* Régimbart, 1882 should be placed on the *Official Index of Rejected and Invalid Family-Group Names in Zoology*.

More recently, Bouchard et al. (2011) also addressed the issue of *ENHYDRINI* Régimbart, 1882, finding that an earlier family-series nomen, *DINEUTINI* Desmarest, 1851, had been applied to the same group of genera but predated *ENHYDRINI* Régimbart, 1882. Bouchard et al. (2011) invoked Article 35.5 of the ICZN to conserve the use of the younger name, *ENHYDRINI* Régimbart, 1882 due to its prevailing use.


Opinion 2297 (Anonymous 2012) corrected the issues with the homonymy of the nomen *ENHYDRINI* Régimbart, 1882, however the appropriate nomen to be applied to the taxon remains in question. The senior synonym *DINEUTINI* Desmarest, 1851 still has precedence via the Principle of Priority over the nomen *ENHYDRINI* Régimbart, 1882 (and its emendation *ENHYDRUSINI* Anonymous, 2012), as pointed out by Alonso-Zarazaga in Anonymous (2012). At the time of Bouchard et al. (2011), the subtribes *DINEUTINI* Desmarest, 1851 and *ENHYDRINI* Régimbart, 1882 were still recognized, but Miller & Bergsten (2012) recently subsumed the subtribes
into a single tribe. Given the nomenclatural calamity of the original nomen of this taxon, the Principle of Priority should be followed giving the tribe the appropriate nomen of Dinéutini Desmarest, 1851, with Enhydrina Régimbart, 1882 (as Enhydrusina) remaining available, should the tribe be again split into subtribes. Opinion 2297 (Anonymous, 2012) merely fixed the homonymy regarding the nomen Enhydrina Régimbart, 1882, but did not protect it from the senior synonym Dinéutini Desmarest, 1851 which has never been suppressed (Dubois, pers. com.). Therefore we promote the tribe formerly known as Enhydrina Régimbart, 1882 to be now known as the Dinéutini Desmarest, 1851 following the Principle of Priority. We have changed the list of all the genera formerly associated with that nomen in order to apply to the tribe as currently understood. The current classification we provide, following Miller & Bergsten (2012), reflects this change.

Gyrinus, Geoffroy, 1762

The genus Gyrinus has been variously attributed to several authors by different workers. Aubé (1836, 1838), Regimbart (1883), Ashworth (1910), Hatch (1927), Ochs (1928), Blackwelder (1944–1957) and Roughley (2001) all attributed it to Geoffroy (1762). Dejean (1833), Le Conte (1863), Ochs (1949) and Brinck (1955) attributed it to Linnaeus (1767). Laporte (1910) suggested Fabricius as the author (without a date), and Balfour-Browne (1945) and Oygur & Wolf (1991) proposed Müller (1764). Geoffroy (1762) fully described the genus, but, as others have pointed out, Geoffroy did not consistently employ binominal nomenclature, a requirement for nomenclatural availability (Article 11.4 of the Code). Müller (1764) was next to provide a description of Gyrinus, and Oygur & Wolf (1991), following the opinions expressed by Silverberg (1978), suggested that he is the author based on Opinion 228 (Anonymous 1954), since he named genera along with diagnoses.

The Commission (Anonymous 1994, Opinion 1754) used its plenary powers to declare the generic nomina introduced by Geoffroy (1762) available and removed Geoffroy’s (1762) work from the Official Index of Rejected and Invalid Works in Zoological Nomenclature, instead placing it on the Official List of Works Approved as Available for Zoological Nomenclature, with the type species Dytiscus natator Linnaeus, 1758, making Geoffroy (1762) the correct author of Gyrinus.

Orectochilus Dejean, 1833

Authorship of Orectochilus has also been variously attributed to different authors such as Dejean (1833), Stephens (1833), Lacordaire (1835) and Eschholtz’s unpublished work. Dejean (1833) introduced the generic nomen Orectochilus, attributed it to Eschholtz, and associated it with several species, one of which was O. villosus, the type species by subsequent designation of Balfour-Browne (1945: 111). According to the Code’s Article 12.2.5, Dejean’s genus-series nomen is valid by indication, since it was published before 1931, in a work with consistent binominal nomenclature, and it was used in combination with previously available species-series nomina. Lacordaire’s (1835) description, however, was the first for the genus.

Another problem presents itself with the type fixation of Orectochilus and authorship of the type species. Balfour-Browne (1945), in his attempt to fix some of the nomenclatural issues and type designations within Gyrinidae, designated the type of Orectochilus as Gyrinus villosus Illiger, 1798, by monotypy within the genus, the nomen of which he attributed to Stephens (1835). However, the author of Gyrinus villosus is actually Müller (1776), the first to have provided the nomen accompanied with a short description. According to Article 67.7 of the Code, the type fixation by Balfour-Browne (1945), even with incorrect author attribution, is valid. We wish to clarify that the type of Orectochilus Dejean, 1833 is unambiguously Gyrinus villosus Müller, 1776. Gyrinus villosus has been attributed to several other authors including Illiger, Gyllenhal, and, often, Fabricius. However, their publications date after Müller’s (1776) description that rendered the nomen available.

There also exists a subsequent incorrect spelling of Orectochilus, Orectocheilus. Several authors have used this spelling including Hope (1838), Agassiz (1846) and Desmarest (1851), but these all use an incorrect subsequent spelling.
Epinectus Dejean, 1833

The name *Epinectus* was first published by Dejean (1833), attributed to an unpublished work by Eschscholtz, to which it was also attributed by later authors (Aubé 1838; Régimbart 1877; Balfour-Browne 1945). Dejean’s (1833) catalogue did not include any descriptions, only a list of nomina, and for this reason Balfour-Browne (1945) believed that *Epinectus* Eschscholtz should be considered a *nomen nudum* following Opinion 1 of the ICZN (1944). Balfour-Browne (1945) then suggested that Aubé (1836) made the nomen available by listing it as a synonym associated with a description.

However, Dejean’s (1833) lack of description is not what made *Epinectus* a *nomen nudum* at that time according to the current Code. Dejean’s (1833) work often indicated valid species nomina according to Article 12.2.5. In the case of *Epinectus*, the indication Dejean (1833) makes, is subject to some interpretation. The species associated with the generic concept of *Epinectus* is “*sulcatus* Dej.” It is reasonable to assume Dejean is referring to *Gyrinus sulcatus*, as Aubé (1836), Balfour-Browne (1945) and Brinck (1961) assumed, the authorship of that species is consistently attributed to Wiedeman (1821), not Dejean. If Dejean (1833) was accrediting himself with the specific nomen *sulcatus* it would render *Epinectus* Dejean, 1833 a *nomen nudum* under the current Code as it would be lacking reference to a valid species nomen or reference. However, if one refers to Aubé (1836) it appears that Dejean’s action many not have been to suggest his authorship of the specific nomen *sulcatus*, but to suggest a new combination of which he as well as Aubé (1836, 1838) credit him authorship. Therefore, Dejean’s (1833) indication could be treated as to a valid species or reference. This would result in Dejean (1833) taking authorship of *Epinectus* and the nomen being available and valid, rendering *Enhydrus* Laporte, 1834 a junior objective synonym. Dejean (1833) however, was inconsistent with accrediting himself for all new combinations as can be clearly seen with the nomen *Orectochilus*, or his new nomen *Trigonocheilus*, which includes previously described nomina, where Dejean does not give authorship to himself with each new combination. Given this uncertainty, the most direct route is to assume Dejean (1833) was ascribing himself with authorship to the specific nomen *sulcatus* rendering *Epinectus* Dejean, 1833 a *nomen nudum*. This prevents further nomenclatural calamity with the nomen *Enhydrus*, and is in line with the Commission’s ruling of Opinion 714 (Anonymous, 1964), which already deemed *Epinectus* Dejean, 1833 a *nomen nudum*.

The nomen *Epinectus* again appeared in use by Régimbart (1877) as a subgenus of *Enhydrus*. In this same work Régimbart (1877) created an unjustified emendation of the spelling, simply stating “the name of *Epinectus* or better *Epinectes*” (translated). Régimbart (1877) divided the genus *Enhydrus* into two subgenera with *Epinectus* including *Gyrinus sulcatus* and *Enhydrus s. str.* including the Australian species then placed in *Enhydrus* (Balfour-Browne & Brinck 1961). Later, Régimbart (1882) erected the genus *Macroygrypus* to include the Australian *Enhydrus s. str.* species and relegated his name *Epinectes* Régimbart, 1877 to synonymy (Balfour-Browne & Brinck 1961). For this reason Balfour-Browne & Brinck (1961) requested that *Epinectes* Régimbart, 1877 be placed on the Official Index of Rejected and Invalid Generic Names in Zoology despite his earlier (Balfour-Browne 1945) promotion of the use of *Epinectus* Aubé, 1838, and *Epinectinae* (Balfour-Browne 1945) instead of *Enhydrus* and *Enhydrinae*. Balfour-Browne & Brinck (1961) also suggested that *Epinectus* be considered a *nomen nudum*, since they believed Dejean’s (1833) indication to be invalid. Balfour-Browne & Brinck’s (1961) proposal resulted in Opinion 710 (Anonymous 1964) placing *Epinectus* and *Epinectes* on the Official Index of Rejected and Invalid Generic Names in Zoology, with *Epinectus* Dejean, 1833 as a *nomen nudum* and *Epinectes* Régimbart, 1877 as a junior objective synonym of *Enhydrus*.

Necticus Laporte, 1835

Laporte (1835) provided a short discussion of the genus “*Dyneutes*” (a misspelling of *Dineutus* Macleay, 1825, see above) in which he claimed that the genus was relatively unknown to French entomologists. Although he did not know the genus well, the generic description of *Dineutus* apparently left him with some concerns. Laporte (1835) explained that in the original description the labrum is described as lacking setae, but after performing dissections he found that there are setae. He questioned whether MacLeay (1825) had actually meant the labium, rather than the labrum, and, given that, he considered the “large exotic gyrinids with hidden scutella” to be in the same genus, *Dineutus* (Laporte, 1835). However, Laporte (1835) decided to erect a new genus, which he called *Necticus*, to
place those gyrinids in case MacLeay (1825) had meant the labrum. His proposal of the nomen *Necticus* included an indication to *Gyrinus kolmani* Perty, 1831, making the nomen *Necticus* a new genus-series nomen according to Article 12.2.5 of the Code. The nomen *Necticus* Laporte, 1835 is therefore a junior subjective synonym of *Dineutus* MacLeay, 1825, following Balfour-Browne (1945).

Neave (1939) and Nilsson et al. (1989) recognized the existence of *Necticus* Laporte, 1835 and its homonymy with *Necticus* Hope, 1838 (Coleoptera: Dytiscidae). The homonymy has been corrected by substituting *Necticus* Hope, 1838 with its junior objective synonym *Gaurodytes* Thomson (Nilsson et al. 1989).

*Trigonocheilus* Dejean, 1833

The nomen *Trigonocheilus* was first published by Dejean (1833) associated with the specific nomen *T. rostratus* De Haan, but there is no such publication by De Haan and this species nomen is a *nomen nudum*. Therefore, the original publication of *Trigonocheilus* does not contain an appropriate indication to a previously described species and does not meet the requirements of Article 12.2.5, and *Trigonocheilus* Dejean, 1833 is a *nomen nudum*. Agassiz (1846) emended the spelling of *Trigonocheilus* to *Trigonochilus*. This emendation is unjustified according to Article 33.2.3 of the Code, but as *Trigonocheilus* Dejean is a *nomen nudum* and an unavailable nomen, so is its emendation. Nevertheless, this emendation is a distinct nomen with its own author and date, as are all unjustified emendations. There is a homonym of the unavailable nomen *Trigonochilus* Agassiz, 1846, the ruteline scarab genus *Trigonochilus* Brenske, 1896. As *Trigonochilus* Agassiz, 1846 is unavailable this should prevent any need for action to remove the homonymy between these two nomina.

*Potamobius* Hope, 1838

The generic nomen *Potamobius* Hope, 1838 raises a nomenclatural problem. Hope (1838) presented a table of the genera of *Gyrinidae* and listed *Potamobius* credited to Leach, with the type species *P. modeerii* Marsham, 1802. In accordance with Article 12.2.5 of the Code, Hope’s table with clear indication to the valid species of “*modeerii* Marsham” is an indication. Marsham’s (1802) nomen was actually originally *Gyrinus modeeri*, and Hope (1838) seems to have simply misspelled it.

Hope’s (1838) table includes brackets around genera considered to be synonymous. He considered *Orectochilus* (which he spelled *Orectocheilus*) as a synonym of *Potamobius*, and stated in his discussion of *Orectochilus villosus* that the species is “Now a *Potamobius* of Leach”. Hope’s (1838) statement gains additional meaning upon reading Stephens’ (1829a) section on *Gyrinidae*. Stephens (1829a) listed references in parentheses including the author followed by a citation. A source frequently cited is “(Sam. I. 20)” clearly referring to Samouelle (1819). Stephens (1829a) presented two divisions for the species of *Gyrinidae*, “A. Elytris glabris” and “B. Elytris villosis.—*(Potamobius, Leach MSS.)*”, the latter including species “543. 7, villosus” with “*Gy. Modeeri Marsham*” apparently listed as a synonym. Samouelle (1819) presented a similar arrangement for the *Gyrinidae* with the divisions “‘*Elytra naked, with punctured striae.’ Leach.” and “‘** Elytra smooth, villose.’ Leach.”. Samouelle (1819) acknowledged that Leach had given him all of his manuscripts for use in his work and he credited Leach for those ideas, including the nomen *Potamobius*. Hope (1838) was apparently under the impression that Stephens (1829a) placed the species *O. villosus* as well as *G. modeeri* into the genus *Potamobius* based on Leach’s unpublished manuscript, though that was not clearly Stephens’ (1829a) intention. Additional evidence that Stephens (1829a) was merely citing Leach’s manuscript comes from another of his papers published the same year (Stephens 1829b) in which he included only a single genus in the *Gyrinidae*, *Gyrinus*, including the species *G. villosus*, suggesting that he did not recognize *Potamobius* as a valid nomen.

The nomen *Potamobius* was used again for a genus by Samouelle (1819), attributed again to Leach, but for a crustacean, having nothing to do with the *Gyrinidae*. This, however, makes *Potamobius*, as conceived by Hope (1838) for the *Gyrinidae*, a junior homonym of *Potamobius* Samouelle, 1819. The type listed for *Potamobius* by Hope is “*modeeri*”, which by most authors is considered a junior synonym of *O. villosus* Müller, making *Potamobius* Hope, 1838 both a junior homonym and a junior subjective synonym.
TABLE 1. History of authors’ use of Dineutus vs. Dineutes.

<table>
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<th>Dineutes</th>
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<td></td>
</tr>
<tr>
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