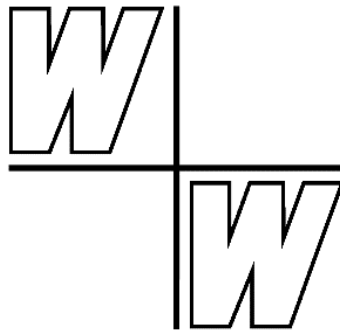


Data Collection on Intergeneric Hybrids and Basic Types: **EVERTEBRATA**

evertebrates = Wirbellose

Herfried Kutzelnigg
with the assistance of Benjamin Scholl
version 2 02.10.2026



Studiengemeinschaft Wort und Wissen
<https://www.wort-und-wissen.org/artikel/data-collection-basic-types/>

EVERTEBRATA

Systematics according to en.wikipedia 2025.

95 % of all animals belong to the invertebrates.

Only a very small part of the taxa is listed below.

Tabl. 1: Numbers of hybrid records in several metazoan taxa, after Schwenk et al. (2008) Introduction, extent, processes and evolutionary impact of intergeneric hybridizations in animals. Phil. Trans. R. Soc. B. 363, 2805–2811. doi:10.1098/rstb.2008.0055 (“Copyright © 2008 The Royal Society. This is an open-access article distributed under the terms of the Creative Commons Attribution License”).

Results of database search in Zoological Record (1947–2007) for several metazoan taxa. (Information on the estimated number of currently described species for each taxon was obtained from the IUCN 2004 report; Baillie et al. 2004 .)			
	number of...		
taxa	hybrid records	total records	described species
Arthropoda			
Insecta	4291	427279	950000
Crustacea	452	91275	52000
Arachnida	242	58445	73000
other Arthropoda	57	19361	13000
Chordata			
Mammalia	2094	180409	5416
‘Amphibia’	999	33864	5743
‘Reptilia’	536	58526	8163
Aves	2685	186024	9917
‘Pisces’	3393	161095	28500
other Chordata	100	4715	3025
Mollusca			
Cephalopoda	18	10952	768
Bivalvia	323	25320	30000
Gastropoda	289	34557	75000
other Mollusca	81	39950	1950
Annelida	55	20536	15000
Echinodermata	144	16522	7000
Porifera	38	6384	5000
Nematoda	253	31866	20000

Summary:

15 intergeneric hybrids, in 9 families.

2 preliminary basic types:

Cerionidae 2: 600. –

Haliotidae 1: 55–130. –

Abbreviations:

° = taxa actually not accepted in the rank of a genus, e.g. *Cerasus*° (= *Prunus* p.p.)

10: 50 etc. The numbers behind the names of families etc. refer to extant genera and species

IS = interspecific hybrid. IG = intergeneric hybrid. IST = intersubtribal hybrid.

IT = intertribal hybrid. ISF = intersubfamilial hybrid. IF = interfamilial hybrid.

EC = embryo culture or ovule culture

SO = somatic hybrid by cell fusion; normally these hybrids are asymmetric

AS = asymmetric hybrids, they do not equally express maternal and paternal features

HY = assumed intergeneric hybridogeneous origin of a taxon.

nat. hyb. = natural hybrid art. hyb. = artificial hybrid

Colors within the crosses:

Red letters: intergeneric hybrids (incl. former IG).

Violet letters: multigeneric = plurigeneric hybrids.

Gray letters: hybridity unconfirmed or erroneous.

Green letters: notes on tribes, subfamilies etc. involved in the hybridization.

Yellow shaded: Notes concerning basic types.

phylum
ARTHROPODA
2 subphyla, 1.000.000 species
arthropods = Gliederfüßer

class
BRANCHIOPODA
branchiopods = Kiemenfußkrebse

Anomopoda

Anomopoda: Daphniidae 5: 200
water fleas = Wasserflöhe

Hobæk A, Skage M & Schwenk K (2004) *Daphnia galeata* × *D. longispina* hybrids in western Norway. *Hydrobiologia* 526, 55–62. [Interspecific hybrid IS.](#)

Keller B et al. (2008) Spatial, environmental and anthropogenic effects on the taxon composition of hybridizing *Daphnia*. *Phil. Trans. R. Soc. B* 363, 2943–2952.
[doi:10.1098/rstb.2008.0044](https://doi.org/10.1098/rstb.2008.0044) [Interspecific hybrid IS.](#)

Petrusek, A et al. (2008) *Daphnia* hybridization along ecological gradients in pelagic environments: the potential for the presence of hybrid zones in plankton. *Phil. Trans. R. Soc. B* 363, 2931–2941. [doi:10.1098/rstb.2008.0026](https://doi.org/10.1098/rstb.2008.0026) [Interspecific hybrid IS.](#)

class
INSECTA

Jose MS et al. (2023) Genomics reveals widespread hybridization across insects with ramifications for species boundaries and invasive species.
<https://doi.org/10.1016/j.cois.2023.101052>

Blattodea 800: 7000

cockroaches and termites = Schaben und Termiten

Blattodea: Blaberidae. 1 IG
giant cockroaches = Riesenschaben

Aeluropoda insignis × *Principisia vanwaerebeki* "Tiger" Oxyhaloinae Gromphadorini

(not scientifically proven)

https://www.reddit.com/r/roaches/comments/ya52so/aeluropoda_insignis_x_principisia_vanwaerebeki/?rdt=53822, <https://www.invertebratedude.com/p/aeluropoda-insignis-x-gromphadorhina-sp.html> and <https://www.roachforum.com/topic/8331-amateur-pure-hobby-hisser-key/>

Coleoptera 400000 species

beetles = Käfer

IS: many references on natural interspecific hybrids exist, see the internet.

Coleoptera: Carabidae 85: 40000

carabids = Laufkäfer

IS: for interspecific hybrids see the references below

Chrysotribax[°] (= *Carabus* p.p.) × *Megodontus* (= *Carabus* p.p.) Auvray & Machard 1995

Pagocarabus[°] (= *Carabus* p.p.) × *Pseudocoptolabrus* (= *Carabus* p.p.) Deuve 2005

References:

Auvray C & Auvray N (1998) Un remarquable hybride intergénérique de carabes (Coleoptera, Carabidae). [A remarkable intergeneric carabid hybrid (Coleoptera, Carabidae).] Bulletin de l'Entomologie Tourangelle 19 (1–2), 4–7.

Auvray C & Machard P (1995) Carabidae from Turkey: Description of four new species and breeding results (Coleoptera: Carabidae). Entomologiste (Paris) 51 (6), 273–278.

Decobert O (2006) Hybridization and speciation of carabids Coleoptera Carabidae Hybridation & speciation chez les carabes Coleoptera Carabidae. Bulletin de la Societe Entomologique du Nord de la France 2eme trimestre 319, 16–19.

Deuve T (2005) Description d'un nouvel hybride "intersubgenerique" dans le genre *Carabus* & de deux nouveaux *Archaeocarabus* & *Cychrus* de Chine (Coleoptera, Carabidae). [Description of a new "intersubgeneric" hybrid in the genus *Carabus* and two new *Archaeocarabus* and *Cychrus* of China (Coleoptera, Carabidae).] Coleopteres 11 (16), 187–195.

Morgan-Richards M et al. (2009) A review of genetic analyses of hybridisation in New Zealand. J. Royal Soc. New Zealand 39 (1), 15–34.

<http://www.tandfonline.com/doi/pdf/10.1080/03014220909510561>

Mossakowski D et al. (1990) Hybridization in natural populations of ground beetles (Coleoptera, Carabidae). Can. J. Zool.

<https://cdnsiencepub.com/doi/abs/10.1139/z90-259?journalCode=cjz> subgenus
Chrysocarabus **IS**

Coleoptera: Tenebrionidae 1 IG

darkling beetles = Schwarz- oder Schattenkäfer

IS: Many interspecific hybrids are known, see the internet.

Onymacris rugatipennis × *Physadesmia globosa* Osberg et al. 1986 <https://the-eis.com/elibrary/search/9851> (putative hybrid)

Diptera 150000 species

flies = Fliegen

Diptera: Limoniidae 4: 10000. 1 IG

limoniid crane flies = Stelzmücken

Dicranomyia dicranomyia × *Limonia limonia* **Limoniinae** Farr 2003

Farr J (2003) Transgeneric cross of crane-flies (*Limonia limonia* × *Dicranomyia dicranomyia*) found in Jamaica, West Indies. <http://www.sas.org/E-Bulletin/2003-01-03/fieldNotes/fieldNotes.html>

Hymenoptera 132 families, 150.000 species

sawflies, wasps, bees = Hautflügler

Hymenoptera: Formicidae 14.000–20.000 species

ants = Ameisen

IS: for interspecific hybrids see the references below.

References:

- Feldhaar H, Foitzil S & Heinze J (2008) Review. Lifelong commitment to the wrong partner: hybridization in ants. Phil. Trans. Royal Soc. 363, 2891–2899.
<http://journals.royalsociety.org/content/h103t7114542746u/?p=c962bbc028b04da7bba2a2b7278d7610&pi=9>
- Seifert B, Kulmuni J & Pamilo P (2010) Independent hybrid populations of *Formica polyctena* × *Formica rufa* wood ants (Hymenoptera: Formicidae) abound under conditions of forest fragmentation. Evolutionary Ecology 24/5:1219–1237. **IS**
- Kulmuni J et al. (2010) Segregation distortion causes large-scale differences between

male and female genomes in hybrid ants. PNAS 107 (16): 7371–7376. **IS**

Lepidoptera 130 families, 180000 species butterflies and moths = Schmetterlinge

References:

- Crompton N (2023) Schmetterlinge und Mendel'sche Artbildung. W+W Special Paper B-23-2 https://www.wort-und-wissen.org/wp-content/uploads/b-23-2_Schmetterlinge.pdf
- Crompton N & Junker R (2024) Schmetterlinge und Mendel'sche Artbildung. Vielfalt durch Variationsprogramme bei den „Jezebels“. Stud. Integr. J. 31, 83–91.
- Urbahn E (1977) Zur Frage nach gattungsfremden Freilandpaarungen. Entomologische Zeitschrift mit Insektenbörse (Essen) 87 (13), 144. **only copula, no hybrids**. *Zygaena meliloti*; *Aphantopus hyperantus*; *Maniola jurtina*; *Procris heuseri*.

Lepidoptera: Lycaenidae 6000 species. gossamer-winged butterflies = Bläulinge

Ahlbergia frivaldszkyi × *Callophrys rubi* **Eumaeini IS/ISG** (nat. hyb., molecularly tested)
Shapoval et al. 2021

Shapoval NA et al. (2021) Identification of Natural Hybrids between *Ahlbergia frivaldszkyi* (Lederer, 1853) and *Callophrys rubi* (Linnaeus, 1758) (Lepidoptera, Lycaenidae) Using Mitochondrial and Nuclear Markers. Insects 12, 1124. doi: 10.3390/insects12121124.

Lepidoptera: Nymphalidae 12 subfamilies, 6000 species brush footed butterflies = Edelfalter

Hafern timer JE (1982) Phenetics and ecology of hybridization in Buckeye Butterflies (Lepidoptera: Nymphalidae). Univ. of California Publications in Entomology. vol. 96. 109 pages. **interspecific IS**.

Lepidoptera: Pieridae 4 subfamilies, 76: 1100 pierid butterflies; whites, yellows, and sulphurs = Weißlinge

Delias 240: This genus is the main subject of basic type-studies by Crompton & Junker 2024. Hybrids are not mentioned.

A hybrid example is listed here: <https://www.delias-butterflies.com/species/group-geraldina/delias-hikarui>

Crompton N & Junker R (2024) Schmetterlinge und Mendel'sche Artbildung. Vielfalt durch Variationsprogramme bei den „Jezebels“. Stud. Integrale J. 31, 83–91.

Lepidoptera: Saturniidae 2–9 subfamilies, 165: 2300. 2 IG **saturniids = Pfauenspinner**

Actias sinensis × *Graellsia isabelae galliaegloria* **Saturniinae Saturniini** Ades & Vuattoux 2005

Antheraea vamamai × *Telea*^o (= *Antheraea*) *polyphemus*) **IS Saturniinae Saturniini**
en.wikipedia (interestingly, *Telea* was reclassified to *Antheraea* due to this hybridization!)

Callosamia × *Hyalophora* (art. hyb.) Johnson KS et al. 1996.

[https://images.peabody.yale.edu/Saturniinae Attacini lepsyoc/jls/1990s/1996/1996-50\(3\)217-Johnson.pdf](https://images.peabody.yale.edu/Saturniinae%20Attacini%20lepsyoc/jls/1990s/1996/1996-50(3)217-Johnson.pdf)

References:

Ades D & Vuattoux R (2005) Hybridation en retour entre l'hybride [male] (*Graellsia isabelae galliaegloria* ♂ × *Actias sinensis* ♀) & *Actias sinensis* ♀ (Lepidoptera Saturniidae). [Backcross between a hybrid ♂ (*Graellsia isabelae galliaegloria* ♂ × *Actias sinensis* ♀) and *Actias sinensis* ♀ (Lepidoptera Saturniidae). Lambillionea 105 (4), 593–599 (Tome II).

en.wikipedia: "In the late 1950s, amateur [lepidopterist Gary Botting](#) hybridized the *Polyphemus* moth (then known as *Telea polyphemus*) with [Antheraea yamamai](#) from Japan and, later, *Antheraea mylitta* from India by transferring the pheromone-producing scent sacs from female "*T. polyphemus*" to the [Antheraea](#) females and allowing *T. polyphemus* males to mate with them. The resultant hybrids were displayed in his winning U.S. National Science Fair exhibit "Intergeneric hybridization among giant silk moths". After Botting consulted with genetic statistician [J.B.S. Haldane](#) and his wife, entomologist [Helen Spurway](#), the *Polyphemus* moth was reclassified, becoming *Antheraea polyphemus*." ([https://en.wikipedia.org/w/index.php?title=Antheraea polyphemus&oldid=1253138432](https://en.wikipedia.org/w/index.php?title=Antheraea_polyphemus&oldid=1253138432), CC-BY-SA 4.0)

Lepidoptera: Sphingidae 200: 1200–1450. 3 IG **sphinx moths = Schwärmer**

3 subfamilies:

Macroglossinae *Daphnis*, *Deilephila*, *Hyles*, *Macroglossum*, *Proserpinus*

Smerinthinae *Laothoe*, *Mimas*, *Smerinthus*

Sphinginae *Agrius*, *Sphinx* ...

IS: For a long list of interspecific and intergeneric hybrids see Pittaway (2024).

Deilephila (= *Pergesa*°) × *Hyles* (= *Celerio*°) **Macroglossinae** Benz 1952 (*D. elpenor* × *H. centralasiae*), Dannenberg 1934 (*D. porcellus* × *H. vespertilio*)
Deilephila × *Hyles* **Macroglossinae** Baumgartner 1986 (*D. porcellus* × *H. tithymali*),
 Pittaway 2024 (nat. hyb.: *D. elpenor* × *H. euphorbiae*, *D. porcellus* × *H. euphorbiae*, art.
 hyb.: *D. elpenor* × *H. dahlia*, *gallii*, *hippophes*, *livorica*, *mauritania*, *tithymali*,
vespertilio)
Laothoe × *Smerinthus* **Smerinthinae** Pittaway 2024 (art. hyb: *L. austauti* × *S. ocellatus*,
 nat. hyb.: *L. austauti* × *atlanticus*, *L. populi* × *S. kindermannii* (*L. populi* × *S. ocellatus*))
Mimas tiliae × *Smerinthus ocellatus* **Smerinthinae** Pittaway 2024 (art. hyb.)

References:

Baumgartner A (1986) *Hyles euphorbiae tithymali* × *Deilephila porcellus*, a putative new genus hybrid (Lepidoptera, Sphingidae). [German] Entomologische Zeitschrift mit Insektenboerse (Essen) 96 (6), 65–68.
 Benz F (1952) *Celerio* hybr. *aliceae* Benz (= *C. vespertilio* Esp. ♂ × *Pergesa porcellus* L. ♀), ein neuer primärer *Porcellus*-(Gattungs)-Bastard. Mitt. Ent. Ges. Basel (N.F.) 1952, 73-79.
 Dannenberg E (1934) Ein neuer Gattungsbastard (*Cel. centralasiae* Stgr. × *Perg. elpenor* L.). Ent. Z. 48 (2), 12–15.
 Pittaway AR (2024) Sphingidae of the Western Palaearctic (including Europe, North Africa, the Middle East, western Siberia and western Central Asia).
<https://tpittaway.tripod.com/sphinx/morph.htm>

Orthoptera 20000 species
 grasshoppers etc. = Heuschrecken

Orthoptera: Acrididae 25 subfamilies, 10000 species. 1 IG
 grasshoppers = Feldheuschrecken

Ognevia longipennis × *Podisma sapporensis* **Podisminae Podismini** Ito 2004

References:

Ito G (2004) An intergeneric hybrid between a *Podisma sapporensis* female and an *Ognevia longipennis* male (Orthoptera: Acrididae). Tettigonia 24 (6), 5–10.

phylum
ECHINODERMATA

class
ASTEROIDEA
starfish = Seesterne

Forcipulatida

Forcipulatidae: Asteriidae
forcipulatidan see stars = Zangensterne

Asterias × *Leptasterias* (= *Asterias*) Hamel & Mercier 1994. These crosses do not succeed early embryonic stages as necessary for the basic type definition.

Hamel J-F & Mercier A (1994) Occurrence of interspecific cross-fertilization among echinoderms and mollusks. *Invertebrate Reproduction & Development* 26 (3), 221–228.

class
ECHINOIDEA
sea urchins etc. = Seeigel

In the class Echinoidea several interordinal cases of hybridization have been reported, but it is unconfirmed if they comply the basic type criterion. In order **Camarodonta** several interordinal and several interfamilial hybrids have been reported which would connect 4 of the 8 families, but all these reports need confirmation.

en.wikipedia 2025, 2 subclasses:

subclass Perischoechinoidea (1 order Cidaroida)

subclass Echinoidea

superorder Atelostomata: Cassiduloida, Spatangoida

superorder Diadematacea: ...

superorder Echinacea: Arbacioida, Camarodonta (8 families: Echinidae 5, Echinometridae 9, Paraselinidae 1, Parechinidae 4, Strongylocentrotidae 5, Temnopleuridae 13, Toxopneustidae 8, Trigonocidaridae 6)
superorder Gnathostomata: Clypeasteroida, Holoctypoida

Attention: some interordinal hybrids have been achieved, but confirmation is still lacking, confer Boveri (1918).

In invertebrates, gynogenesis is quite common, especially if only the larval stage is reached. This could even include different phyla: “Examples of hybridization between different phyla include separate crosses of the sea urchin *Anthocardis crassispina* (♀) of Echinodermata with mollusks *Acmaea nanshaensis* (♂) and *Mytilus edulis* (♂) and the annelid *Nereis succinea* (♂). Larvae of all three hybrids are similar to those of *Anthocardis crassispina*. Although sperm from the male parent is introduced into the egg, distant male and female nuclear fusion is difficult. Because the male chromosomes are eventually degraded, they are not incorporated into the next generation’s nuclei. The hybrid larvae thus resemble the larvae of *Anthocardis crassispina*, the maternal parent.” (Zhang et al. 2014, doi: 10.1007/s11427-014-4707-1)

However, real hybridization events require the expression of chromosomes of both parents, which did not happen in these examples collected by Zhang et al.

Arbacia × *Echinocardium* IO Arbacioida Arbaciidae × Spatangoida Loveniidae Vernon 1898

Arbacia × *Psammechinus* (= “*Echinus*”) *microtuberculatus* IO Arbacioida Arbaciidae × Camarodonta Parechinidae Vernon 1898

Arbacia × *Paracentrotus* (= *Strongylocentrotus*°) *lividus* IO Arbacioida Arbaciidae × Camarodonta Parechinidae Vernon 1898, Baltzer & Bernhard 1955

Arbacia × *Sphaerechinus granularis* IO Arbacioida Arbaciidae × Camarodonta Toxopneustidae Vernon 1898

Cidaris (= *Dorocardis*°) × *Paracentrotus* (= *Strongylocentrotus*°) *lividus* IO Cidaroida: Cidaridae × Camarodonta Parechinidae Vernon 1898

Cidaris × *Toxopneustes* IO Cidaroida Cidaridae × Camarodonta Toxopneustidae Tennent 1913

Dendraster excentricus × *Strongylocentrotus purpuratus* IO Clypeasteroida Dendrasteridae × Echinoida Strongylocentrotidae Badman & Brookbank 1969

Echinocardium × *Psammechinus* (= “*Echinus*”) *microtuberculatus* IO Spatangoida Loveniidae × Camarodonta Parechinidae Vernon 1898, Shearer et al. 1914 (“larvae unhealthy”)

Echinocardium × *Paracentrotus* (= *Strongylocentrotus*°) *lividus* IO Spatangoida Loveniidae × Camarodonta Parechinidae Vernon 1898

Echinocardium cordatum × *Psammechinus* (= *Parechinus*°) *microtuberculatus* IO Spatangoida Loveniidae × Camarodonta Parechinidae Altrogge 1935, Hagström 1959 (*E. cordatum* × *Ps. miliaris*: only chimaeras)

Echinocardium × *Sphaerechinus* **IO** *Spatangoida* *Loveniidae* × *Camarodonta*
Toxopneustidae Vernon 1898

Gracilechinus (“*Echinus*”) *acutus* × *Paracentrotus* (= *Strongylocentrotus*°) *lividus* **IF**
Camarodonta *Echinidae* × *Camarodonta* *Strongylocentrotidae* Vernon 1900

Echinus *esculentus* × *Psammechinus* (= *Echinus*°) *miliaris* **IF** *Camarodonta* *Echinidae* ×
Camarodonta *Parechinidae* Shearer et al. 1914

Psammechinus (= *Echinus*°) *microtuberculatus* × *Sphaerechinus* *granularis* **IF**
Camarodonta *Parechinidae* × *Camarodonta* *Toxopneustidae* Vernon 1898

Echinus *acutus* × *Psammechinus* (“*Echinus*”) *microtuberculatus* **IF** *Camarodonta*
Echinidae × *Camarodonta* *Parechinidae* Vernon 1900

Encope × *Mellitta* *Clypeasteroidea* *Melittidae* Ashley 2004

Helicoidaris × *Strongylocentrotus* **IF** *Camarodonta* *Echinometridae* × *Camarodonta*
Strongylocentridae Zhan et al. 2020 (*H. crassispina* × *S. intermedius*)

Lytechinus *pictus* × *Strongylocentrotus* *purpuratus* **IF** *Camarodonta* *Toxopneustidae* ×
Camarodonta *Strongylocentrotidae* Brandhorst & Davenport 2001

Lytechinus *variegatus* × *Tripneustes* *esculentus* *Camarodonta* *Toxopneustidae* Badman
& Brookbank 1969

Paracentrotus (= *Strongylocentrotus*°) *lividus* × *Sphaerechinus* *granularis* **IF** *Camarodonta*
Parechinidae × *Camarodonta* *Toxopneustidae* Vernon 1898, Vernon 1900, Herbst
1906, Landauer 1922, von Ubisch 1955

Paracentrotus (= *Strongylocentrotus*°) *lividus* × *Psammechinus* (= *Echinus*°)
microtuberculatus **IF** *Camarodonta* *Parechinidae* × *Camarodonta* *Toxopneustidae*
Vernon 1900

Toxopneustes × *Tripneustes* *ventricosa* (= *Hipponoe*° *esculenta*) *Camarodonta*
Toxopneustidae Tennent 1910

References:

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- Ashley A (2004) Intergeneric hybridization between the sand dollars *Encope michelini* and *Mellita isometra* (Echinodermata: Echinoidea: Mellitidae). Research Training Program. 204.
http://www.nmnh.si.edu/rtp/students/2004/virtualposters/poster_2004_ashley.html
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<https://doi.org/10.1007/BF02554388>

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- Zhan Y et al. (2020) Distant hybrids of *Heliocidaris crassispina* (♀) and *Strongylocentrotus intermedius* (♂): identification and mtDNA heteroplasmy

phylum
MOLLUSCA
mollusks = Weichtiere

class
BIVALVIA 106 families, 9200 species
bivalves = Muscheln

Ostreida 2 families

Ostreida: Ostreidae 18

true oysters = Austern

Crassostrea × *Saccostrea* ISF *Crassostreinae* × *Saccostreinae* Charoensit 1995, Su et al.
2016 (only up to the larval state)

References:

- Charoensit P (1995) Hybridization in commercial oysters. M. Sc. thesis. Bangkok, Thailand: Chulalongkorn University.
<http://www.thaithesis.org/detail.php?id=1082537001003>
- Su J et al. (2016) Early embryo and larval development of inviable intergeneric hybrids derived from *Crassostrea angulata* and *Saccostrea cucullata*. J. Ocean Univ. China 15, 515–522.

Pectinida 8 families

Pectinida: Pectinidae 30: 350. 3 IG/IT/ISF

scallops = Kammuscheln

Argopecten irradians × *Chlamys farreri* ISF *Pectininae* × *Chlamydinae* Huang et al. 2015
<https://compcytogen.pensoft.net/article/5323/>

Argopecten × *Placopecten* ISF *Pectininae* × *Chlamydiae* intersubfamilial Zicheng 1994,
United States Patent Application 20080229437 (2011)

Chlamys farreri × *Patinopecten yessoensis* IT *Pedinae* *Chlamydiae* × *Pedinae*
Fortipectinini Lu et al. 2006, He et al. 2007, see also
<https://compcytogen.pensoft.net/article/5323/>

References:

He B et al. (2007) ISSR analysis of the F₁ hybrids of scallop *Chlamys farreri* ♀ ×
Patinopecten yessoensis ♂. J. Dalian Fisheries Univ. 2007-4.

http://en.cnki.com.cn/Article_en/CJFDTOTAL-DLSC200704007.htm, see also:
http://www.latest-science-articles.com/Agricultural_Science/Cytogenetic-and-Molecular-Analysis-of-Hybridization-between-Chlamys-Farreri-and--25407.html

Lu Z-M et al. (2006) Preliminary cytological identification and immunological traits
of hybrid scallop from *Chlamys farreri* ♀ × *Patinopecten yessoensis* ♂. J. Fishery
Sciences of China 13 (4), 597–602.

United States Patent Application 20080229437: Intergeneric bivalve shellfish hybrid
and method for producing. <http://www.freepatentsonline.com/y2008/0229437.html>
“ ... Provided by this invention are novel intergeneric bivalve shellfish hybrids,
including clams and scallops. Also provided are methods for producing the novel
hybrids and their progeny....”

Zicheng CLW (1994) Effects of temperature on the fertilization and embryonic
development of *Argopecten irradians* Lamarck, *Patinopecten yessoensis* Jay and their
hybrids. J. Dalian Fisheries Univ. http://en.cnki.com.cn/Article_en/CJFDTOTAL-DLSC404.000.htm

Venerida 24 families + many extant families

Venerida: Mactridae 56. 1 IG

trough shells or duck clams = Trogmuscheln

Mulinia × *Spisula* *Mactrinae* Lindell et al. 2006, United States Patent Application
20080229437.

References:

Lindell S, Walton B, Simmons J & Roberts S (2006) Hybridization between two
genera of shellfish. J. Shellfish Res. 25 (2).

United States Patent Application 20080229437. Intergeneric bivalve shellfish hybrid
and method for producing. <http://www.freepatentsonline.com/y2008/0229437.html>

class

CEPHALOPODA

cephalopods = Kopffüßer

Belemnnoidea

First example of a supposed fossil intergeneric hybrid:

Remin Z (2010) *Fusiteuthis polonica* – an intergeneric belemnite hybrid; proofs and discussion. 8th Int. Symp. Cephalopods – Present and Past. http://www.u-bourgogne.fr/cephalopods/8ISCPP_provisional_program.pdf

class

GASTROPODA

snails and slugs = Schnecken

Caenogastropoda

Caenogastropoda: Strombidae 26 + 10 extinct genera. 2 IG

true conchs = Flügelschnecken

no subdivision

Harpago chiragra × *Lambis lambis* De Turck et al. 1999, Kronenberg 2008a

Lambis lambis × *Sinustrombus latissimus* Kronenberg 2008b

References:

De Turck K et al. (1999) The family Strombidae. In Poppe GT & Groh K, eds. A Conchological Iconography 1–58, pls. 1–130. Hackenheim.

Kronenberg GC (2008a) Family Strombidae. In Poppe, G. T. ed., Philippine marine mollusks. 1 Gastropoda 1, 514–568, pls. 202–230. Hackenheim.

Kronenberg GC (2008b) An intergeneric hybrid (Gastropoda: Caenogastropoda: Strombidae) with remarks on the subdivision of the Indo-Pacific *Tricornis*. Basteria 72, 331–341.

https://www.researchgate.net/publication/245262390_An_intergeneric_hybrid_Gastropoda_Caenogastropoda_Strombidae_with_remarks_on_the_subdivision_of_Indo-Pacific_Tricornis

Stylommatophora

air-breathing land snakes = Landlungenschnecken

Stylommatophora: Cerionidae 2: 600 + extinct species

Cerion 600, *Mexistropa* 1.

Probably basic type **family Cerionidae** (see Junker 2007).

IS: Interspecific hybrids in the genus *Cerion* are common.

References:

Junker R (2007) „Grundtypstudie“ von Stephen Jay Gould. Stud. Integrale J. 14 (1), 28–29. <https://www.wort-und-wissen.org/publikationen/studium-integrale-journal/>

Stylommatophora: Lauriidae (= Pupillidae p.p.) 3

IS: see Whitehead 2007 (“intergeneric”)

Whitehead PF (2007) Another Gloucestershire locality for *Lauria sempronii* (Charpentier, 1837) (Gastropoda, Stylommatophora, Pupillidae) with observations on the species. J. Conchology 39 (4), 377–379.

Vetigastropoda

Vetigastropoda: Haliotidae 1: 55–130 + extinct species

sea ears, abalones = Seeohren

Haliotis.

Basic type **family Haliotidae** (Crompton 2018): Monogeneric family with a large number of interspecific hybrids.

References:

Crompton N (2018) Die genetische Familie der Haliotidae – Hybridisierung, Fortpflanzungsisolation und sympatrische Artbildung. W+W Special Paper B-18-2. www.wort-und-wissen.de/artikel/sp/b-18-2_haliotidae.pdf.