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Registration of Neostromboidae Clades in the RegNum of the PhyloCode, and Errata

Stephen J. Maxwell
College of Science and Engineering, James Cook University, P.O. Box 6811, Cairns, Queensland 4870, Australia. stephen.maxwell@my.jcu.edu.au

ABSTRACT This paper provides the International Code of Phylogenetic Nomenclature RegNum repository registration numbers for the clades defined in *The Festivus*. The definitions are based on the current understanding of the internal resolution within Stromboidae, and maybe amended as further taxa are resolved. This set of registration references reflects the refined definitions that have become necessary with the activation of the PhyloCode (2020) and the RegNum protocols. The use of types is not a requirement of the PhyloCode, but there use herein does resolve much of the differences between the IZCN and PhyloCode in practice. Errata for Maxwell and Rymer (2021) are noted at the end.

KEY WORDS ICZN, PhyloCode, RegNum, Taxonomy, Neostrombidae

INTRODUCTION

The PhyloCode (2020) saw some major shifts in terminology in relation to definitional structure particularly with node-based clades being now *minimum-clades* and stem-based clades now *maximum-clades*, and the need to explicitly state the type of clade in definitions. The revised PhyloCode (2020) has more formalistic regulation of definitional requirements; however, historical clades that were defined prior to the new code form should be viewed as potentially valid (PhyloCode 6.2.1), based on whether there is a clear intent within the definition, all clades in Maxwell *et al.* (2019), Liverani *et al.* (2021) and Maxwell and Rymer (2021) fulfil this requirement. However, these now must be modified and registered as *nomen cladi conversum.* The list below contains these converted clades with their RegNum registration numbers. The RegNum is the formal international clade name repository for the PhyloCode. Furthermore, the use of types is not a requirement of the PhyloCode but are herein included to bring resolution of the taxonomy between the codes in structural requirement. As time progresses, I envisage that the PhyloCode will dominate the ordering of taxa above the ICZN rank of genera, and that the ICZN will have a role in the ordering of species terminal.

RegNum REGISTRATION

Neostromboidae Maxwell, Dekkers, Rymer, & Congdon, 2019
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 565
Definition. The total clade of the largest crown clade containing *Strombus pugilis* Linné, 1758, *Terebellum terebellum* (Linné, 1758) and *Tibia fusus* (Linné, 1758) but not *Struthiolaria papulosa* (Martyn, 1784) or *Aporrhais pespelecani* (Linnaeus, 1758).

Reference Phylogeny. Figure 2A in Maxwell *et al.* (2019).
Composition. The clade contains members of three families, Strombidae (see Maxwell & Rymer (2021) for content), *Rostellariidae*, and *Seraphsidae*. It excludes *Struthiolariidae* and *Aporrhaidae*,
Diagnostic Apomorphies. The animal possesses eyes on the end of the peduncles. The cephalic tentacle is also located on the peduncle towards the distal end. The radula has a central rachidian tooth with three lateral teeth either side. The foot is laterally compressed, with a defined propodium and a metapodium. The shell form changes upon maturation with the development of an outer lip structure (Maxwell *et al.* 2019, p. 3).
Type Genus. *Strombus* Linné, 1758.

Strombidae Rafinesque,1815
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 566
Definition. The maximum clade consisting of *Aliger gallus* (Linné, 1758) and *Canarium urceus* (Linné, 1758) and all species that share a more recent common ancestor with them than with *Terebellum terebellum* (Linné, 1758) or *Tibia fusus* (Linné, 1758).
Reference Phylogeny. Figure 1 in Maxwell & Rymer (2021).
Composition. The clade containing the two subfamilies *Neostrombinae* (see Maxwell & Rymer (2021) for content) and *Neoaligerinae* (see Maxwell & Rymer (2021) for content). It excludes the *Rostellariidae* and *Seraphsidae*.
Diagnostic Apomorphies. Shell with a body whorl that is longer than the combined teleoconch, stromboidal notch well formed, and body whorls sculpture may vary significantly from that of the teleoconch (Maxwell & Rymer, 2021, p. 46).
Type Genus. *Strombus* Linné, 1758.

Neostrombinae Maxwell & Rymer, 2021
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 567
Definition. The maximum clade consisting of *Dolomena pulchellus* (Reeve, 1851) *Conomurex luhuanus* (Linné, 1758), *Laevistrombus canarium* (Linné, 1758), and *Neostrombus fusiformis* (Sowerby II, 1842) and all species that share a more recent common ancestor with them than with *Aliger gallus* (Linné, 1758), *Euprotomus aurisdiane* (Linné, 1758), *Lambis lambis* (Linné, 1758), *Gibberulus gibberulus* (Linné, 1758) or *Persististrombus granulatus* (Swainson, 1822).
Reference Phylogeny. Figure 3 in Maxwell & Rymer (2021).
Composition. The clade containing the two tribes *Neostrombini* (see Liverani *et al.* (2021) for content) and *Dolomini* (see Dekkers & Maxwell (2020) for content), and also other genera such as *Conomurex* (see Abbott (1960) for content) and *Laevistrombus* (see Maxwell *et al.* (2019a) for content). It excludes *Neoaligerinae* (see Maxwell *et al.* (2020) for content).
Diagnostic Apomorphies. There is a basal peg on the radula first lateral tooth. The shells are small to medium in size. The posterior canal is straight and extended. Dorsum of the body whorl often smooth or with limited shoulder ornamentation. (Maxwell & Rymer, 2021, p. 47).
Type Genus. *Canarium* Schumacher, 1817.

Neostrombini Liverani, Dekkers & Maxwell, 2021
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 559
Definition. The maximum clade consisting of *Canarium urceus* (Linné, 1758),

Maculastrombus maculatus (Sowerby II, 1842), *Neostrombus fusiformis* (Sowerby II, 1842), *Terestrombus fragilis* (Röding, 1798) and *Tridentarius denatus* (Linné, 1758) and all species that share a more recent common ancestor with them than with *Dolomena pulchellus* (Reeve, 1851), *Conomurex luhuanus* (Linné, 1758) or *Laevistrombus canarium* (Linné, 1758).

Reference Phylogeny. Figure 3 in Maxwell & Rymer (2021).

Composition. An internal clade within *Neostrombinae* containing the five genera *Maculastrombus* (see Liverani *et al.* (2021) for content), *Neostrombus* (see Liverani *et al.* (2021) for content), *Terestrombus* (see Liverani *et al.* (2021) for content), *Tridenarius* (see Liverani e*t al.* (2021) for content) and *Canarium* (see Liverani et al. (2021) for content). It excludes *Dolomini* (see Dekkers & Maxwell (2020) for internal content) and other unresolved clades such as *Conomurex* (see Abbott (1960) for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content) and *Barneystrombus*.

Diagnostic Apomorphies. Shells small with a narrow aperture that is posteriorly constricted forming a narrow sinus with the body whorl. The radula has a central tooth with five cusps the central being the largest, and lateral teeth with a basal peg (Liverani *et al.* 2021, p. 28).

Type Genus. *Neostrombus* Liverani, Dekkers & Maxwell, 2021.

Canarium Schumacher 2002
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 569

Definition. The maximum clade consisting of *Canarium urceus* (Linné, 1758) and all species that share a more recent common ancestor with them than with *Tridentatarius dentatus* (Linné, 1758), *Terestrombus fragilis* (Röding,1798), *Maculastrombus maculatus* (Sowerby II, 1842) or *Neostrombus fusiformis* (Sowerby II, 1842).

Reference Phylogeny. Figure 1 in Liverani *et al.* (2021).

Composition. This clade belongs to the Neostrombini (see Liverani *et al.* (2021) for content) and contains *Canarium* (see Liverani *et al.* (2021) for content). It does not include members of the *Maculastrombus* (see Liverani *et al.* (2021) for content), *Neostrombus* (see Liverani *et al.* (2021) for content), *Terestrombus* (see Liverani *et al.* (2021) for content) and *Tridentarius* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. Small solid shells with an eliptic-rhomboid form and a variable height of teleoconch, and a cross section of the labrum that is thickened with a fine ridge (Liverani *et al.* 2021 p. 29)

Type Species. *Canarium urceus* (Linné, 1758)

Maculastrombus Liverani, Dekkers & Maxwell, 2021
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 561

Definition. The maximum clade consisting of *Maculastrombus maculatus* (Sowerby II, 1842) and *Maculastrombus depauperatus* (Dautzenberg & Bouge, 1933), and all species that share a more recent common ancestor with them than with *Canarium urceus* (Linné, 1758), *Terestrombus fragilis* (Röding, 1798), *Tridentatarius dentatus* (Linné, 1758) or *Neostrombus fusiformis* (Sowerby II, 1842).

Reference Phylogeny. Figure 1 in Liverani *et al.* (2021).

Composition. This clade belongs to the *Neostrombini* (see Liverani *et al.* (2021) for content) and contains *Maculastrombus* (see Liverani *et al.* (2021) for content). It does not include members of the *Neostrombus* (see Liverani *et al.* (2021) for content), *Terestrombus* (see Liverani *et al.* (2021) for content), *Tridentarius* (see Liverani *et al.* (2021)

for content) and *Canarium* (see Liverani *et al.* (2021) for content).
Diagnostic Apomorphies. Shells with a cuneate outer lip and smooth body whorl, the later teleoconch with distinctive tubercules (Liverani *et al.* 2021, p. 33).
Type Species. *Maculastrombus maculatus* (Sowerby II, 1842).

Neostrombus Liverani, Dekkers & Maxwell, 2021
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 562
Definition. The maximum clade consisting of *Neostrombus fusiformis* (Sowerby II, 1842) and all species that share a more recent common ancestor with them than with *Canarium urceus* (Linné, 1758), *Terestrombus fragilis* (Röding,1798), *Tridentatarius dentatus* (Linné, 1758) or *Maculastrombus maculatus* (Sowerby II, 1842).
Reference Phylogeny. Figure 1 in Liverani *et al.* (2021).
Composition. This clade belongs to the *Neostrombini* (see Liverani *et al.* (2021) for content) and contains *Neostrombus* (see Liverani *et al.* (2021) for content). It does not include members of the *Maculastrombus* (see Liverani *et al.* (2021) for content), *Teretrombus* (see Liverani *et al.* (2021) for content), *Tridentarius* (see Liverani *et al.* (2021) for content) or *Canarium* (see Liverani *et al.* (2021) for content).
Diagnostic Apomorphies. The shell is fusiform with a columella that is diminished posteriorly, with a cuneate cross section of the labrum and lacking a fine ridge at the edge. (Liverani *et al.* 2021, p. 34).
Type Species. *Neostrombus fusiformis* (Sowerby II, 1842).

Terestrombus Kronenberg & Vermeij 2002
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 563
Definition. The maximum clade consisting of *Terestrombus fragilis* (Röding,1798) and all species that share a more recent common ancestor with them than with *Canarium urceus* (Linné, 1758), *Tridentatarius dentatus* (Linné, 1758), *Maculastrombus maculatus* (Sowerby II, 1842) or *Neostrombus fusiformis* (Sowerby II, 1842).
Reference Phylogeny. Figure 1 in Liverani *et al.* (2021).
Composition. This clade belongs to the *Neostrombini* (see Liverani *et al.* (2021) for content) and contains *Terestrombus* (see Liverani *et al.* (2021) for internal content). It does not include members of the *Maculastrombus* (see Liverani *et al.* (2021) for content), *Neostrombus* (see Liverani *et al.* (2021) for content), *Tridentarius* (see Liverani *et al.* (2021) for content) and *Canarium* (see Liverani *et al.* (2021) for internal content).
Diagnostic Apomorphies. Shell **s**mall, thin-shelled, spirally and axially almost smooth strombids with rounded, basally unconstricted whorls, thin, determinate, unglazed outerlip, indistinct stromboid notch, and thin columellar callus (Kronenberg and Vermeij 2002, p. 49).
Type Species. *Terestrombus fragilis* (Röding, 1798).

Tridentarius Kronenberg & Vermeij 2002
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 564
Definition. The maximum clade consisting of *Tridentatarius dentatus* (Linné, 1758) and all species that share a more recent common ancestor with them than with *Canarium urceus* (Linné, 1758), *Terestrombus fragilis*

(Röding,1798), *Maculastrombus maculatus* (Sowerby II, 1842) or *Neostrombus fusiformis* (Sowerby II, 1842).

Reference Phylogeny. Figure 1 in Liverani *et al.* (2021).

Composition. This clade belongs to the *Neostrombini* (see Liverani *et al.* (2021) for content) and contains *Tridentarius* (see Liverani *et al.* (2021) for internal content). It does not include members of the *Maculastrombus* (see Liverani *et al.* (2021) for content), *Neostrombus* (see Liverani *et al.* (2021) for content), *Terestrombus* (see Liverani *et al.* (2021) for content) and *Canarium* (see Liverani *et al.* (2021) for internal content).

Diagnostic Apomorphies. Small, high-spired strombids with strongly reduced spiral sculpture, determinate outerlip with glazed adult edge and three sharp basal projections. An indistinct stromboid notch separates the two abapical most projections. A thick, narrow columellar callus is present, and along adapical apertural channel (Kronenberg and Vermeij 2002, p. 51).

Type Species. *Tridentatarius dentatus* (Linné, 1758).

Dolomenini Dekkers & Maxwell, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 580

Definition. The maximum clade consisting of *Doxander vittatus* (Linné, 1758), *Neodilatilabrum marginatum* (Linné, 1758), *Ministrombus minimus* (Linné, 1771), and *Dolomena pulchella* (Reeve, 1851) and all species that share a more recent common ancestor with them than with *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).

Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).

Composition. This clade is contained within the *Neostrombinae* (see Maxwell & Rymer (2021) for content), contains the two clades *Doxanderina* (see Dekkers & Maxwell (2020) for content) and *Dolomenina* (see Dekkers & Maxwell (2020) for content). It excludes *Conomurex* (see Abbott (1960), for content), *Mirabilistrombus*, *Laevistrombus* (see Maxwell *et al.* (2019a) for content) and *Neostrombini* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. Shells with an early to mid-teleoconch with even axial ornamentation. Outer lip without ornamentation, anterior canal short, shoulder of body whorls with knobs that may be greatly reduced (Dekkers & Maxwell, 2020, p. 41).

Type Genus. *Dolomena* Wenz, 1940.

Doxanderina Dekkers & Maxwell, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 581

Definition. The maximum clade consisting of *Doxander vittatus* (Linné, 1758), *Neodilatilabrum marginatum* (Linné, 1758) and all species that share a more recent common ancestor with them than with *Dolomena pulchella* (Reeve, 1851), *Labiostrombus epidromis* (Linné, 1758), *Ministrombus minimus* (Linné, 1771), *Amabiliplicatus plicatus* (Röding, 1798), *Dominus labiosus* (Wood, 1828), *Pacificus dilatatus* (Swainson, 1821), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).

Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).

Composition. This clade is contained within the *Neostrombinae* (see Maxwell & Rymer (2021) for content), contains the two clades *Doxander* (see Dekkers & Maxwell (2020) for content) and *Neodilatilabrum* (see Dekkers & Maxwell

(2020) for content). It excludes *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content), *Dolomenina* (see Dekkers & Maxwell (2020) for content) and *Neostrombini* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. The aperture of the shell is uniformly lirate. There is no marginal fold present on the edge of the outer lip. The outer lip lacks sharpness. The body of the shell is rounded, with a convex flange that may be stepped. There is no flange fold. The spire is sculptured with uniform axial ribs. The columella is straight and mostly smooth. The posterior sinus has uneven sides with the outer side being sharp-edged (Dekkers & Maxwell, 2020, p. 42).

Type Genus. *Doxander* Wenz, 1940.

Doxander Wenz, 1940
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 582

Definition. The maximum clade consisting of *Doxander vittatus* (Linné, 1758) and all species that share a more recent common ancestor with them than with *Neodilatilabrum marginatum* (Linné, 1758), *Dolomena pulchella* (Reeve, 1851), *Labiostrombus epidromis* (Linné, 1758), *Ministrombus minimus* (Linné, 1771), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).

Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).

Composition. This clade is contained within the *Dolomenini* (see Dekkers & Maxwell (2020) for content) and contains the *Doxander* (see Dekkers & Maxwell (2020) for content). It excludes *Dolomenina* (see Dekkers & Maxwell (2020) for content), *Neodilatilabrum* (see Dekkers & Maxwell (2020) for content). *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content), and *Neostrombini* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. Shells with a high spire. The body whorl is smooth or with strong axial folds or spiral lines. The dorsum is often with a central knob on the shoulder. The subsutural cord is well defined. The inside labrum has weak or stronger lirae. Stromboidal notch moderately well formed. The flange is stepped (Dekkers & Maxwell, 2020, p. 42).

Type Species. *Doxander vittatus* (Linné, 1758).

Neodilatilabrum Dekkers, 2008
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 583

Definition. The maximum clade consisting of *Neodilatilabrum marginatum* (Linné, 1758) and all species that share a more recent common ancestor with them than with *Doxander vittatus* (Linné, 1758), *Dolomena pulchella* (Reeve,1851), *Labiostrombus epidromis* (Linné, 1758), *Ministrombus minimus* (Linné, 1771), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).

Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).

Composition. This clade is contained within the *Dolomenini* (see Dekkers & Maxwell (2020) for content) and contains the *Neodilatilabrum* (see Dekkers & Maxwell (2020) for content). It excludes *Doxander* (see Dekkers & Maxwell (2020) for content), *Dolomenina* (see Dekkers & Maxwell (2020) for content), *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content), and *Neostrombini* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. Stromboidal notch sinuous. The flange is not stepped. Spire with distinct shoulder with knobs. Body whorl shiny and almost without any sculpture; expanded outer lip thickened at the inner edge and smooth. Aperture smooth within. Columellar smooth, with callous, well-marked. The anterior canal is short. The stromboid notch is moderately developed. The posterior canal is present (Dekkers & Maxwell, 2020, p. 44).
Type Species. *Neodilatilabrum marginatum* (Linné, 1758).

Dolomenina Dekkers & Maxwell, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 584
Definition. The maximum clade consisting of *Dolomena pulchella* (Reeve,1851), *Labiostrombus epidromis* (Linné, 1758), *Ministrombus minimus* (Linné, 1771), *Amabiliplicatus plicatus* (Röding,1798), *Dominus labiosus* (Wood, 1828) and *Pacificus dilatatus* (Swainson, 1821) and all species that share a more recent common ancestor with them than with *Doxander vittatus* (Linné, 1758), *Neodilatilabrum marginatum* (Linné, 1758), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).
Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).
Composition. This clade is contained within the *Neostrombinae* (see Maxwell & Rymer (2021) for content), contains the six clades: *Dolomena* (see Dekkers & Maxwell (2020) for content), *Ministrombus* (see Dekkers & Maxwell (2020) for content), *Labiostrombus* (see Dekkers & Maxwell (2020) for content), *Amabiliplicatus* (see Dekkers & Maxwell (2020) for content), *Dominus* (see Dekkers & Maxwell (2020) for content) and *Pacificus* (see Dekkers & Maxwell (2020) for content). It excludes *Doxanderini* (see Dekkers & Maxwell (2020) for content), *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content), and *Neostrombini* (see Liverani *et al.* (2021) for content).
Diagnostic Apomorphies. Shell with uniform spiral sculpture of fine axial ribs. The flange is convex, and a flange fold runs from the posterior end of the labrum to the anterior end, mostly following the outline of the outer edge of the labrum, and only becoming obsolete at both ends (Dekkers & Maxwell, 2020, p. 45).
Type Genus. *Dolomena* Wenz, 1940.

Amabiliplicatus Dekkers & Maxwell, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 586
Definition. The maximum clade consisting of *Amabiliplicatus plicatus* (Röding, 1798) and all species that share a more recent common ancestor with them than with *Ministrombus minimus* (Linné, 1771), *Dolomena pulchella* (Reeve, 1851), *Labiostrombus epidromis* (Linné, 1758), *Dominus labiosus* (Wood, 1828), *Pacificus dilatatus* (Swainson, 1821), *Doxander vittatus* (Linné, 1758), *Neodilatilabrum marginatum* (Linné, 1758), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).
Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).
Composition. This clade is contained within the *Neostrombinae* (see Maxwell & Rymer (2021) for content) and *Dolomenina* (see Dekkers & Maxwell (2020) for content) and contains the clade *Amabiliplicatus* (see Dekkers & Maxwell (2020) for content). It excludes *Ministrombus* (see Dekkers & Maxwell (2020) for content), *Labiostrombus* (see Dekkers & Maxwell (2020) for content), *Dolomena* (see Dekkers &

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Maxwell (2020) for content), *Neostrombinae* (see Dekkers & Maxwell (2020) for content), *Dominus* (see Dekkers & Maxwell (2020) for content), *Pacificus* (see Dekkers & Maxwell (2020) for content), *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content), *Doxanderini* (see Dekkers & Maxwell (2020) for content) and *Neostrombini* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. The spire rather high with shallow knobs and infrequent old varices. The body whorl is broad, with spiral ribbing that becomes coarser towards the anterior end, with small knobs rounded or stretched axially on the rounded shoulder. The shell has a broadly expanded outer lip. The aperture is coarsely lirate within, white or stained with brown. The columellar callous is present but small. The columella is fully lirate, often brown coloured on the lirae. The anterior canal is very short but broad. Strombus notch broad but shallow (Dekkers & Maxwell, 2020, p. 48).

Type Genus. *Amabiliplicatus plicatus* (Röding, 1798).

Dolomena Wenz, 1940
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 587

Definition. The maximum clade consisting of *Dolomena pulchella* (Reeve, 1851) and all species that share a more recent common ancestor with them than with *Labiostrombus epidromis* (Linné, 1758), *Ministrombus minimus* (Linné, 1771), *Amabiliplicatus plicatus* (Röding, 1798), *Dominus labiosus* (Wood, 1828), *Pacificus dilatatus* (Swainson, 1821), *Doxander vittatus* (Linné, 1758), *Neodilatilabrum marginatum* (Linné, 1758), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).

Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).

Composition. This clade is contained within the *Neostrombinae* (see Maxwell & Rymer (2021) for content) and *Dolomenina* (see Dekkers & Maxwell (2020) for content) and contains the clade *Dolomena* (see Dekkers & Maxwell (2020) for content). It excludes *Ministrombus* (see Dekkers & Maxwell (2020) for content), *Labiostrombus* (see Dekkers & Maxwell (2020) for content), *Amabiliplicatus* (see Dekkers & Maxwell (2020) for content), *Dominus* (see Dekkers & Maxwell (2020) for content), *Pacificus* (see Dekkers & Maxwell (2020) for content), *Doxanderini* (see Dekkers & Maxwell (2020) for content), *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content) and *Neostrombini* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. Shells from 2 cm to 6 cm. Spire with distinct shoulder and with knobs mostly axially aligned. Body whorl with small knobs dorsally and spiral ribbing that can become obsolete. A hardly noticeable second row of very small knobs is present at the mid-whorl, where the outline of the shell has a nick. Expanded outer lip broader at the posterior end and flattened toward the rim. Aperture lirate within, stained with brown colour entering the aperture. Columellar callous present but small on the ventral side, marked, with lirae at the upper half, which are white or brown coloured. A brown background colour is often found deeper within the aperture. Lower half of the columella smooth and with thickened callous. Anterior canal short but always longer than the anterior part of the outer lip. Deeply incised stromboid notch (Dekkers & Maxwell, 2020, p. 45).

Type Genus. *Dolomena pulchella* (Reeve,1851).

Dominus Dekkers & Maxwell, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 591
Definition. The maximum clade consisting of *Dominus labiosus* (Wood, 1828) and all species that share a more recent common ancestor with them than with *Ministrombus minimus* (Linné, 1771), *Dolomena pulchella* (Reeve, 1851), *Labiostrombus epidromis* (Linné, 1758), *Amabiliplicatus plicatus* (Röding, 1798), *Pacificus dilatatus* (Swainson, 1821), *Doxander vittatus* (Linné, 1758), *Neodilatilabrum marginatum* (Linné, 1758), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).
Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).
Composition. This clade is contained within the *Neostrombinae* (see Maxwell & Rymer (2021) for content) and *Dolomenina* (see Dekkers & Maxwell (2020) for content) and contains the clade *Dominus* (see Dekkers & Maxwell (2020) for content). It excludes *Labiostrombus* (see Dekkers & Maxwell (2020) for content), *Dolomena* (see Dekkers & Maxwell (2020) for content), *Neostrombinae* (see Dekkers & Maxwell (2020) for content), *Amabiliplicatus* (see Dekkers & Maxwell (2020) for content), *Ministrombus* (see Dekkers & Maxwell (2020) for content), *Pacificus* (see Dekkers & Maxwell (2020) for content), *Doxanderini* (see Dekkers & Maxwell (2020) for content), *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content), and *Neostrombini* (see Liverani *et al.* (2021) for content).
Diagnostic Apomorphies. The spire with a distinct shoulder and knobs mostly axially aligned. The body whorl has medium knobs dorsally on the shoulder, and weak spiral ribs. The expanded outer lip has a strongly thickened end. The posterior outer lip is horizontal or pointing slightly upwards to the posterior. The aperture is lirate within. The columellar callous is mostly smooth or weakly lirate. The anterior canal is rather short (Dekkers & Maxwell, 2020, p. 49).
Type Genus. *Dominus labiosus* (Wood, 1828).

Labiostrombus Oostingh, 1925
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 600
Definition. The maximum clade consisting of *Labiostrombus epidromis* (Linné, 1758) and all species that share a more recent common ancestor with them than with *Dolomena pulchella* (Reeve, 1851), *Ministrombus minimus* (Linné, 1771), *Amabiliplicatus plicatus* (Röding,1798), *Dominus labiosus* (Wood, 1828), *Pacificus dilatatus* (Swainson, 1821), *Doxander vittatus* (Linné, 1758), *Neodilatilabrum marginatum* (Linné, 1758), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).
Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).
Composition. This clade is contained within the *Neostrombinae* (see Maxwell & Rymer (2021) for content) and *Dolomenina* (see Dekkers & Maxwell (2020) for content) and contains the clade *Labiostrombus* (see Dekkers & Maxwell (2020) for content). It excludes *Ministrombus* (see Dekkers & Maxwell (2020) for content), *Dolomena* (see Dekkers & Maxwell (2020) for content), *Amabiliplicatus* (see Dekkers & Maxwell (2020) for content), *Dominus* (see Dekkers & Maxwell (2020) for content), *Pacificus* (see Dekkers & Maxwell (2020) for content), *Doxanderini* (see Dekkers & Maxwell (2020) for content), *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see

Maxwell *et al.* (2019a) for content) and *Neostrombini* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. Shell with smooth aperture and columella. The outer lip has a marginal fold and is uniformly calloused towards the edge. The columella is straight. The dorsum has low small knobs or ribs. Spire uniformly sculptured with axial ribs (Dekkers & Maxwell, 2020, p. 46).

Type Genus. *Labiostrombus epidromis* (Linné, 1758).

Ministrombus Dekkers, 2010
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 621

Definition. The maximum clade consisting of *Ministrombus minimus* (Linné, 1771) and all species that share a more recent common ancestor with them than with *Dolomena pulchella* (Reeve,1851), *Labiostrombus epidromis* (Linné, 1758), *Amabiliplicatus plicatus* (Röding,1798), *Dominus labiosus* (Wood, 1828). *Pacificus dilatatus* (Swainson, 1821), *Doxander vittatus* (Linné, 1758), *Neodilatilabrum marginatum* (Linné, 1758), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).

Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).

Composition. This clade is contained within the *Neostrombinae* (see Maxwell & Rymer (2021) for content) and *Dolomenina* (see Dekkers & Maxwell (2020) for content) and contains the clade *Ministrombus* (see Dekkers & Maxwell (2020) for content). It excludes *Labiostrombus* (see Dekkers & Maxwell (2020) for content), *Dolomena* (see Dekkers & Maxwell (2020) for content), *Amabiliplicatus* (see Dekkers & Maxwell (2020) for content), *Dominus* (see Dekkers & Maxwell (2020) for content), *Pacificus* (see Dekkers & Maxwell (2020) for content), *Doxanderini* (see Dekkers & Maxwell (2020) for content), *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content), and *Neostrombini* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. The spire has a distinct shoulder with knobs. The body whorl is shiny and almost without any sculpture. The expanded outer lip is thickened at the inner edge and is shiny and smooth. The aperture is smooth within. The columellar is smooth, with a well-defined callous. The anterior canal is short. The stromboid notch is medium deep. The posterior canal is present (Dekkers & Maxwell, 2020, p. 47).

Type Genus. *Ministrombus minimus* (Linné, 1771).

Pacificus Dekkers & Maxwell, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 661

Definition. The maximum clade consisting of *Pacificus dilatatus* (Swainson, 1821) and all species that share a more recent common ancestor with them than with *Ministrombus minimus* (Linné, 1771), *Dolomena pulchella* (Reeve, 1851), *Labiostrombus epidromis* (Linné, 1758), *Amabiliplicatus plicatus* (Röding, 1798), *Dominus labiosus* (Wood, 1828), *Doxander vittatus* (Linné, 1758), *Neodilatilabrum marginatum* (Linné, 1758), *Mirabilistrombus listeri* (Gray, 1852), *Neostrombus fusiformis* (Sowerby II, 1842) or *Laevistrombus vanikorensis* (Quoy & Gaimard, 1834).

Reference Phylogeny. Figure 2 in Dekkers & Maxwell (2020).

Composition. This clade is contained within the *Neostrombinae* (see Maxwell & Rymer (2021) for content) and *Dolomenina* (see Dekkers &

Maxwell (2020) for content) and contains the clade *Pacificus* (see Dekkers & Maxwell (2020) for content). It excludes *Labiostrombus* (see Dekkers & Maxwell (2020) for content), *Dolomena* (see Dekkers & Maxwell (2020) for content), *Neostrombinae* (see Dekkers & Maxwell (2020) for content), *Amabiliplicatus* (see Dekkers & Maxwell (2020) for content), *Ministrombus* (see Dekkers & Maxwell (2020) for content), *Dominus* (see Dekkers & Maxwell (2020) for content), *Doxanderini* (see Dekkers & Maxwell (2020) for content), *Conomurex* (see Abbott (1960), for content), *Laevistrombus* (see Maxwell *et al.* (2019a) for content), and *Neostrombini* (see Liverani *et al.* (2021) for content).

Diagnostic Apomorphies. The spire has a distinct (angular) shoulder with knobs axially aligned and spiral ribbing, old varices present. The body whorl has small knobs dorsally and faint spiral ribbing. The outer lip is expanded and flattened towards the edge. The inner lip is calloused at the edge. The aperture is lirate within. The posterior canal is present and bends towards the spire. The columellar callous is well formed, and lirate posteriorly and never coloured. The anterior canal is rather short but broad. Stromboid notch is broad and shallow (Dekkers & Maxwell, 2020, p. 49).

Type Genus. *Pacificus dilatatus* (Swainson, 1821).

Neoaligerinae Maxwell & Rymer, 2021
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 568

Definition. The maximum clade consisting of *Aliger gallus* (Linné, 1758), *Euprotomus aurisdiane* (Linné, 1758), *Lambis lambis* (Linné, 1758), *Gibberulus gibberulus* (Linné, 1758), and *Persististrombus granulatus* (Swainson, 1822), and all species that share a more recent common ancestor with them than with *Dolomena pulchellus* (Reeve, 1851), *Conomurex luhuanus* (Linné, 1758), *Laevistrombus canarium* (Linné, 1758) or *Neostrombus fusiformis* (Sowerby II, 1842).

Reference Phylogeny. Figure 4 in Maxwell & Rymer (2021).

Composition. A clade containing the two tribes *Persististrombini* (see Maxwell *et al.* (2020) for content) and *Aligerini* (see Maxwell *et al.* (2020) for content) and *Euprotomus* (see Abbott (1960) for content), *Lambis* (see Abbott (1961) for content*s*, *Gibberulus* (see Abbott (1960) for content). It excludes *Neostrombinae* (see Maxwell & Rymer (2021) for content).

Diagnostic Apomorphies. There are no basal pegs on the radula first latera teeth. Body whorl dorsum often well ornamented with axial chords, knobs or plaits, flaring or ornamented outer lips. The shells are medium to large in size. The posterior canal maybe extended (Maxwell & Rymer, 2021, p. 47).

Type Genus. *Aliger* Thiele, 1929.

Persististrombini Maxwell, Dekkers, Rymer & Congdon, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 662

Definition. A minimum smallest clade containing *Persististrombus granulatus* (Swainson, 1822) and *Thetystrombus latus* (Gmelin, 1791).

Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).

Composition. The clade contains *Persististrombus* (see Maxwell *et al.* (2020) for content) and *Thetystrombus* (see Maxwell *et al.* (2020) for content).

Diagnostic Apomorphies. A small to medium sized shell with a thin edged outer lip that may be lightly calloused in part. The outer lip is not expanded, and attaches at the shoulder of the body whorl. The sculpture of the aperture wall

is variable, ranging from smooth to granulate. The columella is smooth and calloused anteriorly. The basal sinus is well developed. Shell sculpture with shoulder knobs (Maxwell *et al.* 2020, p. 17).
Type Genus. *Persististrombus* Kronenberg and Lee, 2007.

Persististrombus Kronenberg and Lee, 2007
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 663
Definition. The maximum clade consisting of *Persististrombus granulatus* (Swainson, 1822) and *Persististrombus nodosa* (Borson, 1820) and all species that share a more recent common ancestor with them than *Thetystrombus latus* (Gmelin, 1791), *Thetystrombus* exbonellii (Sacco, 1893), *Antestrombus chipolanus* (Dall, 1890) or *Edpetuchistrombus aldrichi* (Dall, 1890).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade containing *Persististrombus* (see Maxwell *et al.* (2020) for content). It does not contain *Thetystrombus* (see Maxwell *et al.* (2020) for content), *Aligerina* (see Maxwell *et al.* (2020) for content), *Euprotomus* (see Abbott (1960) for content), *Lambis* (see Abbott (1960) for content) or *Gibberulus* (see Abbott (1960) for content).
Diagnostic Apomorphies. The shell with a sharp outer lip, anteriorly strongly quadrate and not axially reflected. The inner lip is granulated or lirate. The mid-body whorl with rows of nodules. The shell is solid and heavy, with an anterior canal that is reflected (Maxwell *et al.*, 2020, p. 17).
Type Species. *Persististrombus granulatus* (Swainson, 1822).

Thetystrombus Dekkers, 2008
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 664
Definition. The maximum clade consisting of *Thetystrombus latus* (Gmelin, 1791) and *Thetystrombus* exbonellii (Sacco, 1893) and all species that share a more recent common ancestor with them than *Persististrombus granulatus* (Swainson, 1822), *Persististrombus nodosa* (Borson, 1820), *Antestrombus chipolanus* (Dall, 1890) or *Edpetuchistrombus aldrichi* (Dall, 1890).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade containing *Thetystrombus* (see Maxwell *et al.* (2020) for content). It does not contain *Persististrombus* (see Maxwell *et al.* (2020) for content), *Aligerina* (see Maxwell *et al.* (2020) for content), *Euprotomus* (see Abbott (1960) for content), *Lambis* (see Abbott (1960) for content) or *Gibberulus* (see Abbott (1960) for content).
Diagnostic Apomorphies. The shell with an outer lip that is centrally calloused and not axially reflected; teleoconch with regular nodulations; inner lip smooth; body whorl without striae; shell thin and light; and the anterior canal is straight (Maxwell et al., 2020, p, 18).
Type Species. *Thetystrombus latus* (Gmelin, 1791).

Aligerini Maxwell, Dekkers, Rymer & Congdon, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 665
Definition. A minimum smallest clade containing *Antestrombus chipolanus* (Dall, 1890), *Edpetuchistrombus aldrichi* (Dall, 1890),

Strombus pugilis Linné, 1758 and *Aliger gallus* (Linné, 1758).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. The clade contains *Aligerina Thetystrombus* (see Maxwell *et al.* (2020) for content) and *Strombina* (see Maxwell *et al.* (2020) for content). It does not contain *Persististrombus* (see Maxwell *et al.* (2020) for content), *Thetystrombus* (see Maxwell *et al.* (2020) for content), *Euprotomus* (see Abbott (1960) for content), *Lambis* (see Abbott (1960) for content) or *Gibberulus* (see Abbott (1960) for content).
Diagnostic Apomorphies. The shell is solid, heavy, with a smooth and calloused outer lip. The body whorl is smooth or with uniform axial sculpture. The basal sinus is variable in depth (Maxwell *et al.* 2020, p. 18).
Type Genus. *Aliger* Thiele, 1929.

Aligerina Maxwell, Dekkers, Rymer & Congdon, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 666
Definition. The maximum clade consisting of *Aliger gallus* (Linné, 1758), *Lobatus raninus* (Gmelin, 1791), *Macrostrombus costatus* (Gmelin, 1791), *Edpetuchistrombus aldrichi* (Dall, 1890), *Titanostrombus goliath* (Schröter, 1805) and all species that share a more recent common ancestor with them than *Thetystrombus latus* (Gmelin, 1791), *Persististrombus granulatus* (Swainson, 1822) or *Antestrombus chipolanus* (Dall, 1890).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade containing *Aliger* (see Maxwell *et al.* (2020) for content), *Lobatus* (see Maxwell *et al.* (2020) for content), *Macrostrombus* (see Maxwell *et al.* (2020) for content), *Edpetuchistrombus* (see Maxwell *et al.* (2020) for content), *Titanostrombus goliath* (see Maxwell *et al.* (2020) for content). It does not contain *Persististrombus* (see Maxwell *et al.* (2020) for content), *Thetystrombus* (see Maxwell *et al.* (2020) for content), Maxwell *et al.* (2020) for content), *Euprotomus* (see Abbott (1960) for content), *Lambis* (see Abbott (1960) for content) or *Gibberulus* (see Abbott (1960) for content).
Diagnostic Apomorphies. The shell is heavy and moderately large with a broad outer lip that is calloused and thickened. The basal sinus is present (Maxwell *et al.*, 2020, p. 18).
Type Genus. *Aliger* Thiele, 1929.

Aliger Thiele, 1929
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 667
Definition. The maximum clade consisting of *Aliger gallus* (Linné, 1758) and all species that share a more recent common ancestor with them than *Lobatus raninus* (Gmelin, 1791), *Macrostrombus costatus* (Gmelin, 1791), *Edpetuchistrombus aldrichi* (Dall, 1890), *Titanostrombus goliath* (Schröter, 1805), *Antestrombus chipolanus* (Dall, 1890), *Strombus pugilis* Linné, 1758 or *Persististrombus granulatus* (Swainson, 1822).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade within *Aligerini* (see Maxwell *et al.* (2020) for content) that contains *Aliger* (see Maxwell *et al.* (2020) for content). It does not contain *Lobatus* (see Maxwell et al. (2020) for content), *Macrostrombus* (see Maxwell *et al.* (2020) for content), *Edpetuchistrombus* (see Maxwell *et al.* (2020) for content), *Titanostrombus Antestrombus* (see Maxwell *et al.* (2020) for content) or *Strombus* (see Maxwell *et al.* (2020) for content).
Diagnostic Apomorphies. The shell outer lip is inflated, with widely, expanded, uniformly

thickened lips as adults, but is not axially reflected; posterior end of lip narrowing to projection or point, giving the aperture a triangulate shape; shoulders often ornamented with large knobs; shell moderately heavy and solid; and an anterior canal that is reflected (Maxwell *et al.*, 2020, p. 18).
Type Species. *Aliger gallus* (Linné, 1758).

Lobatus Iredale, 1921
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 668
Definition. The maximum clade consisting of *Lobatus raninus* (Gmelin, 1791) and all species that share a more recent common ancestor with them than *Aliger gallus* (Linné, 1758), *Macrostrombus costatus* (Gmelin, 1791), *Edpetuchistrombus aldrichi* (Dall, 1890), *Titanostrombus goliath* (Schröter, 1805), *Antestrombus chipolanus* (Dall, 1890), *Strombus pugilis* Linné, 1758 or *Persististrombus granulatus* (Swainson, 1822).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade within *Aligerini* (see Maxwell *et al.* (2020) for content) that contains *Lobatus* (see Maxwell *et al.* (2020) for content). It does not contain *Aliger* (see Maxwell *et al.* (2020) for content), *Macrostrombus* (see Maxwell *et al.* (2020) for content), *Edpetuchistrombus* (see Maxwell *et al.* (2020) for content), *Titanostrombus* (see Maxwell *et al.* (2020) for content), *Antestrombus* (see Maxwell *et al.* (2020) for content) or *Strombus* (see Maxwell *et al.* (2020) for content).
Diagnostic Apomorphies. The shell is triangulate, heavy and solid; outer lip axially reflected and posteriorly tricornate with uniform callosity; mid-dorsal body whorl with striae and rows of nodules; and the anterior canal is reflected (Maxwell *et al.*, 2020, p. 19).
Type Species. *Lobatus raninus* (Gmelin, 1791).

Macrostrombus Petuch, 1994
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 669
Definition. The maximum clade consisting of *Macrostrombus costatus* (Gmelin, 1791) and all species that share a more recent common ancestor with them than *Aliger gallus* (Linné, 1758), *Lobatus raninus* (Gmelin, 1791), *Edpetuchistrombus aldrichi* (Dall, 1890), *Titanostrombus goliath* (Schröter, 1805), *Antestrombus chipolanus* (Dall, 1890), *Strombus pugilis* Linné, 1758 or *Persististrombus granulatus* (Swainson, 1822).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade within *Aligerini* (see Maxwell *et al.* (2020) for content) that contains *Macrostrombus* (see Maxwell *et al.* (2020) for content). It does not contain *Aliger* (see Maxwell *et al.* (2020) for content), *Edpetuchistrombus* (see Maxwell *et al.* (2020) for content), *Titanostrombus* (see Maxwell *et al.* (2020) for content), *Antestrombus* (see Maxwell *et al.* (2020) for content) or *Strombus* (see Maxwell *et al.* (2020) for content).
Diagnostic Apomorphies. The shell dorsum with uniform striae; teleoconch whorls knobbed; body whorl with shoulder nodulations; outer lip centrally calloused, posteriorly quadrate and thinned; outer lip edge axially reflected with glazing; aperture smooth; shell heavy and solid and an anterior canal that is reflected (Maxwell *et al.*, 2020, p. 19).
Type Species. *Macrostrombus costatus* (Gmelin, 1791).

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Edpetuchistrombus Maxwell, Dekkers, Rymer, & Congdon 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 670
Definition. The maximum clade consisting of *Edpetuchistrombus aldrichi* (Dall, 1890) and all species that share a more recent common ancestor with them than *Aliger gallus* (Linné, 1758), *Lobatus raninus* (Gmelin, 1791), *Macrostrombus costatus* (Gmelin, 1791), *Titanostrombus goliath* (Schröter, 1805), *Antestrombus chipolanus* (Dall, 1890), *Strombus pugilis* Linné, 1758 or *Persististrombus granulatus* (Swainson, 1822).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade within *Aligerini* (see Maxwell *et al.* (2020) for content) that contains *Edpetuchistrombus* (see Maxwell *et al.* (2020) for content). It does not contain *Aliger* (see Maxwell *et al.* (2020) for content), *Lobatus* (see Maxwell *et al.* (2020) for content), *Titanostrombus* (see Maxwell *et al.* (2020) for content), *Antestrombus* (see Maxwell *et al.* (2020) for content) or *Strombus* (see Maxwell *et al.* (2020) for content).
Diagnostic Apomorphies. Shells of moderate size; ovate; spire with spiral lines and knobs; body whorls with evenly spaced spiral ribbing that run also on the relatively large shoulder knobs; lip flaring, aperture straight, not glazed within; aperture extends posteriorly before the pre-ultimate whorl. The spiral ribbing runs over the extended lip, bending backwards. Apertural rim not glazed. The anterior canal not broad and a little reflected to the left. The Stromboid notch is present but shallow (Maxwell *et al.*, 2020, p. 20).
Type Species. *Edpetuchistrombus aldrichi* (Dall, 1890).

Titanostrombus Petuch, 1994
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 671
Definition. The maximum clade consisting of *Titanostrombus goliath* (Schröter, 1805) and all species that share a more recent common ancestor with them than *Aliger gallus* (Linné, 1758), *Lobatus raninus* (Gmelin, 1791), *Macrostrombus costatus* (Gmelin, 1791), *Antestrombus chipolanus* (Dall, 1890), *Edpetuchistrombus aldrichi* (Dall, 1890), *Strombus pugilis* Linné, 1758 or *Persististrombus granulatus* (Swainson, 1822).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade within *Aligerini* (see Maxwell *et al.* (2020) for content) that contains *Titanostrombus* (see Maxwell *et al.* (2020) for content). It does not contain *Aliger* (see Maxwell *et al.* (2020) for content), *Lobatus* (see Maxwell *et al.* (2020) for content), *Edpetuchistrombus* (see Maxwell *et al.* (2020) for content), *Antestrombus* (see Maxwell *et al.* (2020) for content) or *Strombus* (see Maxwell *et al.* (2020) for content).
Diagnostic Apomorphies. The shell outer lip is uniformly thin on the border, thickened centrally, expanded and rounded posteriorly; body whorl sculptured with broad narrow interspaced ribs; teleoconch often with large knobs; knobs become obsolete on body whorl; shell moderately heavy and solid; and an anterior canal that is reflected (Maxwell *et al.*, 2020, p. 21).
Type Species. *Titanostrombus goliath* (Schröter, 1805).

Strombina Maxwell, Dekkers, Rymer, Congdon & Maxwell, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 672
Definition. The maximum clade consisting of *Antestrombus chipolanus* (Dall, 1890) and *Strombus pugilis* Linné, 1758 and all species that share a more recent common ancestor with them than *Edpetuchistrombus aldrichi* (Dall, 1890), *Thetystrombus latus* (Gmelin, 1791) or *Persististrombus granulatus* (Swainson, 1822).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade containing *Antestrombus* (see Maxwell *et al.* (2020) for content*, and Strombus* (see Maxwell *et al.* (2020). It does not contain *Persististrombini* (see Maxwell *et al.* (2020) for content)*, Aligerina* (see Maxwell *et al.* (2020) for content)*,* Maxwell *et al.* (2020) for content)*, Euprotomus* (see Abbott (1960) for content)*, Lambis* (see Abbott (1960) for content) or *Gibberulus* (see Abbott (1960) for content).
Diagnostic Apomorphies. Shells biconic with the apertural rim not glazed. The edge of lip somewhat thickened posteriorly and calloused, becoming thinner and sharper anteriorly (Maxwell *et al.*, 2020, p. 21).
Type Genus. *Strombus* Linné, 1758.

Antestrombus Maxwell, Dekkers, Rymer, Congdon & Maxwell, 2020
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 673
Definition. The maximum clade consisting of *Antestrombus chipolanus* (Dall, 1890) and all species that share a more recent common ancestor with them than *Edpetuchistrombus aldrichi* (Dall, 1890), *Strombus pugilis* Linné, 1758 or *Persististrombus granulatus* (Swainson, 1822).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade within *Strombina* (see Maxwell *et al.* (2020) for content) that contains *Antestrombus* (see Maxwell *et al.* (2020) for content). It does not contain *Aligerina* (see Maxwell *et al.* (2020) for content) or *Strombus* (see Maxwell *et al.* (2020) for content).
Diagnostic Apomorphies. Shells of moderate size. Spire acute, with spiral lines and axially aligned knobs. Body whorl reversed conoidal form. The body whorl has evenly spaced spiral ribbing that is almost smooth, with relatively large and sharp shoulder knobs. The non-flaring lip with a straight side. The aperture large but narrow and not extending posteriorly before the body whorl. The spiral ribbing runs over the extended lip and bends slightly backwards at the posterior end. The apertural rim not glazed but a little thickened by shell material added from the inside of the aperture. Inside outer lip smooth. The anterior canal not broad, but deep, and slightly reflected to the left. Stromboid notch present buts hallow. (Maxwell *et al.*, 2020, p. 21).
Type Species. *Antestrombus chipolanus* (Dall, 1890).

Strombus Linné, 1758
[S. Maxwell, this paper]
nomen cladi conversum

Registration Number. 674
Definition. The maximum clade consisting of *Strombus pugilis* Linné, 1758 and all species that share a more recent common ancestor with them than *Edpetuchistrombus aldrichi* (Dall, 1890), *Antestrombus chipolanus* (Dall, 1890) or *Persististrombus granulatus* (Swainson, 1822).
Reference Phylogeny. Figure 3 in Maxwell *et al.* (2020).
Composition. A clade within *Strombina* (see Maxwell *et al.* (2020) for content) that contains *Strombus* (see Maxwell *et al.* (2020) for

content). It does not contain *Aligerina* (see Maxwell *et al.* (2020) for content) or *Antestrombus* (see Maxwell *et al.* (2020) for content).

Diagnostic Apomorphies. Shells of moderate size. Spire acute, with spiral lines and axially aligned knobs. Body whorl reversed conoidal form. The body whorl has evenly spaced spiral ribbing that is almost smooth, with relatively large and sharp shoulder knobs. The non-flaring lip with a straight side. The aperture large but narrow and not extending posteriorly before the body whorl. The spiral ribbing runs over the extended lip and bends slightly backwards at the posterior end. The apertural rim not glazed but a little thickened by shell material added from the inside of the aperture. Inside outer lip smooth. The anterior canal not broad, but deep, and slightly reflected to the left. Stromboid notch present but shallow (Maxwell *et al.*, 2020, p. 21).

Type Species. *Strombus pugilis* Linné, 1758.

ERRATA Maxwell & Rymer (2021) The Festivus 53(1):

1) In the title "Stromboidae" should read "Strombidae"
2) The allocation of the type genus for Neostrombinae: "Type Genus. *Canarium* Schumacher, 1817" should read "Type Genus. *Neostrombus* Liverani, Dekkers & Maxwell, 2021"

LITERATURE CITED

Abbott, R.T. 1960. The genus Strombus in the Indo-Pacific. Indo-Pacific Mollusca 1(2):33-146.

Abbott, R.T. 1961. The genus Lambis in the Indo-Pacific. Indo-Pacific Mollusca 1(3):147-174.

Dekkers, A.M. & S.J. Maxwell. 2020. An Examination of the Relationships Between Extant *Dolomena* Wenz, 1940, *Doxander* Wenz, 1940, *Mirabilistrombus* Kronenberg, 1998, *Neodilatilabrum* Dekkers, 2008 and *Labiostrombus* Oostingh, 1925 (Stromboidea: Neostromboidae: Strombidae). The Festivus 52(1):39-59.

International Code of Phylogenetic Nomenclature (PhyloCode). 2020. PhyloCode. Cantino P.D. and K. DeQueiroz, Eds.. International Society for Phylogenetic Nomenclature.

International Code of Zoological Nomenclature (ICZN). 1999. International code of zoological nomenclature, 4 edn.. International Commission on Zoological Nomenclature, London.

Kronenberg, G.C. & G.J. Vermeij. 2002. *Terestrombus* and *Tridentarius*, new genera of Indo-Pacific Strombidae (Gastropoda), with comments on included taxa and on shell characters in Strombidae. Vita Malacologica 1:49-54

Liverani, V., A.M. Dekkers, & S.J. Maxwell. 2021. Resolving phylogenetic and classical nomenclature: A Revision of *Canarium* Schumacher, 1817 (Mollusca, Neostromboidae, Strombidae). The Festivus 53(1):26-43.

Maxwell, S.J. 2019. Corrigenda: Recognising and defining a new crown clade within STROMBOIDEA Rafinesque, 1815 (MOLLUSCA, GASTROPODA). Zookeys 870:49.

Maxwell, S.J., A.M. Dekkers, T.L. Rymer, & B.C. Congdon. 2019. Recognising and defining a new crown clade within STROMBOIDEA Rafinesque, 1815 (MOLLUSCA, GASTROPODA). ZooKeys 867:1-7.

Maxwell, S.J., A.M. Dekkers, T.L. Rymer, T.L. & B.C. Congdon. 2019a. *Laevistrombus* (GASTROPODA: STROMBIDAE): Indian and south-west Pacific species. Zootaxa 4555(4):491-506.

Maxwell, S.J., A.M. Dekkers, T.L. Rymer, & B.C. Congdon. 2020. Towards Resolving the American and West African Strombidae (Mollusca: Gastropoda: Neostromboidae) Using Integrated Taxonomy. The Festivus 52(1):3-38.

Maxwell, S.J. & T.L. Rymer. 2021. Are the ICZN and PhyloCode that incompatible? A summary of the shifts in Stromboidean taxonomy and the definition of two new subfamilies in Stromboidae (Mollusca, Neostromboidae). The Festivus 53(1):44-51.

Maxwell, S.J., T.L. Rymer, & B.C. Congdon. 2021. Resolving phylogenetic and classical nomenclature: A revision of Seraphsidae Jung, 1974 (Gastropoda: Neostromboidae). Zootaxa 4990(3):401-453.

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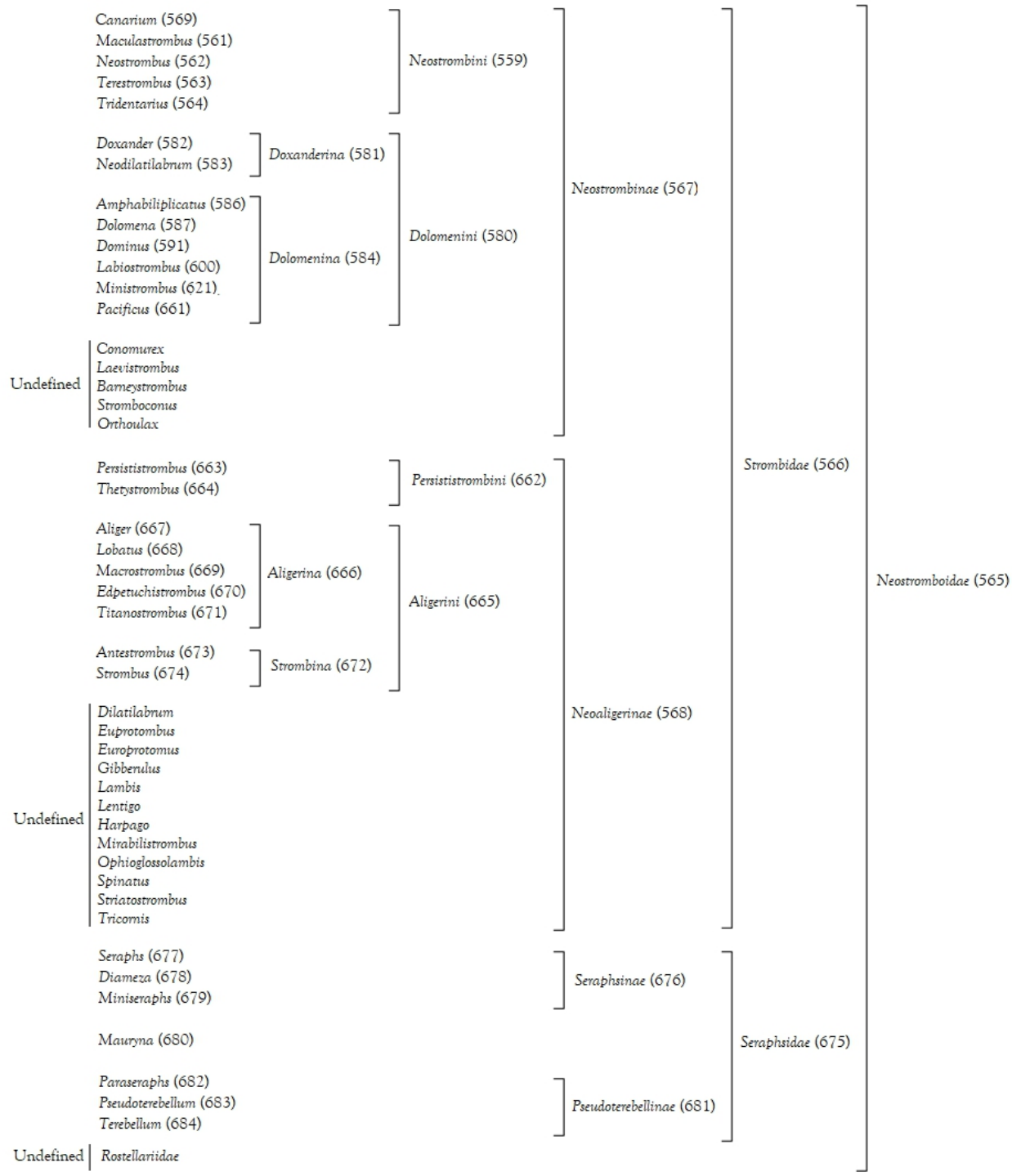

Figure 1. The defined clades within *Neostromboidae* defined within this paper and including those defined clades within *Seraphsidae* which have been described in Maxwell *et al.* 2021 showing their cladistic relationships. Those taxa within the *Neostromboidae* that have not been defined are included with provisional placements indicated. RegNum numbers for the currently defined taxa are shown in brackets after each taxon name.