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RED SEA MOLLUSCA
Part 28: ARCHITECTONICIDAE

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Genus: *Architectonica* Röding, 1798

Architectonica perspectiva (Linnaeus, 1758)

Syst. Nat. 10 ed, p. 757, N°. 503.

Originally described as *Trochus perspectivus*.

Not common throughout the searched areas (Gulf of Aqaba and the proper Red Sea south to Marsa Alam). When assisted by divers at Wadi Magresh (Gulf of Aqaba) in 1971, this species was occasionally collected during decompression time while surfacing. At Nuweiba (Gulf of Aqaba) in 1994, several specimens were collected in rather shallow water. For the proper Red Sea, we can only report finds of two specimens collected at Abu Söma (5 km North of Safaga) in 1995.

Average size: 35mm.

Fig. 1

Genus: *Heliacus* d'Orbigny, 1842

Remark: The name *Heliacus* d'Orbigny, 1842 has priority over the name *Torinia* Gray, 1842 on the basis of its predominant usage, so ruled by ICZN 2185 (Case 3340): "The Commission has ruled that the name of the nominal genus *Heliacus* d'Orbigny, 1842 is conserved by the suppression of the name of its subjective synonym *Torinia* Gray, 1842. The relative precedence of the two names is unresolved for a group of gastropod molluscs".

Heliacus areola (Gmelin, 1791)

Fig. 2

Syst. Nat. 13 ed, 3575, N°. 61.

Originally described as *Trochus areola*.

H. areola is widely distributed, but in the Red Sea the species is moderately rare. During all our explorations, only a few specimens were collected at Coral Beach (Eilat, Gulf of Aqaba) in 1976 and at Hurghada and Safaga in the nineteen nineties.

Note: A remark Concerning *H. areola* is added, see under *Heliacus variegatus* (Gmelin, 1791)

Nota: Betreffende deze soort is een opmerking bijgevoegd, zie bij *Heliacus variegatus* (Gmelin, 1791)

Heliacus implexus (Mighels, 1845)

Fig. 3

Proc. Boston Soc. Nat. Hist. 2: 18-25

Originally described as *Solarium implexus*.

H. implexus is a widespread species and although commonly found, it proved to be difficult to be collected in the Gulf of Aqaba and the northern part of the Red Sea. Near Safaga (Lotus Bay) in 1992, several specimens were live collected on sandy patches between coral boulders in deeper water, a habitat where the sea urchin *Tripneustes gratilla elatensis* Dafni, 1983 abounds.

Average size: 7mm.

Note: *H. implexus* is in some degree similar to *Heliacus planulata* (Hanley, 1863). The former differs by its immersed early whorls, the two umbilical cords and the four fine spiral grooves on the lateral side of the whorls. Its spiral cords are ornamented by rounded nodules, whereas those of *H. planulata* are rather elongated.

Nota: *H. implexus* gelijkt enigszins op *Heliacus planulata* (Hanley, 1863).

De eerstgenoemde verschilt door de verzonken eerste windingen, de twee umbilicale koorden en de vier fijne spiraalgroeven lateraal op de windingen. De spiraalkoorden zijn bezet met ronde knobbeltjes terwijl deze bij *Heliacus planulata* (Hanley, 1863) ietwat uitgerekt zijn.

Heliacus stramineus (Gmelin, 1791)**Fig. 4**

Syst. Nat. 13 ed, 3575, N°. 59.

Originally described as *Trochus stramineus*.

During all our expeditions, we only collected *H. stramineus* in the Gulf of Aqaba. When assisted by divers of C.V.D. (Center for the Propagation of Diving), two specimens were brought up at Eilat (Coral beach, 1971). Information concerning the habitat was not registered.

Average size: 25mm.

Remark: In the consulted publications concerning Red Sea Malacology *Heliacus stramineus* was not mentioned. In the OBIS Indo-West Pacific Mollusca database this species is not reported from the Red Sea. We consider *H. stramineus* as a first record for the Gulf of Aqaba.

Opmerking: In de doorgenomen publicaties betreffende de Rode Zee malacologie werd *Heliacus stramineus* niet vermeld. In de OBIS Indo-West Pacific Mollusca Database wordt deze soort evenmin gerapporteerd uit de Rode Zee. Wij beschouwen *H. stramineus* als een eerste vermelding voor de Golf van Akaba.

Heliacus variegatus (Gmelin, 1791)**Fig. 5 - 6**

Syst. Nat. 13 ed, 3575, N°. 60.

Originally described as *Trochus variegatus*.

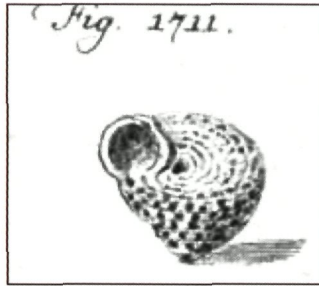
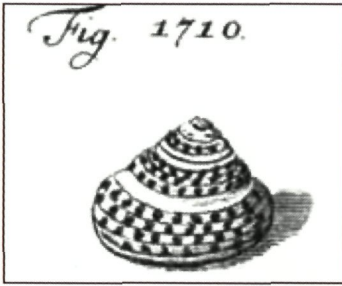
H. variegatus is widely distributed and locally common throughout the searched areas. Most of the collected specimens were crabbed. Live specimens occur intertidally on a sandy habitat amidst rocks and dead coral.

Average size: 10mm.

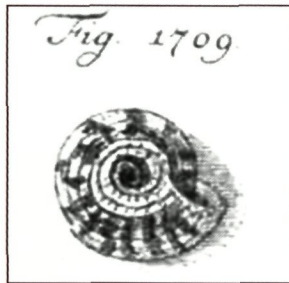
Remark: *H. variegatus* is a very polymorph and coloured species. It ranges from blackish to brownish, but even red specimens exist, all in the same habitat. The red coloured specimens are regarded as *Heliacus planulata* (Hanley, 1863) by some authors and sometimes considered as subspecific. However, we consider it a form of *H. variegatus* only, like the author himself did.

In publications concerning Red Sea Malacology *H. variegatus* is often confused with *Heliacus areola* (Gmelin, 1791), a species also occurring in the Red Sea and in some degree both species look similar. *H. areola* differs by the white spiral band at the sutures and by the umbilicus. Some individuals of *H. variegatus* can reach a diameter of more than 20mm, much larger than *Heliacus areola* (Gmelin, 1791).

Both species were described by Gmelin (1791) as *Trochus areola* and *Trochus variegatus* respectively. By doing so he referred to the Neues systematisches Conchylien Cabinet.



Conch, 5, t.173, f. 1710 -1711. *Trochus areola*.



Conch, 5, t.173, f. 1708 -1709. *Trochus variegatus*.

Opmerking: *H. variegatus* is een zeer variabele en kleurrijke soort. Ze variëren van zwart tot bruin en zelfs rode exemplaren komen voor, dit in één en hetzelfde gebied. De rode exemplaren worden door sommige auteurs *Heliacus planulata* (Hanley, 1863) genoemd, of door anderen als ondersoort beschouwd. Wij beschouwen het als een kleurvorm van *H. variegatus*, zoals ook de oorspronkelijke auteur deed.

In publicaties over de Rode Zee malacologie wordt *H. variegatus* vaak verward met *Heliacus areola* (Gmelin, 1791), een soort ook voorkomend in de Rode Zee, en in sommige aspecten lijken beide soorten op elkaar. *H. areola* verschilt door de witte gekleurde spiraalband bij de suture en een afwijkende umbilicus. Beide soorten *Trochus areola* en *Trochus variegatus* werden beschreven door Gmelin, 1791, verwijzend naar de Neues systematisches Conchylien-Cabinet.

Heliacus spec.**Fig. 7**

In 2008 at Port Ghalib (Egypt) an attractive shell was collected between coral rubble. Till today and despite intensive study we have not been able to identify this species. However, some resemblances to *Heliacus fenestratus* (Hinds, 1844) exist.

Size: 4.7mm.

Genus: ***Psilaxis*** Woodring, 1928

Psilaxis oxytropis (A. Adams, 1853?)**Fig. 8 – 8a**

Proc. Zool. Soc. London 22(1853): 311-317.

Originally described as *Philippia oxytropis*.

During our explorations in the Red Sea several specimens of *P. oxytropis* were collected. In the vicinity of Hurghada and Safaga they occur in sandy habitats surrounded by juvenile coral boulders at depths of 3-4 metres

Note: *P. oxytropis* is a very polymorph and coloured species, varying from very dark-reddish brown to cream. Cream coloured specimens are usually irregularly mottled or tessellated with brown blotches. *P. oxytropis* strongly resembles *P. radiatus*, but can be distinguished by the suture. The coloration of the umbilical cord is usually white or light brown, scarcely ornamented with brown blotches. The whorls are smooth and rounded, whereas those of *P. radiatus* are flattened.

Nota: *P. oxytropis* is een zeer variabele en kleurrijke soort, variërend van donkerbruin tot crème. Crèmekleurige exemplaren zijn gewoonlijk gemarmerd of bruin gevlekt. *P. oxytropis* lijkt sterk op *P. radiatus* maar onderscheidt zich door de sutuur. De kleur van de navelkoord is gewoonlijk wit tot lichtbruin, bezet met lichtbruine rechthoekige vlekjes. De windingen zijn glad en afgerond, terwijl deze van *P. radiatus* vlak zijn.

Psilaxis radiatus (Röding, 1798)**Fig. 9 – 9a**

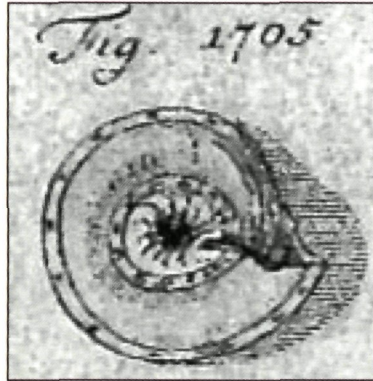
Museum Boltenianum, Pars Secunda Architectonica: 179, N°. 1027.

Originally described as *Architectonica radiata*.

Psilaxis radiatus is a cosmopolitan species in tropical seas. In the Red Sea, the species is moderately rare. During our expeditions, at the areas around Eilat and Nabq (Gulf of Aqaba), Hurghada, Sharm el Naga, Safaga and Algisos (proper Red Sea) this very attractive species was always collected in limited quantities.

Average size: 10mm.

Note: Throughout the geographical distribution *P. radiatus* appears as very polymorph, especially in coloration, which results in a list of synonyms and misidentifications. Bosch et al, (1995: 175, fig. 791) depict a specimen as *Psilaxis radiatus*. However, in our opinion, it is a dark brown *Psilaxis oxytropis* (A. Adams, 1855). In some literature and mostly on Internet *P. radiatus* en *P. oxytropis* are lumped as one species. We therefore depict the specimen Röding refers to in the Neues systematisches Conchylien-Cabinet



Conch, 5, t.173, f. 1704-1705.

Nota: Doorheen het geografische verbreidingsgebied is *P. radiatus* zeer variabel, zeker wat kleurschakeringen betreft. Dit resulteert in een lijst van synoniemen en foutieve identificaties.

Bosch et al, (1995) 175 fig. 791 beelden een exemplaar af als *P. radiatus*, dat volgens ons een donkerbruine *Psilaxis oxytropis* (A. Adams, 1855) is. In sommige literatuur, maar vooral op het internet worden *P. radiatus* en *P. oxytropis* als één soort vermeld. Daarom beelden we de schelp af waar Röding naar verwijst.

Plate 1

- 1 *Architectonica perspectiva* (Linnaeus, 1758)
- 2 *Heliacus areola* (Gmelin, 1791)
- 3 *Heliacus implexus* (Mighels, 1845)
- 4 *Heliacus stramineus* (Gmelin, 1791)

Plate 2

- 5 *Heliacus variegatus* (Gmelin, 1791)
- 6 *Heliacus variegatus* fa *planulata* (Hanley, 1863)
- 7 *Heliacus* spec.
- 8 – 8a *Psilaxis oxytropis* (A.Adams, 1855)
- 9 – 9a *Psilaxis radiatus* (Röding, 1798)

All depicted taxa in the first author's collection.

Alle afgebeelde taxa in de collectie eerste auteur.



1



2



3



4



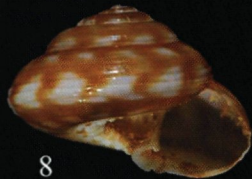
5



6



7



8



9



8a



9a

