



A PICTURE BOOK ON

MARINE GASTROPODS



Indian Council of Agricultural Research
Central Marine Fisheries Research Institute

A picture book on Marine Gastropods

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PREFACE

Gastropods includes snails, slugs and their relatives is a hyper diverse with respect to number of species, structure and habitat and many other attributes. Gastropods are characterised by having single shell and an operculum. Widely ranging in size, the shell has been modified enormously in many groups. A total of 80,000 to 100,000 mollusc species are known world over. About 3271 species of molluscs are found in India, of which 1900 marine species of gastropods are known to date. These resources are exploited by either mechanised trawlers, bottom set gillnets or by diving. Very few species forms a regular fishery and most of them are obtained in smaller magnitude making them unnoticed. While these resources are smaller in magnitude compared to other fisheries, they play an important role as raw materials for the multi-million dollar 'SHELLCRAFT INDUSTRIES' world over.

In India, the resource is harvested in almost all the landing centres of both the coasts. In southeast coast of India, where the most part of landings of marine gastropods are occurring is considered a hub of shellcraft industry. A total of more than 250 species has been recorded and representing forty odd families in gastropods. The Federation of Sea Shell Handicrafts Merchants Association (FOSSHMA), estimates around 90 active seashell handicrafts traders in India, comprising of 20 very active, 30 minimal functioning and 40 dormant units. The major destinations of export is found to be the United States of America, Australia, Europe, Japan, Philippines, Vietnam, Africa, Malaysia, Belgium, Croatia, England, Haiti Island, Sri Lanka,

France, Netherlands, Germany, South Africa etc. The major species exported are *Conus* sp, *Umbonium* sp, *Chicoreus ramosus*, *Lambis lambis*, *Babylonia spirata*, *B. zeylanica*, *Telescopium* sp, *Terebralia* sp, *Tonna* spp and *Cerithium* sp.

Around 20-25 species are imported by shellcraft industries and the major species imported are *Busycon* sp, *Haliotis* sp, *Cypraea tigris*, *Mitrella* sp. The major importing countries includes USA, Mexico, New Zealand, South Africa, Australia, Philippines, Spain and other African countries. This picture book contains 165 photographs of seashells used in the Indian seashell industries clustered under the common name of the respective species along with vernacular (Tamil) names.

Authors

CONTENTS

EAR SHELLS.....	9
TOP SHELLS.....	11
MARGARITES & DELPHINULA.....	17
STAR SHELLS & TURBANS.....	21
NERITES.....	25
TURRETS & TOWER SHELLS.....	29
SUN DIALS.....	33
PERIWINKLES HORN SHELLS & VERTAGUS.....	37
WENTLE TRAP & CARRIER SHELL.....	45
CONCHES & TRUE CONCHES.....	49
MOON, KEY HOLE & NECLACE SHELLS.....	57
COWRIES & FALSE COWRY SHELLS.....	69
BONNETS & HELMET SHELLS.....	91
FIG SHELLS.....	97
TRITONS & WINGED FROG SHELLS.....	101
FROG SHELLS.....	109
TUN SHELLS.....	115
ROCK, TURNIP, DRUPE & MUREX SHELLS.....	119

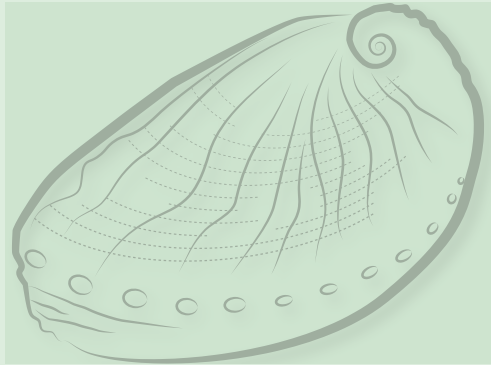
DOG, MUD & BULLIA SHELLS	133
POS & GOBLET SHELLS	137
BABYLON SHELLS	143
MELONGENA & HORSE CONCH SHELLS	147
SPINDLE SHELLS	151
OLIVE, ANCILLA & MITRE SHELLS	155
CHANKS, TUDICUL, VASE & HARP SHELLS	163
VOLUTES & BAILER SHELLS	169
TURRIDS	173
NUTMEGS	179
CONE SHELLS	183
AUGER SHELLS	205
SPIRE, SAUCER & TUSK SELLS	211

Name format used in this picture book



Species Name

Common Name | Vernacular Name



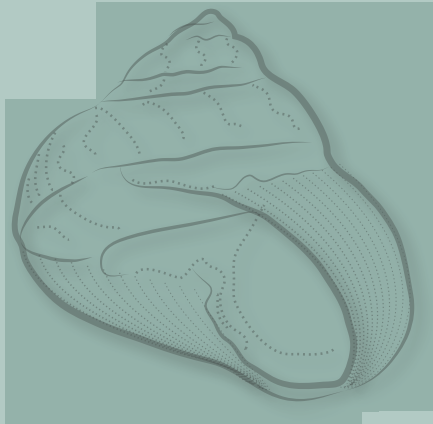
EAR SHELLS





Haliotis varia Linnaeus, 1758

Ear shell | Kaadhu



TOP SHELLS





Trochus radiatus Gmelin, 1791

Radiate Topshell | Tokkas



Umboonium vestiarius (Linnaeus, 1758)

Button shell | Poochi koodu



Rochia nilotica Linnaeus, 1767 **IWPA**

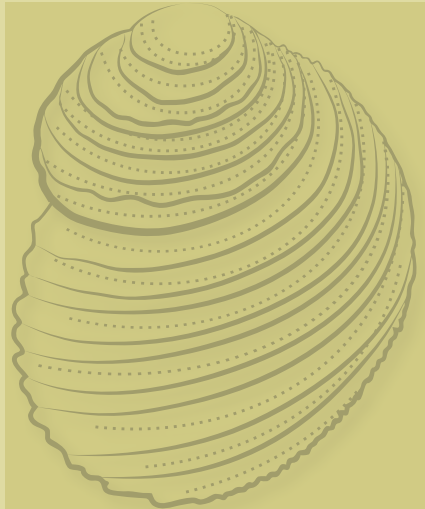
Giant Top shell | Tokkas



Tectus mauritianus (Gmelin, 1791)

Mauritius top shell | Tokkas





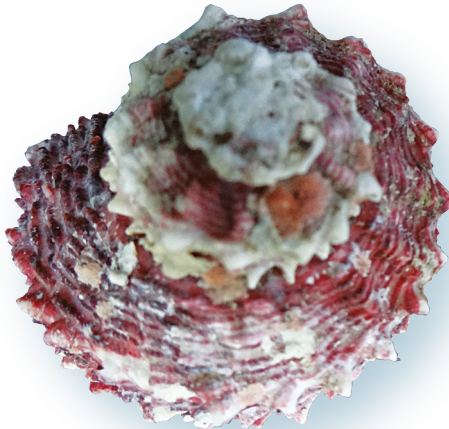
MARGARITES & DELPHINULA





Euchelus atratus (Gmelin, 1791)

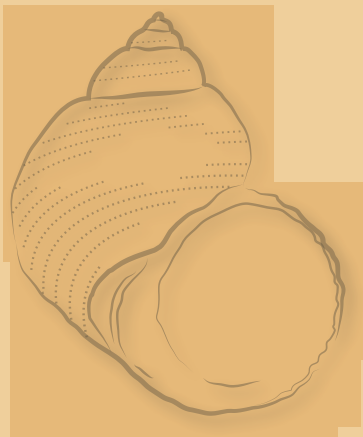
Blackish margarite | Karuppu kakka mooku



Angaria rugosa (Kiener, 1838)

Rough Delphinula | Pooraan koodu





STAR SHELLS & TURBANS





Astralium semicostatum (Kiener, 1850)

Half-ribbed star shell | Mullu chakaram



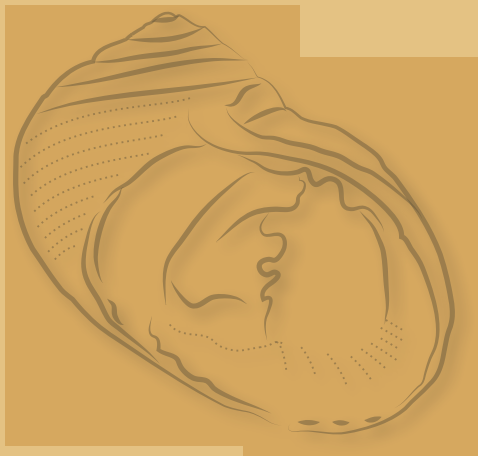
Turbo brunneus Roding, 1798

Brown dwarf turbon | Manjal koodu



Turbo intercostalis Menkie, 1846

Ribbed turbon | Pachai koodu



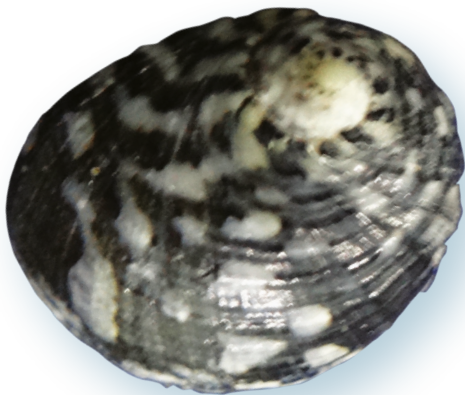
NERITES





Nerita albicilla Linnaeus, 1758

Ox-plate nerite | Karuppu chakuli



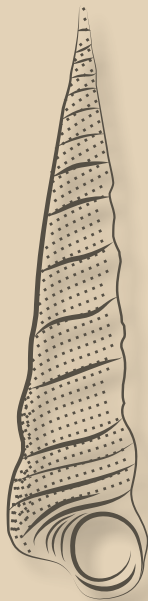
Nerita chameleon Linnaeus, 1758

Chameleon nerite | Karuppu chakuli



Nerita polita Linnaeus, 1758

Polished nerite | Chakkuli



TURRETS & TOWER SHELLS





Turritella duplicata (Linnaeus, 1758)

Duplicate turret | Gopuram



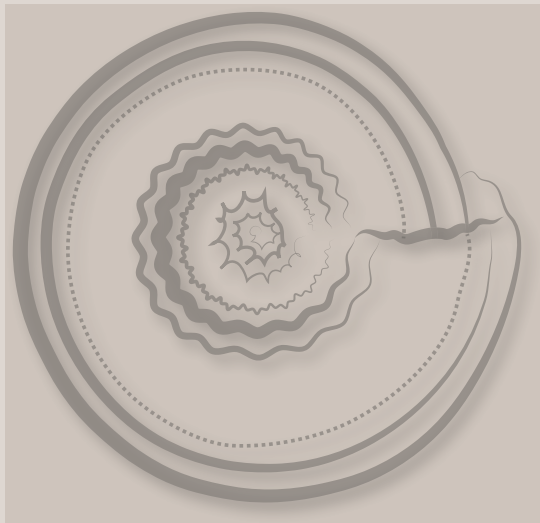
Turritella terebra (Linnaeus, 1758)

Screw turret | Gopuram



Turritella attenuata Reeve, 1849

Tower shell | Gopuram



SUN DIALS





Architectonica perspectiva (Linnaeus, 1758)

Perspective sundial | Sakkaram



Architectonica purpurata (Hinds, 1844)

Purpurate sundial | Sakkaram





PERIWINKLES HORN SHELLS & VERTAGUS





Planaxis sulcatus (Born, 1778)

Tropical periwinkle | Karuppu Kakka mooku



Pirenella cingulata (Gmelin, 1791)

Girdled horn shell | Oori



Telescopium telescopium (Linnaeus, 1758)

Telescope snail / Horn shell | Karuppu gopuram



Terebralia palustris (Linnaeus, 1767)

Giant Mangrove whelk | Gopuram



Cerithium echinatum Lamarck, 1822

Prickly horn | Oori



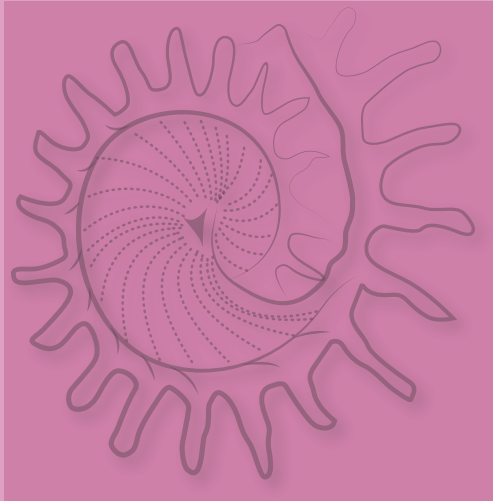
Rhinoclavis vertagus (Linnaeus, 1767)

Common vertagus | Oori



Pseudovertagus aluco (Linnaeus, 1758)

Aluco vertagus | Oori



WENTLE TRAP & CARRIER SHELL





Epitonium scalare (Linnaeus, 1758)

Precious Wentletrap | Vellappodu



Stellaria solaris (Linnaeus, 1764)

Sunburst carrier shell | Sooriyan koodu



Xenophora corrugata (Reeve, 1842)

Carrier shell | Sooriyan koodu



CONCHES & TRUE CONCHES





Dolomena plicata (Roding, 1798) **IWPA**

Pigeon conch | Viranjan



Laevistrombus canarium (Linnaeus, 1758)

Dog conch | Aan viranjan



Margistrombus marginatus (Linnaeus, 1758)

Marginate conch | Pen viranjan



Mirabilistrombus listeri (Gray, 1852)

Lister's conch | Rocket viranjan



Lambis lambis (Linnaeus, 1758)

Spider conch | Aivirali



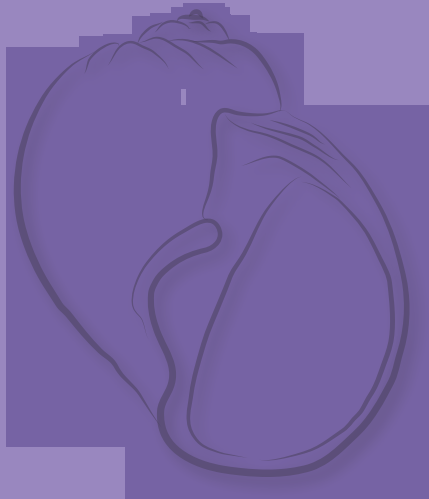
Tibia curta (G.B. Sowerby II, 1842)

True conchs | Eluthani



Rostellariella delicatula (G. Nevill, 1881)

Delicate Tibia | Eluthani



MOON, KEY HOLE & NECLACE SHELLS





Neverita didyma (Roding, 1798)

Bladder moon shell | Maattukannu



Natica vitellus (Linnaeus, 1758)

Calf moon shell | Maattukannu



Natica picta Recluz, 1844

Painted keyhole shell | Maattukannu



Notocochlis gualtieriana (Recluz, 1844)

Comma Necklace shell | Erumai maattu kannu



Notocochlis tigrina (Roding, 1798)

Tiger moon shell | Pulli muttai



Polinices mammilla (Linnaeus, 1758)

Pear shaped moon snail | Maattukannu



Polinices peselephanti (Link, 1807)

Elephant's Foot Moon Snail | Maattukannu



Polinices tumidus (Swainson, 1840)

Pear-shaped Moon Shell | Maattukannu



Mammilla fibrosa (Gray, 1850)

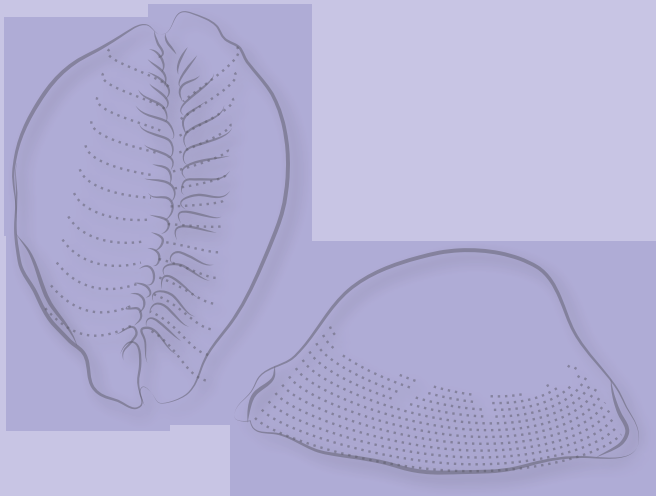
Nelace moon snail | Maattukannu



Tanea lineata (Roding, 1798)

Lined moon shell | Vari koodu





COWRIES & FALSE COWRY SHELLS





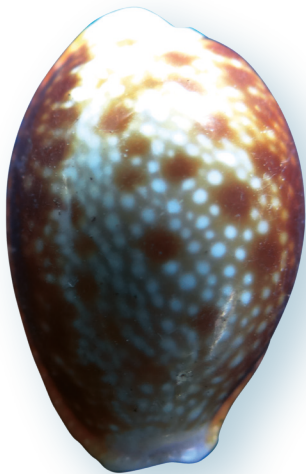
Arestorides argus (Linnaeus, 1758)

Eyed cowry | Kali kowda



Cypraea tigris Linnaeus, 1758

Tiger cowry | Pulli Kowda



Naria helvola (Linnaeus, 1758)

Honey cowry | Sovi



Naria acicularis (Gmelin, 1791)

Atlantic yellow cowry | Sovi



Naria erosa (Linnaeus, 1758)

Eroded cowry | Sovi



Naria miliaris (Gmelin, 1791)

Miliaris cowry | Poonaikannu



Naria ocellata (Linnaeus, 1758)

Ocellate cowry | Pullisovi



Erronea caurica (Linnaeus, 1758)

Thick-edged cowry | Vellai mailkan sovi



Erronea onyx (Linnaeus, 1758)

Dark onyx cowry | Chovi



Erronea pallida (J.E. Gray, 1824)

Pale cowry | Chovi



Callistocypraea aurantium (Gmelin, 1791)

Golden cowry | Sovi



Lyncina carneola (Linnaeus, 1758)

Carnelian cowry | Sovi



Lyncina vitellus (Linnaeus, 1758)

Pacific deer cowry | Maan pulli kowda



Mauritia arabica (Linnaeus, 1758)

Arabian cowry | Kowda



Mauritia histrio (Gmelin, 1791)

Harlequin cowry | Kowda



Monetaria annulus (Linnaeus, 1758)

Gold Ring cowry | Poonai kannu



Monetaria caputserpentis (Linnaeus, 1758)

Serpent's head cowry | Aatla cowry



Monetaria moneta (Linnaeus, 1758)

Money cowry | Manjal Chovi



Talparia talpa (Linnaeus, 1758) **IWPA**

Mole cowry | Kowda



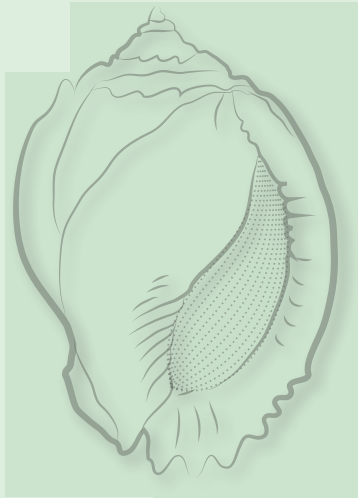
Luria isabella (Linnaeus, 1758)

Fawn-coloured Cowry | Kowda



Volva volva (Linnaeus, 1758)

False cowry | Irrattai vaal



BONNETS & HELMET SHELLS





Cassis cornuta (Linnaeus, 1758) **IWPA**

Horned Helmet | Maattu thalai



Cypraeacassis rufa (Linnaeus, 1758) **IWPA**

Bullmouth helmet | Annachi palam



Phalium glaucum (Linnaeus, 1758)

Grey bonnet | Paal katavaa



Semicassis bisulcata (Schubert & J.A. Wagner, 1829)

Japanese bonnet | Paal katavaa



Casmaria ponderosa (Gmelin, 1791)

Heavy bonnet | Paal katavaa

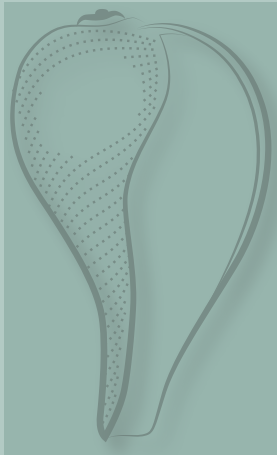


FIG SHELLS





Ficus ficus (Linnaeus, 1758)

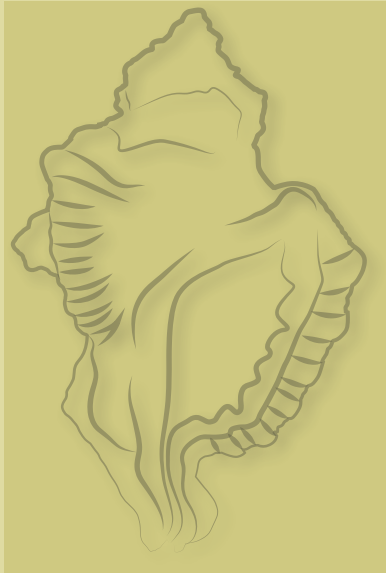
Common Fig shell | Olavayan / Thalampalladai



Ficus investigatoris (E.A.Smith, 1894)

Bengal fig shell | Olavayan / Thalampalladai





TRITONS & WINGED FROG SHELLS





Gyrineum natator (Roding, 1798)

Triton shell | Paravai simmam



Linatella caudata (Gmelin, 1791)

Gridled triton | Matti sangu



Lotoria perryi (Emerson & Old, 1963)

Perry's natator | Pillayar sangu



Monoplex pilearis (Linnaeus, 1758)

Hairy triton shell | Thirugani



Ranularia oboesa (Perry, 1811)

Triton shell | Kurangu vaal



Gyrineum perca (Perry, 1811)

Winged/Maple leaf triton | Simmam



Distorsio reticularis (Linnaeus, 1758)

Reticulate distorsio | Simmam



FROG SHELLS





Bursa granularis (Roding, 1798)

Granular frog shell | Simmam



Bufonaria crumena (Lamarck, 1816)

Purse Frog shell | *Kutta simmam*



Bufonaria echinata (Link, 1807)

Spiny frog shell | Mullu simmam



Bufonaria rana (Linnaeus, 1758)

Common frog shell | Simmam



Tutufa rubeta (Linnaeus, 1758)

Red mouthed frog shell | Simmam



TUN SHELLS





Tonna cumingii (Reeve, 1849)

Cuming's Tun | Paathiram



Tonna dolium (Linnaeus, 1758)

Spotted tun | Vellai paathiram



Tonna galea (Linnaeus, 1758)

Giant tun | Paluppu paathiram



ROCK, TURNIP, DRUPE & MUREX SHELLS





Chicoreus aculeatus (Lamarck, 1822)

Pendant Murex | Karuppu mulli



Chicoreus brunneus (Link, 1807)

Adusta murex | Karuppu mulli



Chicoreus ramosus (Linnaeus, 1758)

Ramose Murex | Yanai mulli



Chicoreus virginicus (Roding, 1798)

Virgin murex | Kottaka mulli



Murex tribulus Linnaeus, 1758

Caltrop murex | Mulli



Vokesimurex malabaricus (E.A. Smith, 1894)

Malabar murex | Kerala mulli



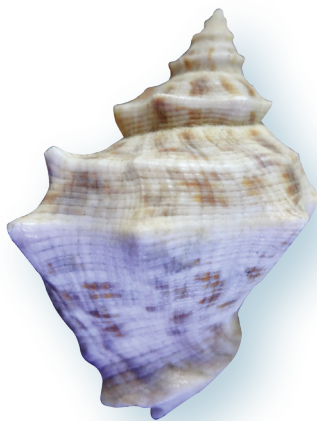
Haustellam haustellam (Linnaeus, 1758)

Snip's bill murex | Vellappoodu



Rapana rapiformis (Born, 1778)

Turnish shaped rapa | Serattai



Indothis lacera (Born, 1778)

Carinate rock shell | *Kal serratai*



Indothis sacellum (Gmelin, 1791)

Drupe Rock shell | *Kal serratai*



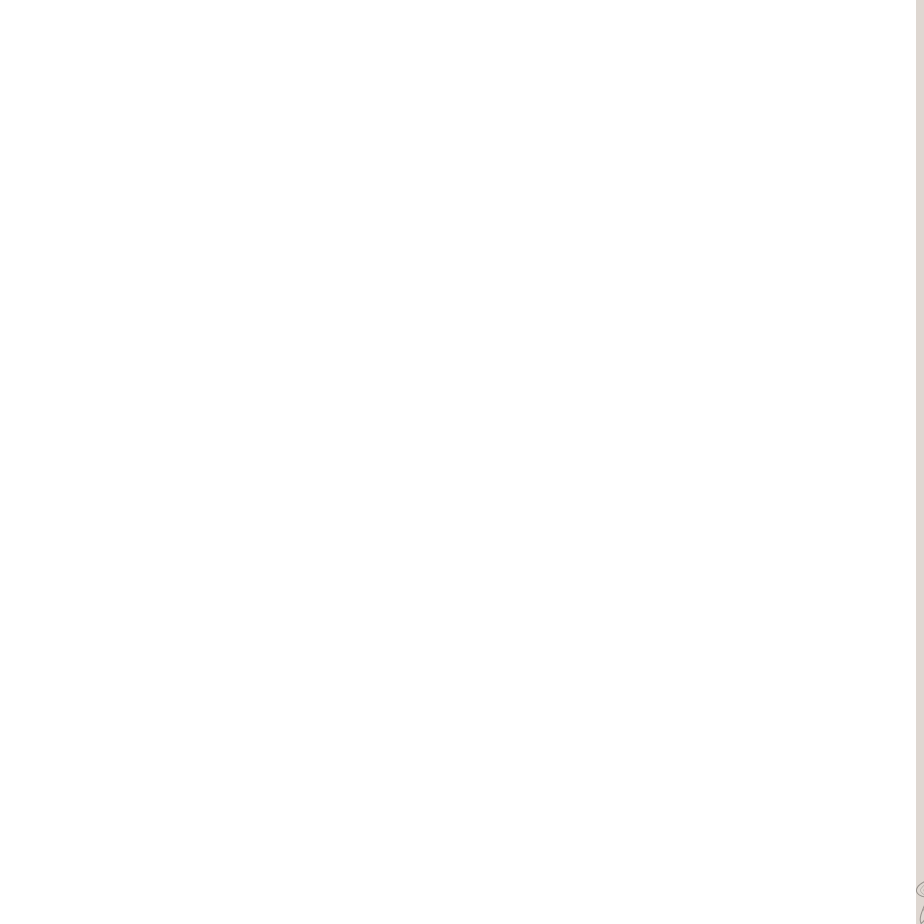
Purpura persica (Linnaeus, 1758)

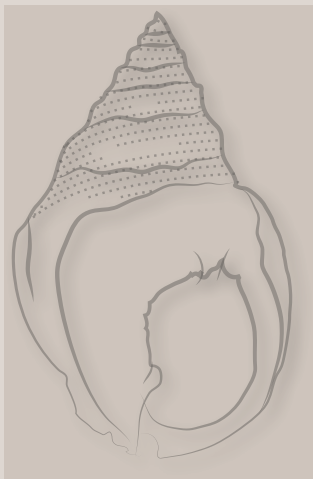
Persian purpura | Kal serattai



Purpura bufo (Lamarck, 1822)

Toad purpura | Kal serattai





DOG, MUD & BULLIA SHELLS





Bullia vittata (Linnaeus, 1767)

Ribbon Bullia | Aathu kopparai



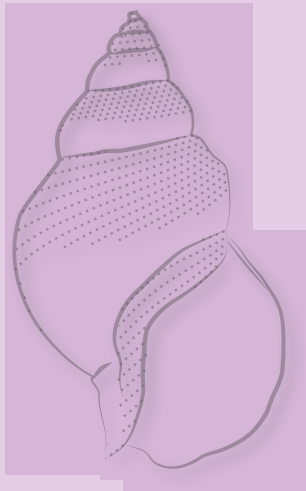
Nassarius glans (Linnaeus, 1758)

Acorn dog whelk / Glans nassa | Paavakkaai



Nassarius stolatus (Gmelin, 1791)

Nassa mud snail | Paavakkaai



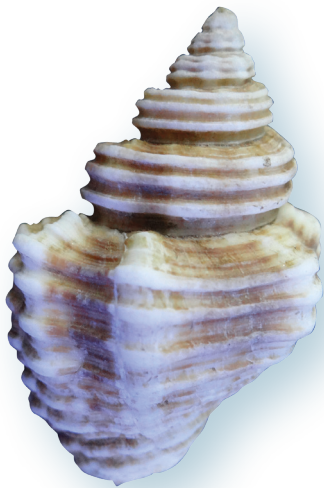
POS & GOBLET SHELLS





Cantharus melanostoma (Sowerby I, 1825)

Goblet shell | Nellikkai



Cantharus spiralis Gray, 1838

Ridged goblet | Nellikkai



Cantharus tranquebaricus (Gmelin, 1791)

Tranquebar goblet | Nellikkai



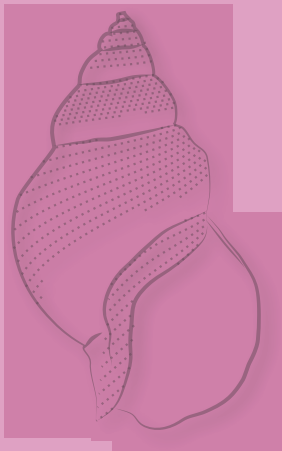
Nassaria pusilla (Roding, 1798)

White phos | Malligaipoo



Nassaria coromandelica E.A.Smith, 1894

Indian phos | Malligaipoo



BABYLON SHELLS





Babylonia spirata (Linnaeus, 1758)

Spiral babylon | Kutta pura muttai



Babylonia zeylanica (Bruguière, 1789)

Indian babylon | Neela pura muttai



Babylonia areolata (Link, 1807)

Maculated Ivory whelk | Velinaattu Pura muttai



MELONGENA & HORSE CONCH SHELLS





Volegalea cochlidium (Linnaeus, 1758)

Spiral melongena | Sigappu mulli



Filifusus filamentosus (Roding, 1798)

Filamentous horse conch | Sigappu seval sangu



Pleuroploca trapezium (Linnaeus, 1758) **IWPA**

Trapezium horse conch | Kudhirai mulli



SPINDLE SHELLS





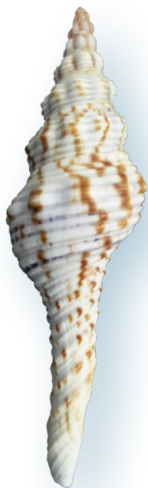
Fusinus colus (Linnaeus, 1758)

Spindle shell | Neela seval sangu



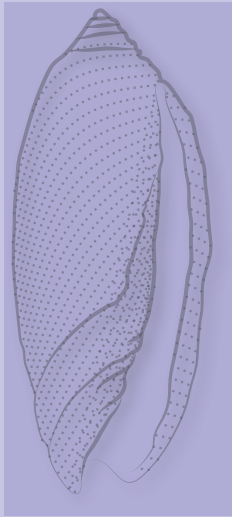
Fusinus forceps (Perry, 1811)

Forceps spindle | Kerala seval



Marmorofusus nicobaricus (Roding, 1798)

Nicobar spindle | Seval sangu



OLIVE, ANCILLA & MITRE SHELLS





Agaronia gibbosa (Born, 1778)

Gibbous olive | Karuppu kovanji



Oliva reticulata (Roding, 1798)

Blood olive | Paal kovanji



Oliva sericea (Roding, 1798)

Orange mouth olive | Kovanji



Ancilla chrysoma Kilburn, 1981

Pointed ancilla | Pachai kovanji



Ancilla ampla (Gmelin, 1791)

Wide mouth ancilla | Paachan kovanji



Domiporta circula (Kiener, 1838)

Mitre shell | Kovanji



Vexillum acuminatum (Gmelin, 1791)

Acuminate Mitre | Kovanji



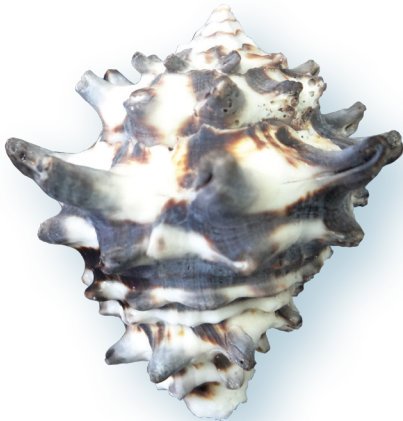
CHANKS, TUDICUL, VASE & HARP SHELLS





Turbinella pyrum (Linnaeus, 1767)

Sacred chank | Paal sangu



Vasum turbinellus (Linnaeus, 1758)

Common Pacific Vase | *Mullu sangu*



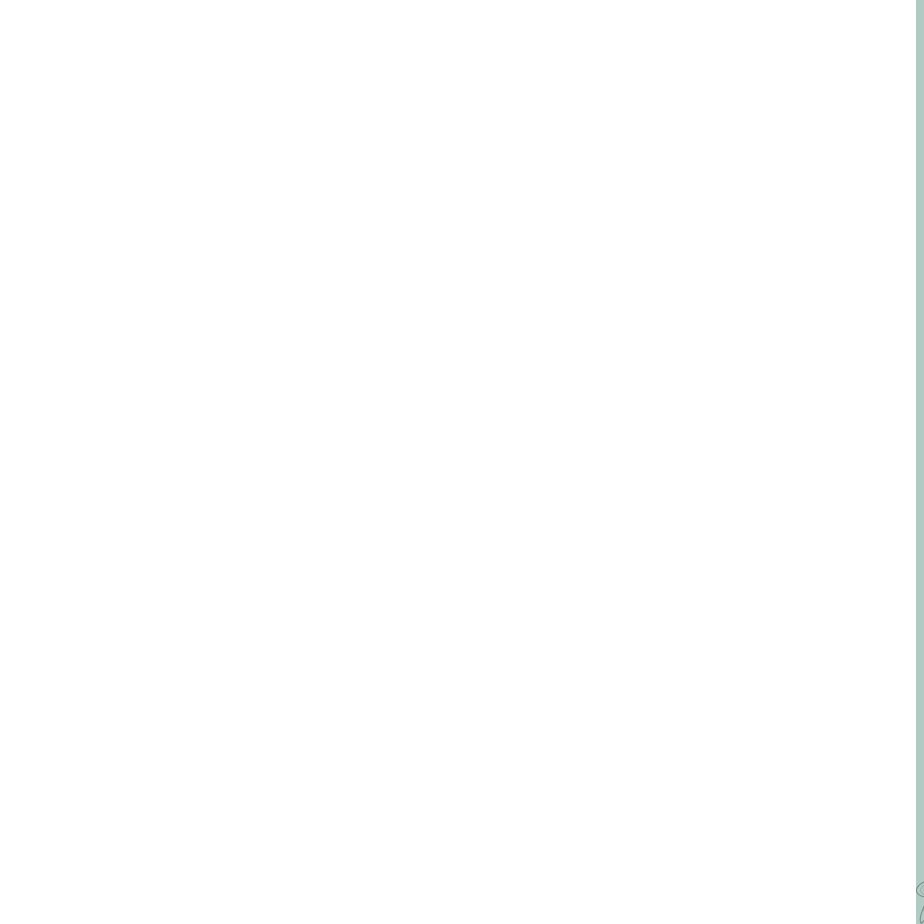
Tudicla spirillus (Linnaeus, 1767) **IWPA**

Spiral tudicla | Manthi vaal



Harpa major Roding, 1798

Major harp | Sarpakoodu





VOLUTES & BAILER SHELLS





Harpulina lapponica (Linnaeus, 1767)

Brown lined volute | Kuruvi



Harpulina lapponica loroisi (Valenciennes, 1863)

Lorois's volute | Kuruvi



Melo melo (Lightfoot, 1786)

Bailer shell | Thiruvodu



TURRIDS





Ptychobela nodulosa (Gmelin, 1791)

Turrid | Thirugani



Unedogemmula indica (Roding, 1798)

Indian turrids | Thirugani



Gemmula vagata (E.A.Smith,1895)

Melvill's Turris | Thirugani



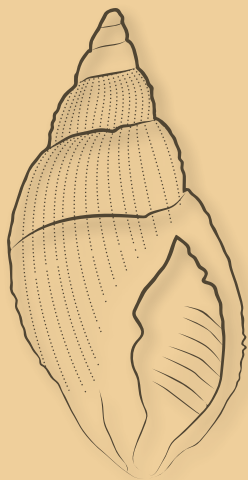
Turris variegata (Kiener, 1839)

Turrid | Thirugani



Turricula javana (Roding, 1767)

Javanese turrid | Thirugani



NUTMEGS





Merica oblonga G.B. Sowerby I, 1825

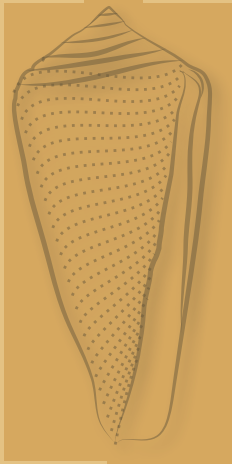
Nutmeg shell | Kopperai



Merica asperella (Lamarck, 1822)

Elegant nutmeg | Kopparai





CONE SHELLS





Conus amadis (Gmelin, 1791)

Amadis cone | Valaipoo sangu



Conus araneosus (Lightfoot) 1786

Cobweb cone | Valaipoo sangu



Conus betulinus (Linnaeus, 1758)

Betuline cone | Valaipoo sangu



Conus buxeus (Roding, 1798)

Loroisii cone | Valaipoo sangu



Conus capitaneus Linnaeus, 1758

Captain cone | Valaipoo sangu



Conus ebraeus Linnaeus, 1758

Hebrew cone | Valaipoo sangu



Conus eburneus Hwass in Bruguiere, 1792

Ivory cone | Valaipoo sangu



Conus figulinus Linnaeus, 1758

Fig cone | Valaipoo sangu



Conus geographus Linnaeus, 1758

Geographer cone | Valaipoo sangu



Conus infrenatus Reeve, 1848

Jeffrey's bay cone | Valaipoo sangu



Conus inscriptus (Reeve, 1843)

Engraved cone | Valaipoo sangu



Conus leopardus (Roding, 1798)

Leopard cone | Valaipoo sangu



Conus milneedwardsi (Jousseaume, 1894) **IWPA**

Glory of India cone | Valaipoo sangu



Conus monile Hwass in Bruguiere, 1792

Necklace cone | Valaipoo sangu



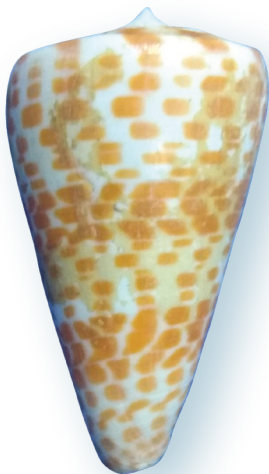
Conus nussatella Linnaeus, 1758

Nussatella cone | Valaipoo sangu



Conus striatus Linnaeus, 1758

Striated cone | Valaipoo sangu



Conus tessulatus Born, 1778

Tessellated cone | Valaipoo sangu



Conus textile Linnaeus, 1758

Textile cone/Cloth of gold cone | Valaipoo sangu



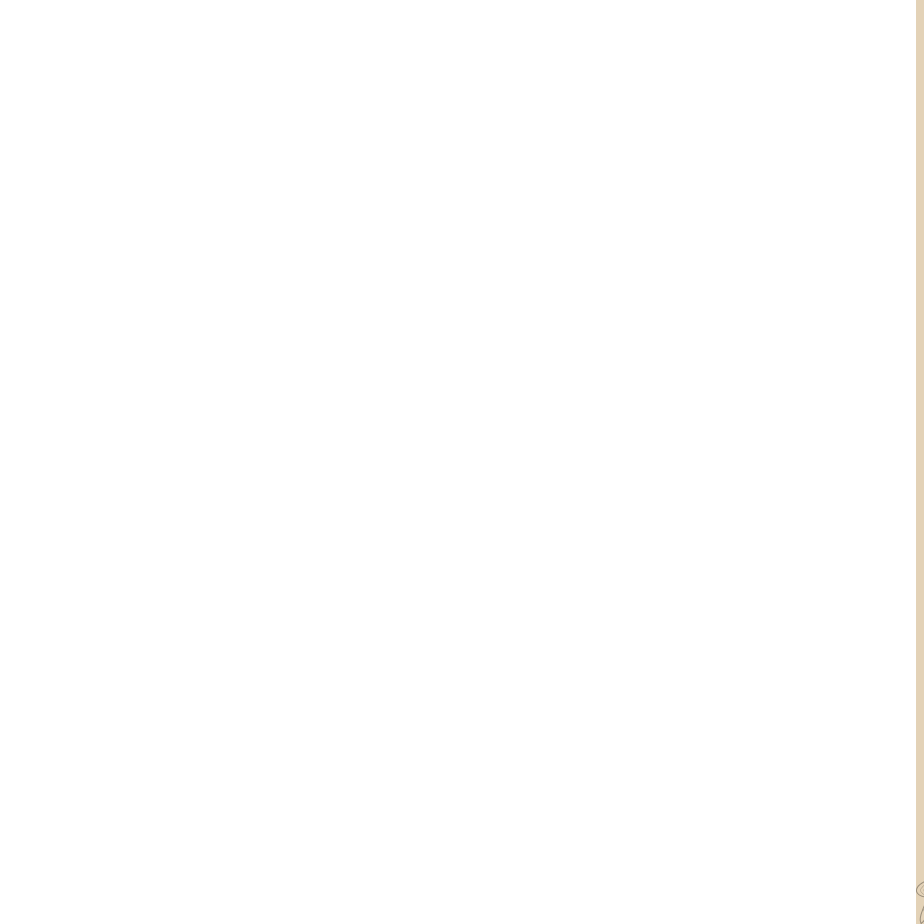
Conus virgo Linnaeus, 1758

Virgin cone | Valaipoo sangu



Conus zeylanicus (Gmelin, 1791)

Obese cone | Valaipoo sangu





AUGER SHELLS





Cinguloterebra commaculata (Gmelin, 1791)

Auger Shell | Oosi koburam



Duplicaria duplicata (Linnaeus, 1758)

Duplicate auger | Oosi goburam



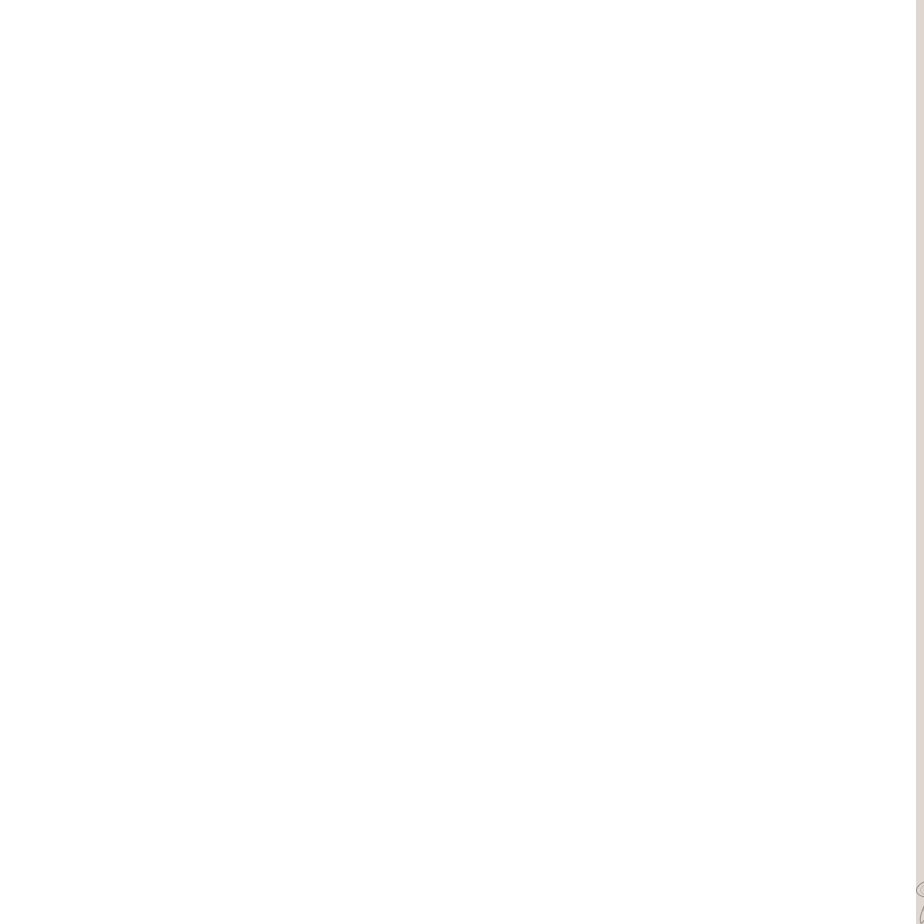
Duplicaria raphanula (Lamarck, 1822)

Little / Radish auger | Oosi goburam



Terebellum terebellum (Linnaeus, 1758)

Terebellum conch / Little auger | Rocket kovanji





SPIRE, SAUCER & TUSK SELLS





Bulla ampulla Linnaeus, 1758

Sunken spire / Pacific blue snail | Kakka muttai



Desmaulus extintorium (Lamarck, 1822)

Asian cup-and-saucer snail | Tokkas



Dentalium spp.

Tusk shell | Yanai Thantham



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