

New Systematic Revisions Within the Vetigastropoda by Linda Schroeder

Most everyone is aware that taxonomy is ever-changing. With new molecular studies being done, revisions are changing not only more frequently, but sometimes in surprising ways. This article is to make you aware of some dramatic changes that have taken place recently, as they apply to our Pacific Northwest species. The new changes do not really affect our naming of the species involved, but rather changes to which families they are assigned and even how those families are related. I'll start with some brief background which will lead us to the most recent changes – going into a lot of detail would take far more than this issue to describe.

In much of animal zoology it has become apparent that the traditional taxonomic progression of Class, Order, Family, etc. doesn't work very well with our current understanding of the relationships. Life is more complicated than classical taxonomy can accommodate. As a result, the Class Gastropoda was divided into different Clades. Within the Clades, the taxonomic order usually then follows as Superfamily, Family, Subfamily, Genus and Species. Some references still use the terms Subclass or Order instead of Clade for the new divisions – we humans have a hard time giving up our traditions.

The Vetigastropoda is one of the Clades within the Gastropoda. This group contains many of the families we traditionally knew from the Order Archaeogastropoda, including the Haliotidae, Limpet families, Trochidae and Turbinidae, among others. As with all of the Clades, more studies are being done to further define the families within them. Some recent studies involved the Family Turbinidae and Superfamily Trochoidea. What was discovered may completely alter how we think of these families.

One of the changes takes little effort to absorb. As with many other groups we've seen of late, a subfamily was elevated to full family status. Calliostoma is now in the Family Calliostomatidae. This change has been verified in separate studies and has been widely accepted. Our website has also now been updated to add this new family.

The rest of the Trochidae and Turbinidae families have been thrown for a loop. Genuses have been pulled from each and placed in other families. Several groups from Trochidae are now in Turbinidae. Both of these families would now be placed in the Superfamily Trochoidea. Many subfamilies have risen to family status. The new studies imply that calcareous opercula, once a diagnostic feature of a turban shell, were not a singularly occurring evolutionary pathway marking the Turbinidae. Other families within the Vetigastropoda may have developed it in separate occurrences and the Turbinidae are thus redefined.

Many of these changes still need further research. While portions of them are undoubtedly correct, more studies need to be done. The placement of some of the genera has shifted slightly with each new study and some will likely shift again. The changes involve all of the species worldwide, and there are many. The newest classification, as it pertains to our local genera, is shown here.

References:

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Class Gastropoda

Clade Vetigastropoda

Superfamily Phasianelloidea

Family Colloniidae

Subfamily Colloniinae

Genus Homalopoma

Family Phasianellidae

Genus Eulithidium

Genus Tricolia

Superfamily Seguenzioidea

Family Calliotropidae

Genus Bathybembix

Genus Cidarina

Superfamily Trochoidea

Family Calliostomatidae

Subfamily Calliostomatinae

Genus Calliostoma

Family Solariellidae

Genus Solariella

Family Trochidae

Subfamily Umboniinae

Genus Lirularia

Family Turbinidae

Subfamily Margaritinae

Genus Margarites

Subfamily Tegulinae

Genus Chlorostoma

Genus Tegula

Subfamily Turbinidae

Genus Pomaulax