

# Authorship, availability and validity of fish names described by PETER (PEHR) SIMON FORSSKÅL and JOHANN CHRISTIAN FABRICIUS in the ‘Descriptiones animalium’ by CARSTEN NIEBUHR in 1775 (Pisces)

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## Abstract

The work of PETER (PEHR) SIMON FORSSKÅL, which has greatly influenced Mediterranean, African and Indo-Pacific ichthyology, has been published posthumously by CARSTEN NIEBUHR in 1775. FORSSKÅL left small sheets with manuscript descriptions and names of various fish taxa, which were later compiled and edited by JOHANN CHRISTIAN FABRICIUS. Authorship, availability and validity of the fish names published by NIEBUHR (1775a) are examined and discussed in the present paper. Several subsequent authors used FORSSKÅL's fish descriptions to interpret, redescribe or rename fish species. These include BROUSSONET (1782), BONNATERRE (1788), GMELIN (1789), WALBAUM (1792), LACEPÈDE (1798–1803), BLOCH & SCHNEIDER (1801), GEOFFROY SAINT-HILAIRE (1809, 1827), CUVIER (1819), RÜPPELL (1828–1830, 1835–1838), CUVIER & VALENCIENNES (1835), BLEEKER (1862), and KLUNZINGER (1871).

A total of 324 taxa in 114 families were treated by NIEBUHR. Among these, a total of 153 new species (90 valid), and 5 new genera (all valid), were described. 26 additional nomina nuda were listed. A total of 126 names described in NIEBUHR (1775a) are available, while 49 names are not available; 22 of these were subsequently made available. Though NIEBUHR (1775a) is not consistently binominal, and would have to be rejected when strictly following Art. 11.4 of ICZN, it is here advised not to apply Art. 11.4 in this case to follow the principal aim of the Code, i.e. stability of nomenclature. FORSSKÅL is the author of 68 available new taxa, while FABRICIUS authored 67; 22 taxa were subsequently made available by BATH, BLEEKER, BLOCH & SCHNEIDER, BONNATERRE, CUVIER, FOURMANOIR & GUÉZÉ, GMELIN, LACEPÈDE, RÜPPELL, and WALBAUM. Four valid species require obligatory changes of their names: *Labeo vulgaris* Heckel, 1847 replaces *Labeo niloticus* (non Linnaeus, 1758, sensu Forsskål, 1775) (Cyprinidae); *Distichodus nefasch* (Bonnaterre [ex Forsskål], 1788) replaces *Distichodus niloticus* (Hasselquist, 1762) (Citharinidae); *Cheilodipterus arabicus* (Gmelin [ex Forsskål], 1789) replaces *Cheilodipterus lineatus* (non Linnaeus, 1758) sensu Forsskål in Niebuhr, 1775 (Apogonidae); *Symphodus ocellatus* (Linnaeus, 1758) replaces *Symphodus ocellaris* (Linnaeus, 1758) and *Symphodus ocellatus* (Forsskål in Niebuhr, 1775) (Labridae). 85 additional taxa require changes of authorship. In the case of FABRICIUS' authorship, and in 13 additional cases, where commonly used species names are threatened by unused names published in NIEBUHR (1775a), applications to the International Commission on Zoological Nomenclature are required to stabilise current usage.

**Key words:** PETER SIMON FORSSKÅL, JOHANN CHRISTIAN FABRICIUS, fishes, nomenclature, authorship, availability, validity, ICZN, Egypt, Mediterranean Sea, Red Sea.

## Zusammenfassung

Die Arbeit von PETER (PEHR) SIMON FORSSKÅL hat die Ichthyologie der Mittelmeers, Afrikas und des Indo-Pazifik stark beeinflusst; sie wurde posthum von CARSTEN NIEBUHR im Jahre 1775 veröffentlicht. FORSSKÅL hinterließ kleine Zettel mit Manuskriptbeschreibungen und Namen verschiedener Fischarten, die später von JOHANN CHRISTIAN FABRICIUS zusammengestellt und herausgegeben wurden. In der vorliegenden Arbeit werden die Autorenschaft, Verfügbarkeit und Gültigkeit der von NIEBUHR (1775a) publizierten Fischnamen untersucht und diskutiert. Mehrere spätere Autoren verwendeten FORSSKÅL's Beschreibungen, um Fischarten neu zu interpretieren, wiederzubeschreiben oder umzubenennen. Hierzu zählen BROUSSONET (1782), BONNATERRE (1788), GMELIN (1789), WALBAUM (1792), LACEPÈDE (1798–1803), BLOCH & SCHNEIDER (1801), GEOFFROY SAINT-HILAIRE (1809, 1827), CUVIER (1819), RÜPPELL (1828–1830, 1835–1838), CUVIER & VALENCIENNES (1835), BLEEKER (1862) und KLUNZINGER (1871).

NIEBUHR behandelte insgesamt 324 Taxa in 114 Familien. Darunter befinden sich 153 Beschreibungen neuer Arten (davon 90 gültige Arten) und fünf neue Gattungen (alle gültig). Zusätzlich wurden 26 Nomina nuda aufgeführt. Insgesamt 126 der Artnamen sind verfügbar, während 49 Namen nicht verfügbar sind; 22 der letzteren Namen wurden später durch andere Autoren verfügbar gemacht. Obwohl die Nomenklatur in der Arbeit von NIEBUHR (1775a) nicht durchgehend binominal ist und eigentlich bei strikter Anwendung von Art. 11.4 der Internationalen Nomenklaturregeln ungültig wäre, wird empfohlen, in diesem Fall nicht dem Art. 11.4 zu folgen, in Einklang mit dem Hauptziel der Nomenklaturregeln, der Stabilität der Nomenklatur. FORSSKÅL ist der Autor von 68 verfügbaren neuen Taxa, FABRICIUS von 67; 22 Taxa wurden später durch BATH, BLEEKER, BLOCH & SCHNEIDER, BONNATERRE, CUVIER, FOURMANOIR & GUÉZÉ, GMELIN, LACEPÈDE, RÜPPELL und WALBAUM verfügbar gemacht. Vier Artnamen müssen obligatorisch geändert werden: *Labeo vulgaris* Heckel, 1847 ersetzt *Labeo niloticus* (non Linnaeus, 1758, sensu Forsskål, 1775) (Cyprinidae); *Distichodus nefasch* (Bonnaterre [ex Forsskål], 1788) ersetzt *Distichodus niloticus* (Hasselquist, 1762) (Citharinidae); *Cheilodipterus arabicus* (Gmelin [ex Forsskål], 1789) ersetzt *Cheilodipterus lineatus* (non Linnaeus, 1758) sensu Forsskål in Niebuhr, 1775 (Apogonidae); und *Symphodus ocellatus* (Linnaeus, 1758) ersetzt *Symphodus ocellaris* (Linnaeus, 1758) und *Symphodus ocellatus* (Forsskål in Niebuhr, 1775) (Labridae). Außerdem bedürfen 85 weitere Taxa einer Änderung der Autorenschaft. Im Fall der Autorenschaft des FABRI-

CIUS sowie in 13 weiteren Fällen, in denen häufig verwendete Artnamen durch ältere Synonyme von FORSSKÄL-Arten bedroht werden, sind Anträge an die Nomenklaturkommission erforderlich.

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## 1 Introduction

The work of PETER (PEHR) SIMON FORSSKÄL has greatly influenced Mediterranean, African and Indo-Pacific ichthyology. FORSSKÄL was one of the so-called 'Linnaeus Apostles', who were sent out to discover the natural history of unknown parts of the world. During a Danish expedition in 1761–1763, FORSSKÄL was the first to collect and examine plants and animals, including fishes, in the Red Sea area. On his way there, he had the chance to work in the field in parts of the Mediterranean Sea and the Nile in Egypt, and compared his findings with previously published works (HASSELQUIST 1757, LINNAEUS 1758). This included numerous fishes he collected and started to describe. FORSSKÄL died in Yemen during the expedition, and the only survivor, CARSTEN NIEBUHR, returned with some collections and FORSSKÄL's manuscript notes, and published the fish descriptions posthumously (NIEBUHR 1775a).

We do not have much direct evidence about FORSSKÄL's work, the expedition and his findings. Most information is found in NIEBUHR's copies and translations; the original FORSSKÄL documents are either missing or lost. It is therefore essential to understand NIEBUHR's role.

CARSTEN NIEBUHR (Fig. 1) was born on 17 March 1733 in Lüdingworth-Westerende, Hadeln region, Hannover/Germany (NIEBUHR 1817, CARSTENS 1886, EHRENCRON-MÜLLER 1929, LOHMEIER 2002). He worked as a farmer in his early years, but managed to learn surveying, studied in Göttingen in 1757–1760, then moved to Denmark and accepted a position as Lieutenant Engineer in 1760. On the order of the King of Denmark FREDERIK V, he joined the expedition to 'Arabia Felix', i. e. Yemen, as the geographer. The other participants were Prof. PETER (PEHR) SIMON FORSSKÄL as a naturalist (biography see below), CHRISTIAN CARL CRAMER (KRAMER) (1732–1764) as a surgeon and naturalist (see EHRENCRON-MÜLLER 1925: 293–294), GEORG WILHELM BAURENFEIND as an artist and painter, Prof. FREDERIK (FRIDERICH) CHRISTIAN VON HAVEN (1727–1763) as the philologist and Arabist (see EHRENCRON-MÜLLER 1926: 450–451), and BERGRREN, a Danish soldier, who joined as the servant. The expedition left Copenhagen on 4 January 1761 (HANSEN 1965), travelled via Marseille (13 May–14 June 1761), Malta (14–20 June 1761), the Greek Archipela-

go (including Milos and Andros) and Smyrna (İzmir/Turkey; 20 June–30 July 1761) to Constantinople (İstanbul/Turkey; 30 July–26 Sep. 1761), then to Alexandria/Egypt. After spending a year in Egypt, ascending the Nile etc., they crossed the Red Sea and travelled along its eastern coast towards Yemen. The participants did not get along well with each other and had severe disputes even before reaching Alexandria. Especially VON HAVEN and FORSSKÄL were declared enemies; VON HAVEN even purchased arsenic in Constantinople and declared that he would find a way to get rid of FORSSKÄL during the expedition, while NIEBUHR wrote to the ministry he would be prepared to shoot down VON HAVEN if he would start poisoning the others (according to HANSEN 1965: 96). When they departed from Constantinople, they changed to local clothing pretending to be Muslim pilgrims. In Cairo, FORSSKÄL compiled a first version of his 'Descriptiones animalium' in spring 1762, and sent it back to Copenhagen; this version included spe-



Fig. 1. CARSTEN NIEBUHR, portrait (from TRAP 1868: 251).



cies observed in the Mediterranean Sea and in Egypt. The expedition then left Egypt by mule and small coastal vessels and finally arrived in Yemen in December 1762. Their orders required that they should stay for 2–3 years. Apparently, all of them soon got various diseases, probably diarrhoea, possibly also malaria. Within a year, the participants of the expedition died one by one under mysterious circumstances, VON HAVEN as the first in Móchha on 25 May 1763, then FORSSKÅL in Jerim on 11 July 1763; the others decided to leave Yemen on the next vessel from Móchha (Al-Mukhā/Yemen) towards Bombay, but BAURENFEIND and BERGGREN died on board the ship, and CRAMER passed away on 10 February 1764 in Bombay. CARSTEN NIEBUHR was the only survivor; he left India in the autumn of 1764, continued the expedition and returned via Muscat/Oman, Iran, Iraq, Syria, Cyprus, Palestine and Turkey to Denmark, where he arrived on 20 November 1767.

After his return, he immediately started publishing an expedition report (NIEBUHR 1772), and, posthumously, the work of his colleagues, especially FORSSKÅL. The fish specimens were described in NIEBUHR (1775a), and a few illustrations were published by NIEBUHR (1776). NIEBUHR received the full credit of a successful expedition, despite the fact that his companions had died en route. In 1768, he was appointed captain of the army; he retired in 1778 and moved back to Germany, where he continued his scientific career. NIEBUHR died on 26 April 1815 in Meldorf/Germany.

PETER (PEHR) SIMON FORSSKÅL (Fig. 2) (spelling of family name see FRIIS & THULIN 1984) was born on 11 January 1732 in Helsingfors (Helsinki); he studied in Uppsala in 1742–1753 and 1756–1759, was a scholar of CAROLUS LINNAEUS (CARL VON LINNÉ) and became a botanist (SPÄRCK 1963: 110–136; HILDEBRAND & MATINOLLI 1966: 359–362). From 1753–1756, he moved to Göttingen/Germany and became of student of JOHANN DAVID MICHAELIS, who originally had the idea of an expedition to Yemen. FORSSKÅL was a radical moderniser (in 1759, he had published ‘Thoughts about the freedom of citizens’), and when he joined the Arabian expedition, he soon had disputes on this topic with VON HAVEN and others. We know what happened during the later expedition through the sparing notes in VON HAVEN’S and FORSSKÅL’S diaries, but mostly through NIEBUHR’S reports. Mainly interested in botany and having collected and described many plants, had he previously also examined numerous fish, other vertebrate and invertebrate species. FORSSKÅL, however, had preserved relatively few specimens following a strong disagreement with a letter from the Danish government he received in Cairo. He knew that against his intentions he would have to return the specimens to Copenhagen. He did not trust the Danish government any longer. However, he would have been allowed to keep his notes and descriptions and take them back to Sweden (as a ‘Linnaeus Apos-



**Fig. 2.** PETER (PEHR) SIMON FORSSKÅL, portrait (Botanisk Centralbibliotek, Botanisk Have & Museum, Copenhagen).

tle’, he would have been expected to report directly to LINNAEUS himself). Therefore, he concentrated on taking notes and diagnoses of the fish species he found. At Jeddah, the expedition stayed for six weeks, and FORSSKÅL’S official diary entries were very brief, lacking any detailed information about the town (FORSSKÅL 1950: 112), so that HANSEN (1965: 229) suspected that he was tired and not active any more. The contrary is true; we know from the *Descriptiones animalium* (FORSSKÅL in NIEBUHR 1775a) that most of the Red Sea fish descriptions were taken in Jeddah, and there were a total of 70 fish species described from there. At Jeddah, FORSSKÅL just did not bother to write entries for a diary that he had to send to Copenhagen. FORSSKÅL wrote an (illegal, as he was not allowed to give scientific information to anybody outside the Danish government) letter to CARL VON LINNÉ in Uppsala with information on some of his findings, and that his only aim was to stay alive long enough to present him his findings in person; if not, this would be a severe loss for science.

Previously, he had sent a shipment of marine specimens from Constantinople (İstanbul) in 1761, which took two years to arrive in Copenhagen. The material was completely disintegrated on arrival, and had to be discarded (HANSEN 1965: 306). Another shipment from Egypt was severely damaged by pirates during its journey, and a parcel from Suez was lost on its way. More alcohol-preserved material had to be discarded during the trip on board the vessel from Jeddah to Al-Luhayya, as alcohol rapidly evaporated in the hot climate and the material started decaying, so that the smell became unbearable on board the small vessel.

In Lohaja (Al-Luhayya/Yemen), the first stop in ‘Arabia felix’ (Lucky Arabia/Yemen), the Danish expedition had temporarily a relatively good and happy time. FORSSKÅL, who was mainly interested in botany and made long excursions into the desert, still found some time to work on his fish descriptions. However, he did not collect much material, apparently only a few small bottles with fishes in alcohol. This collection was sent to Al-Mukhā, while the expedition planned to spend the hot summer in the Yemeni mountains, but as they were all ill, they decided to visit Al-Mukhā immediately, which was, in the end, not a wise decision. The (small) remaining fish collection was inspected and mostly destroyed by a customs officer (HANSEN 1965: 270–271), and the members of the expedition, including VON HAVEN who was severely ill, had even problems with finding accommodation in town.

After the raid in Al-Mukhā and the death of FORSSKÅL, the remaining material was taken by NIEBUHR to Bombay and then shipped to Copenhagen via Tranquebar. During the long voyage, some material was destroyed by salt water or disintegration, and had to be discarded in Tranquebar. Ten parcels with FORSSKÅL materials were received by ASCANIUS, curator of the natural history collection in Copenhagen (HANSEN 1965: 309). Unfortunately, ASCANIUS did not curate the materials, but left the parcels unopened for several years. In 1765 LINNAEUS asked the young zoologist BRÜNNICH about the state of the collections, who informed him that they were still locked up by ASCANIUS and neither curated nor available for research (HANSEN 1965: 309–310).

The remaining material was finally returned to Copenhagen and survived serious miscuration by ASCANIUS (HANSEN 1965: 308–310). BRÜNNICH, the new curator of the Copenhagen natural history collection, reopened FORSSKÅL’s parcels in 1772, sorted out the material which could still be used, and discarded rotten material. Unfortunately,

since the bombardment of Copenhagen in 1807, the specimens were deposited in the magazine without curation and respiriting for another 30 years, and additional material was lost (HANSEN 1965: 310–311). Today, only 99 specimens of fishes, exclusively consisting of the dried fish skins that Forsskål mainly collected in Jeddah, are remaining (KLAUSEWITZ & NIELSEN 1965, RASMUSSEN 2002: 45). Types of FORSSKÅL species in ZMUC are listed by NIELSEN (1974). In addition, specimens collected by FORSSKÅL were used for species descriptions by BRÜNNICH 1768 (HANSEN 1965: 310).

The work published by NIEBUHR (1775a) is extremely inconsistent and full of errors; nevertheless, many fish species that are still considered valid were described in this work. The author has generally been given as FORSSKÅL, but several names, diagnoses and descriptions were compiled subsequently, and FORSSKÅL neither knew about this usage nor would have intended to name the genera and species that way. Therefore, authorship, availability and validity of the fish names published by NIEBUHR (1775a) are examined and discussed in the present paper.

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**Tab. 1.** Authors of nominal taxa of fishes based on FORSSKÅL’s descriptions.

Author	Name	Lifetime
Anonymus	Unknown Maltese father who provided a list of Maltese fishes during FORSSKÅL’s visit in La Valletta, 14–20 June 1761; he was called a ‘learned friend’ in FORSSKÅL’s diary	
BLEEKER	PIETER BLEEKER	1819–1878
BLOCH	MARCUS ELIESER BLOCH	1728–1799
BONNATERRE	PIERRE JOSEPH BONNATERRE	1747(?)–1804
FABRICIUS	JOHANN CHRISTIAN FABRICIUS	1745–1808
FORSSKÅL	PETER (PEHR) SIMON FORSSKÅL	1732–1763
GMELIN	JOHANN FRIEDRICH GMELIN	1748–1804
KLUNZINGER	CARL BENJAMIN KLUNZINGER	1834–1914
LACEPÈDE	BERNARD ÉTIENNE GERMAIN DE LA VILLE-SUR-ILLON, Comte de LACEPÈDE	1756–1825
NIEBUHR	CARSTEN NIEBUHR	1733–1815
RÜPPELL	(WILHELM PETER) EDUARD (SIMON) RÜPPELL	1794–1884
SCHNEIDER	JOHANN GOTTLIEB SCHNEIDER	1750–1822
VALENCIENNES	ACHILLE VALENCIENNES	1794–1865
WALBAUM	JOHANN JULIUS WALBAUM	1724–1799

sche Landesbibliothek (Stuttgart, Germany) gave access to rare literature and documents in their care. I appreciate the excellent work of FRIEDHELM KRUPP (Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt/Main, Germany) and JØRGEN G. NIELSEN (ZMUC) who critically read the manuscript.

## 2 Methods

The authorship, availability and validity of fish names listed and described in NIEBUHR (1775a) are examined. For each of these taxa, the currently used name is given first; then, the original reference(s) of NIEBUHR (1775a) are quoted with exactly the same typesetting as in the original text, including errors. In the case of new taxa, the type locality, type materials, the genus and species names used by FORSSKÅL and FABRICIUS, and the Latinised Arabic names are given. Families are arranged according to NELSON (2006). In a ‘Remarks’ section, authorship, criteria of availability, validity, and eventual synonymies of subsequently described names based on FORSSKÅL’s description, are discussed. The spelling of the name FORSSKÅL follows FRIIS & THULIN (1984), though the name was spelled ‘FORSSKÅL’ in the original publication (NIEBUHR 1775a).

Type material and other FORSSKÅL material is listed if available; if no types or materials are known, they are omitted in the species accounts.

In accordance with the International Code on Zoological Nomenclature ‘ICZN’ (Anonymus 2007a), the aim of stability of nomenclature is accepted as the basic principle in the present paper; as far as possible, names of prevailing usage are retained. Changes of authorship of taxa originally described in NIEBUHR (1775a) are quoted here for nomenclatural discussion only and do not imply nomenclatural changes; such cases will be directed to ICZN for decision.

Authors of nominal taxa based on FORSSKÅL’s descriptions are listed in Tab. 1.

For the discussion of Turkish fish species and their local names, FRICKE et al. (2007) is used as a standard reference. Some Arabic vernacular names as used by FORSSKÅL are given in modern Arabic characters by BAHEYELDIN (2002). Arabic characters of the quotations are not used in the present paper, but are replaced by ‘[... Arabic name]’. Maltese fish names follow Anonymus (2007b).

Documents by C. NIEBUHR were examined in the Universitätsbibliothek der Christian-Albrechts-Universität Kiel (Signature ‘Cod. MS. KB 314 – NIEBUHR Nachlass’).

Geographical coordinates of frequently mentioned localities are listed in Tab. 2.

**Tab. 2.** Geographical coordinates of frequently mentioned localities.

Country	Locality	Coordinates
Egypt	Alexandria, Al-Iskandarīyah	31°12'N 29°54'E
Egypt	As-Suways	29°58'N 32°33'E
Egypt	Dumyāt	31°25'N 31°48'E
France	Marseille	43°18'N 5°22'E
Malta	La Valletta	35°54'N 14°31'E
Saudi Arabia	Jeddah, Juddah	21°30'N 39°12'E
Turkey	İzmir	38°25'N 27°09'E
Turkey	İstanbul	41°01'N 28°58'E
Yemen	Al-Luhayya	15°42'N 42°42'E
Yemen	Al-Mukhā	13°19'N 43°15'E

## Acronyms of museum collections

BPBM	Bernice P. Bishop Museum, Honolulu, Hawai'i, USA
HUJ	Hebrew University of Jerusalem, Israel
NRM	Naturhistoriska Riksmuseet, Stockholm, Sweden
SMNS	Staatliches Museum für Naturkunde Stuttgart, Germany
USNM	National Museum of Natural History, Smithsonian Institution, Washington D.C., USA
ZMUC	Zoologisk Museum, Copenhagen, Denmark

## 3 Authorship and availability of FORSSKÅL’s fish species

A total of 324 taxa in 114 families were treated by NIEBUHR (1775a). Among these, a total of 153 new species (90 valid), and 5 new genera (all valid), are described. 26 additional nomina nuda were listed. A total of 126 names described in NIEBUHR (1775a) are available, while 49 names are not available; 22 of these were subsequently made available.

A major problem is that NIEBUHR (1775a) is not consistently binominal, due to errors included by FABRICIUS (see below). Applying the Code strictly (ICZN, Art. 11.4), it would have to be rejected. However, parallel to the case of the botanical volume (FORSSKÅL in NIEBUHR 1775b; see FRIIS et al. 1984, GREUTER 1984), this would be disastrous for the stability of nomenclature, as numerous species would have to change their names. The primary aim of the Code is stability of nomenclature (see ICZN, preamble); Art. 11.4 is not meant to weaken this stability. Therefore, I do not advise to follow Art. 11.4 strictly in the case of FORSSKÅL in NIEBUHR’s work, but to consider the work as mainly binominal, and to ignore the few non-binominal cases as errors which were not intended to be published as such, at least by FORSSKÅL.

FORSSKÅL’s manuscript was far from ready for publication (HANSEN 1965: 314–315). He only had individual, small pieces of paper with field notes in minuscule writing intended for his own use (HANSEN 1965: 314–315; P. PROVENÇAL, Århus, personal communication, Jan. 2007). NIEBUHR (1792: 310–311) wrote: “After my return to Europe, I was intrusted with the task of publishing my friend’s [FORSSKÅL’s] posthumous papers. I then discovered a new loss which natural history had suffered by his death. He had been accustomed to write down his observations on small detached pieces of paper, which could not easily be preserved together. It is true, I found 1800 of these billets, which I endeavoured to reduce into order. But I could not help inferring from the chasms here and there, that many of them were lost. Whether it be or be not so, I have, however, presented to the public all that I could recover, in two Latin works, intitled, *Descriptiones Animalium, 4to Hafniae, 1775* [NIEBUHR 1775a]; and *Flora Arabica, 4to, ib. 1775* [NIEBUHR 1775b]. These two works, written in Latin,



and in the manner and arrangement of *Linnaeus*, are intended particularly for the use of the learned naturalist. To gratify readers of all classes, I shall here insert the most curious particular of the information contained in those works, and such as will serve to give the best ideas of the productions, common or peculiar, of the countries which we traversed. Although natural history was not my province, I had occasion to observe transiently many things respecting it. I shall, therefore, intermingle my own remarks, without distinguishing them as such; for the greater part of the whole is Mr Forskal's." NIEBUHR, who as an engineer was not familiar with zoological systematics, and knew only German and Danish, but very little Latin and no Swedish, paid an enormous salary to an adviser on natural history, who had the difficult task of interpreting the meaning of FORSSKÅL's notes, with many Arabic names in both Arabic and Latin letters (PROVENÇAL 2002), some scientific names, other local names, diagnoses and descriptions. He apparently confused or misinterpreted some of them; or wanted to describe new species where FORSSKÅL's descriptions were not yet ready, and deliberately used the Arabic names as species names, which were only intended by FORSSKÅL as a proxy to be later replaced by a Latin equivalent (as described for the example of *Abu-defduf* by JORDAN & EVERMANN 1917: 33). However, there are obviously numerous misinterpretations and switching of names into the wrong column. The adviser was a strange man, and NIEBUHR was not really happy with his work (NIEBUHR 1817: 50–51); he was, however, able to translate FORSSKÅL's notes in Swedish into Latin language, and sort and copy the Latin parts of the diagnoses and descriptions. NIEBUHR was never able to check if the work of the adviser was correct.

Though NIEBUHR never published or mentioned the name of the adviser, a letter indicating his identity was found by the author of the present paper in NIEBUHR's documents in the archive of the library of the Christian-Albrechts-Universität Kiel. FORSSKÅL's travel itinerary was translated into German by JOHANN CHRISTIAN FABRICIUS (FABRICIUS 1776a), according to a letter by FABRICIUS dated 16 Jan. 1776 (FABRICIUS 1776b). This letter is a humble writing where FABRICIUS repeatedly expressed his hopes that this work would please NIEBUHR, in spite of the fact that the previous work did not. This is a strong evidence for FABRICIUS's earlier work on FORSSKÅL's manuscript notes and compilation of the 'Descriptiones Animalium' (NIEBUHR 1775a), a work which did not please NIEBUHR the year before. FABRICIUS, however, had been a logical choice, as he was the only German speaking LINNAEUS scholar who, living in Copenhagen during the winters of 1772–1775, was fluent in Danish and Swedish; this was easiest for NIEBUHR, who was only able to talk and correspond in German and Danish on his own account, and needed a translator for letters in any other language. FA-

BRICIUS had previously (in 1764) worked with insect material in the FORSSKÅL collection (LATREILLE 1808: 401; HOPE 1845: III), which made him seem fit for the task of revising FORSSKÅL's natural history manuscripts. Later, NIEBUHR found out that FABRICIUS was a 'strange fellow' (NIEBUHR 1817: 50–51), who apparently did not take much time in the task in spite of his high salary, and was probably more interested in his own scientific work on insects rather than the translation and compilation of FORSSKÅL's manuscript notes on fishes and other animals. The German translation of FORSSKÅL's travel itinerary (FABRICIUS 1776a) was neither well done, with a barely readable handwriting and many crossing-outs, and FABRICIUS doesn't seem to have wasted too much time on it either.

JOHANN CHRISTIAN FABRICIUS (Fig. 3) was born in Tønder/Denmark on 7 January 1745; he went to school in Altona (Hamburg) (HOPE 1845: I). FABRICIUS studied natural history in Copenhagen and Uppsala; as a scholar of LINNAEUS. From 1769–1775, Fabricius was extraordinary professor at the University of Copenhagen, spending the winters in Copenhagen and the summers in London (HOPE 1845: VIII). In 1775, he was appointed as professor of natural history, economics and finance at Kiel University, and moved to Kiel. Again, he spent winters in Kiel and summers in Paris and London. FABRICIUS was one of the founders of entomological systematics, and published several important works on the subject, including a general classification (FABRICIUS 1792–1794). He died in Kiel on 3 March 1808.

FORSSKÅL's natural history notes were not intended to be published in this provisional state, but merely to form the basis of future research and editing. Unfortunately, they were published in a crude and unedited way, and nu-



Fig. 3. JOHANN CHRISTIAN FABRICIUS, portrait (from HOPE 1845).

merous errors and misinterpretations were included; even the arrangement of the material does not follow a common logic, but is heterogeneous and can easily be misinterpreted (HANSEN 1965: 314–315). While the botanical descriptions and identifications were pretty accurate (FRIIS 1984), and FORSSKÅL already distinguished numerous new families, genera and species, the fish names and descriptions were rather crude, needing further study, and FORSSKÅL frequently misidentified Linnaean species judging from the identifications for Turkish common names, and from the descriptions of specimens from Marseille.

The authorship of the names is a complicated question. A key to this is the usage of Latin or Arabic names as species names. NIEBUHR (1775a: 16) wrote in his introduction that FORSSKÅL intended to give Arabic names transcribed (types in italics) and in their original version. In the index, species names were given inconsistently, like the example of ‘*Perca ROGAA*; *subnigra*’. This means, that the genus is *Perca*; ‘*rogaa*’ is the Arabic name; and ‘*subnigra*’ was originally meant as the species name. Though authors have used *Perca rogaa* as the species name, it might in fact have been *Perca subnigra* (with ‘*rogaa*’ as the Arabic name). As a rule, FORSSKÅL always used a Latin or Greek, or at least Latinised name when he intended to give a scientific name for a species, following LINNAEUS’s (1758) example; the Arabic names are only an additional information on local names. If there is no Latin/Greek name available, then FORSSKÅL was not sure about the identity of the species and only identified the genus, given the local Arabic name in addition, to work on the problem at home and later eventually select a Latin or Greek scientific name. It is therefore concluded that Latin or Greek species names described in NIEBUHR (1775a) were selected by FORSSKÅL himself, while the use of Arabic or other local names is due to FABRICIUS’s erroneous usage of these substitutes as species names.

Neither FORSSKÅL nor FABRICIUS in NIEBUHR usually gave reference to previous authors. If they used Linnaean names, we can be certain that they knew them, because a copy of LINNAEUS (1758) was the standard equipment of a natural history expedition in the late 18<sup>th</sup> century, and FORSSKÅL (a scholar of LINNAEUS) and FABRICIUS in NIEBUHR had it available as well (see NIEBUHR 1775a: 18). Linnaean names used by FORSSKÅL cannot be considered as independent descriptions even if dealing with different species; in the latter case, they are misidentifications. Numerous such misidentifications were found in Turkish species where local names are given, which are species-specific even in closely related commercial species and can now be used to identify the species.

Authorship is defined by ICZN, Art. 50. Unfortunately, Art. 50.1 is not unambiguous. From the sentence ‘If a work is by more than one person but it is clear from the contents that only one of these is responsible for the name

or act, then that person is the author; otherwise the author of the work is deemed to be the author of the name or act’ would follow that NIEBUHR should be the author. Art. 50.1 strongly emphasises the ‘Contents’ of the work. The problem here is that the person ‘who first published the work’ is here not identical with the author of the names, and neither with the person who provided the field data basis for the description; these are often three different persons, or groups of persons. The ‘person who first publishes the work’ is clearly NIEBUHR; the authorship cannot be solved from the ‘Contents’, as not only FABRICIUS was not mentioned, but NIEBUHR also states an authorship (which here means field data source) mixed between himself and FORSSKÅL (FORSSKÅL’s contribution is estimated at 50–60%); also included were names of Maltese fishes provided by an anonymous Maltese scientist. The third sentence of Art. 50.1 ‘If the author, or the person who publishes the work, cannot be determined from the contents, then the name or act is deemed to be anonymous’, therefore implies an anonymous authorship. As we meanwhile know the authors from other sources, I do not consider this advisable.

The descriptions provided by FORSSKÅL and NIEBUHR were far from ready for publication; they were merely raw field data, on tiny pieces of paper in minuscule, barely readable handwriting. The mentioning of Arabic names in Arabic letters and in Roman transliteration was not a decision of naming species as such, but was part of the royal order for the expedition. Many such names were indicated as ‘Arab.’ (meaning Arabic), and often several names were given for one item. FABRICIUS was much more than a paid secretary to write the manuscript down; it was up to him to make decisions which items to describe as new species. In some cases, FORSSKÅL gave the scientific names and thus decided a taxon should be described as a new species; then I agree with FORSSKÅL as the author of the taxon. In many other cases, he left the scientific name open, and it was up to FABRICIUS to decide a description as new species, and to add the Arabic or other local name as scientific name. Most of the descriptions as we see them in the manuscript are the work of FABRICIUS, who did extensive research, though probably not seeing the specimens himself (however, we cannot be certain about this either, as FABRICIUS had access to FORSSKÅL insect material from the same collection at that time, provided by ASCANIUS); it took him about three years to work on these. In some cases, we know that FABRICIUS did additional literature research on papers which were not yet available to FORSSKÅL.

As a decision to change authorship on a broad scale would be premature in the present paper, I here leave the authorship generally in the status quo, as “Forsskål in Niebuhr, 1775”, and discuss the nomenclatural situation afterwards; no nomenclatural changes should arise from this

paper in such cases, unless the case has been subsequently decided by the International Commission on Zoological Nomenclature.

It was assumed that BRÜNNICH (1768) might have used FORSSKÅL material from Marseille for his *Ichthyologia Massiliensis*; however, as FORSSKÅL's fish parcels and manuscript were unavailable at that time, and were only re-opened in 1772, as BRÜNNICH wrote his '*Ichthyologia Massiliensis*' while on visit to Vienna (BRÜNNICH 1768: XVI), and as no reference is given to either FORSSKÅL or his material or the Copenhagen collection at all, it can be concluded that BRÜNNICH's work is independent of FORSSKÅL's studies on fishes from Marseille.

Several later authors, however, used the work of NIEBUHR (1775a) to interpret, redescribe or rename fish species. These include BROUSSONET (1782), BONNATERRE (1788), GMELIN (1789), WALBAUM (1792), LACEPÈDE (1798–1803), BLOCH & SCHNEIDER (1801), GEOFFROY SAINT-HILAIRE (1809, 1827), CUVIER (1819), RÜPPELL (1828–1830, 1835–1838), CUVIER & VALENCIENNES (1835), BLEEKER (1862), and KLUNZINGER (1871). FORSSKÅL's work is of especial interest to science, as it not only includes the first known Red Sea fish fauna, but also the first fish faunal list from Malta, and the first list of marine fishes of western Turkey.

Though previously all taxa were attributed to the authorship of FORSSKÅL, he is only the author of 68 available new taxa, while FABRICIUS authored 67 (opinion of the present paper); 22 taxa were subsequently made available by BATH, BLEEKER, BLOCH & SCHNEIDER, BONNATERRE, CUVIER, FOURMANOIR & GUÉZÉ, GMELIN, LACEPÈDE, RÜPPELL and WALBAUM. Three species require obligatory changes of their names, 47 additional species require changes of authorship. Such cases cannot be decided in the present paper, but will be referred to the International Commission on Zoological Nomenclature for decision (see above). In 13 cases, where commonly used species names are threatened by unused names published in NIEBUHR (1775a), applications to the International Commission on Zoological Nomenclature are required to stabilise the current usage.

#### 4 Fish taxa described by FORSSKÅL and FABRICIUS in NIEBUHR (1775a)

##### Petromyzontidae – Northern lampreys

Petromyzontidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "PETROMYZON *lampetra*."

Locality: "Melita" (La Valletta/Malta).

Remarks: This record, a name only, is based on either of the two Mediterranean species of the family, *Petromyzon marinus* Linnaeus, 1758 or *Lampetra fluviatilis* (Linnaeus, 1758); as no diagnosis or local name was given, it cannot be assigned to generic or species level.

##### Scyliorhinidae – Cat sharks

*Scyliorhinus canicula* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[SQUALUS] *catulus*."

Locality: "Melita" (La Valletta/Malta). Maltese name: "Il rufetta".

Remarks: This record is based on *Squalus catulus* Linnaeus, 1758, a junior synonym of *Squalus canicula* Linnaeus, 1758, now named *Scyliorhinus canicula* (Linnaeus, 1758).

##### Ginglymostomatidae – Nurse sharks

?*Nebrius ferrugineus* (Lesson, 1831)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: X): "19. [SQUALUS] c) KUMAL. Dentibus nullis; pinnis pect. brevibus; cirrhis oris quatuor."

Type locality: – (Red Sea).

Genus name: *Squalus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *kumal*.

Arabic name (Latinised, FORSSKÅL): *Kumal*.

Remarks: In his draft, FORSSKÅL listed this species as an unidentified *Squalus* with the local name 'kumal', but did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS used the Arabic name as a species name and added a diagnosis. The name would therefore be available as *Squalus kumal* Fabricius [ex Forsskål] in Niebuhr, 1775; it was considered as valid by BONNATERRE (1788: 13). Unfortunately, *Squalus kumal* is most probably a senior synonym of the commonly used name *Nebrius ferrugineus* (Lesson, 1831). The species was considered as valid by WALBAUM (1792: 523). As the name *Squalus kumal* has not been used otherwise, it is rejected in accordance with Art. 23.2 and the preamble of ICZN; an application to the International Commission on Zoological Nomenclature will be needed to retain the name *Scyllium ferrugineum* Lesson, 1831 for this species, which is considered to be valid, with the currently used name *Nebrius ferrugineus* (Lesson, 1831). The species was subsequently named *Squalus kamul* by BLOCH & SCHNEIDER (1801: 138, under 'species non determinandae'), which is not an independent species description, but a spelling error for *Squalus kumal*.

##### Lamnidae – Mackerel sharks

*Carcharodon carcharias* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[SQUALUS] *lamia*."

Locality: "Melita" (La Valletta/Malta). Maltese name: "Il gabdol".

Remarks: This is a name only (nomen nudum), listed as *Squalus lamia* Forsskål in Niebuhr, 1775; this name is not available, as it was neither accompanied by a diagnosis nor a description. From the name 'lamia', which is the local Italian name for *Carcharodon carcharias*, it can be concluded that this record may have been based on *Carcharodon carcharias* (Linnaeus, 1758). The species was subsequently described as *Carcharias lamia* Rafinesque-Schmaltz, 1810 (RAFINESQUE-SCHMALTZ 1810: 44), which is a junior synonym of *Carcharodon carcharias* as well. This species, however, may have been confused with the basking shark *Cetorhinus maximus* (Gunnerus, 1765), which has the actual Maltese vernacular name 'Gabdoll' (Anonymus 2007b).



## Triakidae – Hound sharks

*Mustelus* sp.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: X): “20. [SQUALUS] d) KELB EL BAHR: i. e. *canis marinus*.”

Type locality: – (Alexandria, Al-Iskandarīyah/Egypt, Mediterranean Sea).

Genus name: *Squalus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *kelb el bahr*.

Arabic name (Latinised, FORSSKÅL): Kelb el bahr.

Remarks: In his draft, FORSSKÅL treated this as a species of *Squalus* which was called ‘Kelb el Bahr’, but was considered identical with *Canis marinus* (or *Squalus canis marinus*?). He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS used ‘*kelb el bahr*’ as species name, but *Squalus kelb el bahr* Fabricius [ex FORSSKÅL] in Niebuhr, 1775 is not available because the species name is not binominal (ICZN, Art. 5), because the name is not accompanied by a diagnosis or by distinguishing characters, and because it is described in synonymy.

*Mustelus* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[PETROMYZON] *mustela*.”

Locality: “Melita” (La Valletta/Malta). Local name: “Il Mustilla”.

Remarks: The species name ‘*mustela*’ was erroneously listed under *Petromyzon lampetra*. This was obviously an error by FABRICIUS in NIEBUHR (1775a), who confused the two species and switched lines. As the name ‘*mustela*’ is just a listing of the name, the record cannot be confirmed and assigned to species level; it could have been based on either *Mustelus asterias* Cloquet, 1821, *Mustelus mustelus* (Linnaeus, 1758), or *Mustelus punctulatus* Risso, 1827.

## Carcharhinidae – Requiem sharks

## Carcharhinidae, indet.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: X): “17. SQUALUS a) MASSASA, *Djiddæ*; MAFREKA, *Lohajæ*. Dentibus nullis; pinnis pect. longis. A Charcharia diversus.”

Type localities: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia); “*Lohajæ*” (Al-Luhayya/Yemen).

Genus name: *Squalus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *massasa* or *mafreka*.

Arabic names (Latinised, FORSSKÅL): Massasa, Mafreka; (FABRICIUS in NIEBUHR): Masâsa (wrongly placed, on p. 20 under *Squalus carcharias major*).

Remarks: In his draft, FORSSKÅL clearly treated this as an unidentified species of *Squalus* which was called ‘Massasa’ at Jeddah and ‘Mafreka’ at Lohaja. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. ESCHMEYER (2007) also mentions a quotation by FORSSKÅL in NIEBUHR (1775: 20); the name ‘Massasa’ stated there in a description of *Squalus carcharias*, however, does not refer to this taxon. FABRICIUS in NIEBUHR used both Arabic names as species names, but it is clear from the context that he meant local names as well. Though accompanied by a diagnosis, two alternative species names are given by FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a), *Squalus massasa* or *mafreka*, which

means that the name(s) is/are not available. It was, however, subsequently made available as *Squalus messasa* Bonnatte [ex FORSSKÅL], 1788 (BONNATERRE 1788: 13). The species was considered as valid by WALBAUM (1792: 522). This name should be suppressed by the International Commission on Zoological Nomenclature.

## Carcharhinidae, indet.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIV): “*Squali* [*Squalus*] *carebar*.” (in listing of *Echeneis neucrates*, see Echeneidae).

Type locality: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Squalus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *carebar*.

Arabic name (Latinised, FORSSKÅL): Carebar.

Remarks: This species name is found in the listing of *Echeneis neucrates* (*naucrates*) as its host; no diagnosis is given, so the name is a numen nudum and not available. The author is FABRICIUS [ex FORSSKÅL] in NIEBUHR; the correct name would be *Squalus carebar* Fabricius [ex FORSSKÅL] in Niebuhr, 1775. It was not included in ESCHMEYER (2007). The species is unidentifiable within the family Carcharhinidae.

*Carcharhinus melanopterus* (Quoy & Gaimard, 1824)

FORSSKÅL in NIEBUHR (1775a: VIII): “19. SQUALUS CARCHARIAS. *Gersch*. [..., Arabic name]. α.) MINOR. *Alka* vel *Æas*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 20): “19. SQUALUS CARCHARIAS. (Arab. *Gersch* vel *Kersch* [..., Arabic name]. OBS. *Djiddæ* duæ Species simillimæ; his tantum notis invicem distinguendæ). *Minor*: *dentibus* microscopio inspectis, ...” [see also below under *Negaprion acutidens*].

Type locality: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Squalus*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): *carcharias minor*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Alka*, *Æas*.

Remarks: FORSSKÅL in NIEBUHR (1775a: 20) stated under the heading of *Squalus carcharias*, that at Jeddah two similar species occur, namely *minor* and *major*. The procedure of describing a new species under the heading of another is unusual; on p. VIII, he treats the two as varieties, but on p. 20 explicitly as separate species. Both of them are accompanied by diagnoses and valid available taxa of the species group; I here regard the two as subspecies. In the case of *minor*, the available name is *Squalus carcharias minor* Forsskål in Niebuhr, 1775. The species was considered as valid as *Squalus (Carcharias) minor* by WALBAUM (1792: 514). This is an unused senior synonym of *Carcharhinus melanopterus* Quoy & Gaimard, 1824, with the frequently used common name *Carcharhinus melanopterus*. According to ICZN, the unused older name can be disregarded. In order to stabilise the current usage of the species name, a petition to the International Commission on Zoological Nomenclature is needed to suppress the name *Squalus carcharias minor*.

*Negaprion acutidens* (Rüppell, 1837)

FORSSKÅL in NIEBUHR (1775a: VIII): “19. SQUALUS CARCHARIAS. *Gersch*. [..., Arabic name]. β) MAJOR. *Zyfa*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 20): “19. SQUALUS CARCHARIAS. Arab. *Gersch* vel *Kersch* [..., Arabic name]. OBS. *Djiddæ* duæ Species simillimæ; his tantum notis invicem distinguendæ. *Major*: *pinnis dors. immaculatis*, ...”.

Type localities: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia); “*Lohajæ*” (Al-Luhayya/Yemen).

Genus name: *Squalus*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): *carcharias major*.

Arabic names (Latinised, FORSSKÅL): Zyfa, Aeas (Lohaja), Jecore, Sife; (FABRICIUS in NIEBUHR): Aka, Aeas.

Remarks: FORSSKÅL in NIEBUHR (1775a: 20) stated under the heading of *Squalus carcharias*, that at Jeddah two similar species occur, namely *minor* and *major*. The procedure of describing a new species under the heading of another is unusual; on p. VIII, he treats the two as varieties, but on p. 20 explicitly as separate species. Both of them are accompanied by diagnoses and are available taxa; I here regard the two as subspecies. In the case of *major*, the available name is *Squalus carcharias major* Forsskål in Niebuhr, 1775. It was subsequently mentioned as *Squalus (Carcharias) major* by WALBAUM (1792: 514); this is not an independent subspecies/variety description as assumed by ESCHMEYER (2007). *Squalus carcharias major* Forsskål in Niebuhr, 1775 is apparently an unused senior synonym of *Carcharias acutidens* Rüppell, 1837 (RÜPPELL 1837: 65, pl. 18, fig. 3), with the frequently used name *Negaprion acutidens* (Rüppell, 1837). To retain the latter name, and suppress its unused senior synonym, will require a petition to the International Commission on Zoological Nomenclature.

#### Sphyrnidae – Hammerhead sharks

*Sphyrna* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SQUALUS] *zygaena*”.

Locality: “Melita” (La Valletta/Malta). Local name: “Il Marsel”.

Remarks: This is a name only in a list, and not assignable to species; the record could have been based on either *Sphyrna tudes* (Valenciennes, 1822) or *Sphyrna zygaena* (Linnaeus, 1758).

*Sphyrna mokarran* (Rüppell, 1837)

FORSSKÅL in NIEBUHR (1775a: X): “21. [SQUALUS] e) ZYGAENA, *Kornae* [..., Arabic name] vel *Mokarran*. *Mascatensibus* vocatur *Abu kott*. ...”.

Locality: – (Red Sea); “*Mascat*” (Muscat/Oman, 23°37'N 58°35'E). “*Rarum ad littora Arabiae*”.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Kornae*, *Mokarran*, *Abu kott*.

Remarks: This is a misidentification of *Sphyrna zygaena* (non Linnaeus, 1758). The locality ‘Mascat’ and Muscatese local name was evidently added by NIEBUHR, as FORSSKÅL never visited that city. This species was later described as *Zygaena mokarran* by RÜPPELL (1837: 66–67, pl. 17, fig. 3).

#### Oxynotidae – Rough sharks

*Oxynotus centrina* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SQUALUS] *centrina*”.

Locality: “Melita” (La Valletta/Malta).

#### Dalatiidae – Kitefin sharks

*Etmopterus spinax* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SQUALUS] *spinax*”.

Locality: “Melita” (La Valletta/Malta). Local Maltese names: “Il Chelp”, “Il Babar”.

Remarks: A note by FABRICIUS [ex Anonymus, FORSSKÅL] in NIEBUHR (1775a: XVIII) states that this species is identical with the species named by the Arabs ‘Kelb el Bahr’. However, FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: X) states that ‘Kelb el Bahr’ is identical with *Squalus canis marinus*, which is *Galeorhinus galeus* (Linnaeus, 1758). Apparently, FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XVIII) missed a species name here, and added the comment on ‘Kelb el Bahr’ to the wrong species name.

#### Squatinae – Angel sharks

*Squatina* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SQUALUS] *squatina*”.

Locality: “Melita” (La Valletta/Malta).

Remarks: This is a record of the Linnaean species *Squalus squatina*; it cannot be assigned to species level, as it could have been based on either *Squatina aculeata* Cuvier [ex Duméril], 1829, *Squatina oculata* Bonaparte, 1840, or *Squatina squatina* (Linnaeus, 1758).

#### Torpedinidae – Torpedo electric rays

*Torpedo torpedo* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: IX): “11. RAJA: a) TORPEDO? *Μεδιάσσα*. In. *Archipelago*”.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[RAJA] *torpedo*”.

Localities: “In archipelago” (Greek or Turkish islands in the Aegean Sea); “Melita” (La Valletta/Malta).

Remarks: This record is based on *Torpedo torpedo* (Linnaeus, 1758); the other references by FORSSKÅL in NIEBUHR (1775: VIII, 15–16) are based on a misidentification of *Malapterurus electricus*. The name *Torpedo* of FORSSKÅL in NIEBUHR (1775a) cannot be considered as a new genus description, but is linked as a species name to the genus *Raja*. The first available description of the generic name *Torpedo* is by DUMÉRIL (1806).

#### Pristidae – Sawfishes

*Pristis* sp.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: X): “18. [SQUALUS] b) PRISTIS. ABU MINSCHAR, [..., Arabic name]. *Djiddæ*. *SCHÆKRA*, *Lohajæ*”.

Localities: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia); “*Lohajæ*” (Al-Luhayya/Yemen).

Genus name: *Squalus*.

Species/subspecies names (FORSSKÅL): *pristis*; (FABRICIUS in NIEBUHR): *pristis abu minschar* or *pristis schækra*.

Arabic names (Latinised, FORSSKÅL): *Abu Minschar*, *Schækra*. Remarks: In his draft, FORSSKÅL listed this species as *Squalus pristis* Linnaeus, 1758, together with two local Arabic names. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR used the Arabic name like subspecies names; however, as *abu minschar* is consisting of two words, it cannot be considered as an available subspecies name. Also, both species/subspecies names *Squalus pristis abu minschar* Fabricius [ex Forsskål] in Nie-

buhr, 1775 and *Squalus pristis schaeakra* Fabricius [ex Forsskål] in Niebuhr, 1775 are given without a diagnosis and are therefore invalid. Both are referable to either *Pristis pectinata* Latham, 1794 or *Pristis zijsron* Bleeker, 1851.

*Pristis pristis* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “SQUALUS *pristis*.”

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “Il Sia”.

Remarks: The actual vernacular Maltese name is “Sija” (Anonymus 2007b).

Rhinobatidae – Guitarfishes

“*Glaucostegus halavi* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: VIII): “18. [RAJA] e HALAVI: [..., Arabic name] rhinobates.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 19–20): “18. RAJA HALAVI. Arab. [..., Arabic name]”.

Type locality: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Raja*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *halavi*.

Arabic name (Latinised, FORSSKÅL): Halavi.

Remarks: In his draft, FORSSKÅL treated this species as *Raja* sp. with the Arabic name ‘halavi’. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR confused species name and Arabic name and used the latter as species name. The name is not binominal in FORSSKÅL’s version, but binominal in FABRICIUS in NIEBUHR’s version. Therefore, the authorship would be attributed to FABRICIUS [ex FORSSKÅL] in NIEBUHR. The name is accompanied by a diagnosis and description, and would be available as *Raja halavi* Fabricius [ex Forsskål] in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 5) and WALBAUM (1792: 535); the actual name would be *Glaucostegus halavi* (Fabricius [ex Forsskål] in Niebuhr, 1775) (see also ESCHMEYER 2007), with the authorship pending a decision of ICZN.

*Rhynchobatus djiddensis* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: VIII): “17. [RAJA] d) DJIDDENSIS: maxima. *Rgêt*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 18–19): “17. RAJA DJIDDENSIS; *caudæ pinna biloba; oculorum ordine initio dorsi triplici, dein simplici; pinna dorsi prima supra pinnas ventrales*.”

Type localities: “*Djiddæ* in Mari rubro” (Jeddah, Juddah/Saudi Arabia); “Perhibetur, illam alia non frequentare littora quam Arabiae Hedsjâs; haud vero ad *Sués*” (Suez, As-Suways/Egypt) “vel *Móchham*” (Al-Mukhā/Yemen) “videri; quod vix crediderim, quum mihi *Lohajæ*” (Al-Luhayya/Yemen) “obveniebat.”

Genus name: *Raja*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *djiddensis*.

Arabic names (Latinised, FORSSKÅL): *Rgêt*; (FABRICIUS in NIEBUHR): *Rget*, *Bokhát* (Lohaja), *Aerâb*.

Remarks: This species was described binominally with a valid scientific species name by FORSSKÅL, with no change by FABRICIUS in NIEBUHR, so the author is FORSSKÅL in NIEBUHR, and the name is available. It is available as *Raja djiddensis* Forsskål in Niebuhr, 1775 (treated as a valid species since BONNATERRE 1788: 5 and WALBAUM 1792: 534–535). BLOCH & SCHNEIDER (1801: 356) misspelled the name as *Rhinobatus*

*djiddensis*, and RÜPPELL (1829: 54–55) as *Rhinobatus djiddensis*.

Rajidae – Skates

Rajidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[RAJA] *mus marinus*. (piscis novus).”

Locality: “Melita” (La Valletta/Malta).

Remarks: This new species name is not binominal (ICZN, Art. 5), and a nomen nudum, as it is neither accompanied by a diagnosis, nor a description or an indication; the name cannot be assigned to a species, and is not available.

*Dipturus batis* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[RAJA] *batis*.”

Locality: “Melita” (La Valletta/Malta).

Dasyatidae – Whiptail stingrays

Dasyatidae, indet.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: IX): “15. [RAJA] e) SCHOUKIE *Djiddæ*. *Aculeis remotiusculis*. E pelle hujus Rajae conficiuntur in urbe *Suaken* *Vaginæ gladiatorum*.”

Type localities: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia); “*Suaken*” (Sawākin/Sudan, 19°07'N 37°20'E).

Genus name: *Raja*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *schoukie*.

Arabic name (Latinised, FORSSKÅL): Schoukie.

Remarks: FORSSKÅL treated this species as an unidentified species of *Raja* with the Arabic name ‘Schoukie’; NIEBUHR, however, used the Arabic name as a species name. The name is binominal, accompanied by a diagnosis, and therefore would be available as *Raja schoukie* Fabricius [ex Forsskål] in Niebuhr, 1775, with the authorship pending a decision of ICZN. It was considered as valid by WALBAUM (1792: 536), and misspelled as *Raja schoukia* by BONNATERRE (1788: 6). The record from Suaken (Sawakin/Sudan) is not based on a specimen, but on an information either FORSSKÅL or NIEBUHR probably received in Jeddah. This species is listed as *Raja schoukie* by BLOCH & SCHNEIDER (1801: 368–369) under ‘species non determinandae’ (undetermined species).

*Dasyatis* sp.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: IX): “13. [RAJA] c) ARNAK *Lohajæ*. *Dentibus granulatis; corpore orbiculato, argenteo; cauda tereti; apterygia, spinis duabus*.”

Type locality: “Lohajæ” (Al-Luhayya/Yemen).

Genus name: *Raja*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *arnak*.

Arabic name (Latinised, FORSSKÅL): Arnak.

Remarks: This is not a misspelling for ‘uarnak’, but a separate species, as noted by FABRICIUS in NIEBUHR (1775a: IX) in the diagnosis of *Raja ommescherit*. In his draft, FORSSKÅL treated this species as an unidentified species of *Raja* with the Arabic name ‘Arnak’. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS, however, used the Arabic name as a species name. The name is binominal, accompanied by a diagnosis and would therefore be available as *Raja arnak* Fabricius [ex Forsskål] in Niebuhr, 1775, with the authorship pending a decision of



ICZN. The species was treated as valid by WALBAUM (1792: 536) and BLOCH & SCHNEIDER (1801: 364–365). It is not identifiable within the genus *Dasyatis*.

*Dasyatis pastinaca* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[RAJA] *pastinaca*.”

Locality: “Melita” (La Valletta/Malta).

*Himantura uarnak* (Gmelin [ex Forsskål], 1789)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: VIII): “16. [RAJA] c) SEPHEN: [..., Arabic name] β *Uarnak*; [..., Arabic name] cauda apterygia.”

FORSSKÅL in NIEBUHR (1775a: 18): “16. b.) RAJA. Arab. *Uárnak*, [..., Arabic name] similis descriptæ [*Raja sephen*], sed tota maculata, spina una vel duplici in cauda, quæ apterygia.”

GMELIN [ex FORSSKÅL] (1789: 1509–1510): “(RAJA) *Uárnak*. γ) *Raja* tota maculata. *Forsk.* Fn. arab. p. 18. ...”

Type locality: – (Red Sea).

Genus name: *Raja*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): –.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Uárnak*.

Remarks: In his draft, FORSSKÅL treated this species as a variety of the *Raja* sp. with the Arabic name ‘sephen’, but with a different local name ‘uárnak’. FABRICIUS in NIEBUHR did the same and noted ‘Uárnak’ as the local Arabic name; the name *arnak* he used in one version is a separate species (see above). The name is neither available from FORSSKÅL’s nor from FABRICIUS in NIEBUHR’s versions (indicated by italics and is clearly intended to be a local Arabic name rather than a species name, in the version on p. 18 even indicated with ‘Arab.’ as Arabic name). Therefore, the authorship of the name rests with FORSSKÅL in NIEBUHR (no change in interpretation from FORSSKÅL to FABRICIUS in NIEBUHR), but the name is not available as no scientific species name was given except *Raja sephen* and a local Arabic name. The first author using the name *Raja uarnak* in a correct binominal way was GMELIN [ex FORSSKÅL] (1789: 1509–1510), who is therefore the valid author of the species name. A previous author, BONNATERRE (1788: 4) only named this species as “L’Uarnak”, without proposing a scientific name. The currently used name of the species is *Himantura uarnak* (Gmelin [ex Forsskål], 1789). The species was subsequently mentioned as *Raja Uárnak* (spelled *Raja uarnata* in the index on p. 713) by WALBAUM (1792: 534, 713); the latter is not an independent species description, but a spelling error.

*Himantura uarnak* (Gmelin [ex Forsskål], 1789)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: IX): “12. [RAJA] b) OMM ES SCHERIT: [..., Arabic name] Cauda tereti, maculata: Piscis simillimus Rajis Uarnak & Arnak.”

Type locality: – (Red Sea).

Genus name: *Raja*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *omm es scherit*.

Arabic name (Latinised, FORSSKÅL): *Omm es scherit*.

Remarks: In his draft, FORSSKÅL treated this species as an unidentified species of *Raja* with the Arabic name ‘omm es scherit’. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR, however, used the Arabic name as species name. As the species name is made up of three words, the name is not binominal and thus not available (ICZN, Art. 5). ESCHMEYER (2007) treated this species as available and used the combined name

*Raja ommescherit*, within the family Dasyatidae. This species was subsequently described as *Raja Scherit* by BONNATERRE [ex FORSSKÅL] (1788: 6), which is available; as this name is a junior synonym of and would threaten the frequently used name *Himantura uarnak* (Gmelin [ex Forsskål], 1789), a petition to the International Commission on Zoological Nomenclature will be necessary to suppress the unused name *Raja scherit* Bonnaterre [ex Forsskål], 1788. – This species was mentioned with the new name *Raja ommescherit* by BLOCH & SCHNEIDER (1801: 368); this, however, cannot be considered as a species description, as BLOCH & SCHNEIDER listed it under ‘species non determinandae’.

“*Pastinachus sephen* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: VIII): “16. [RAJA] c) SEPHEN: [..., Arabic name] α) pterouros, aculeis caudæ serratis.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 17–18): “16. RAJA SEPHEN; *corpore suborbiculato; cauda duplo longiore subtus alata, supra aculeis duobus longis, utrinque serratis*.”

Type locality: “*Djiddæ* in Mari rubro” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Raja*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *sephen*.

Arabic names (Latinised, FABRICIUS in NIEBUHR): *Saefaen*, *Syfen*, *Sif*.

Remarks: In his draft, FORSSKÅL treated this species as *Raja* sp. with the Arabic name ‘sephen’. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR confused scientific and Arabic names and used the latter as species name. The name is not binominal in FORSSKÅL’s version, but binominal in FABRICIUS in NIEBUHR’s version (who changed the Arabic name from ‘Saephaen’ or ‘Syfen’ to *sephen*). Therefore, the authorship would be attributed to FABRICIUS [ex FORSSKÅL] in NIEBUHR. The name would be available as *Raja sephen* Fabricius [ex Forsskål] in Niebuhr, 1775, with the authorship pending a decision of ICZN. The species was treated as valid since WALBAUM (1792: 533–534). This species was re-named *Trigon forskalii* Rüppell, 1829 (RÜPPELL 1829: 53, pl. 13, fig. 2), which is a junior synonym of *Raja sephen*.

“*Taeniura lymma* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: VIII): “15. [RAJA] b) LYMMA. [..., Arabic name] caeruleo-maculata.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 17): “15. RAJA LYMMA. Arab. [..., Arabic name] *Corpore ovali, testaceo, maculis caeruleis; cauda pinnata aculeo uno*.”

Type locality: “*Ad urbem Lohajam* in Mari rubro” (Al-Luhayya/Yemen).

Genus name: *Raja*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *lymma*.

Arabic name (Latinised, FORSSKÅL): *Lymma*.

Remarks: In his draft, FORSSKÅL treated this species as *Raja* sp. with the Arabic name ‘lymma’. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR confused scientific and Arabic names and used the latter as species name. The name is not binominal in FORSSKÅL’s version, but binominal in FABRICIUS in NIEBUHR’s version. Therefore, the authorship would be attributed to FABRICIUS [ex FORSSKÅL] in NIEBUHR. The name would be available as *Raja lymma* Fabricius [ex Forsskål] in Niebuhr,

1775, with the authorship pending a decision of ICZN. It was treated as valid since WALBAUM (1792: 533), but misspelled *Raja lymnia* by BONNATERRE (1788: 5), and *Raja lymna* by BLOCH & SCHNEIDER (1801: 365).

#### Gymnuridae – Butterfly rays

*Gymnura altavela* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “RAJA altavela.”

Locality: “Melita” (La Valletta/Malta).

#### Myliobatidae – Eagle rays

*Aetobatis narinari* (Euphrasen, 1790)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: IX): “16. [RAJA] f MULA [..., Arabic name] pelagica. *Djiddæ*, rarior. Cauda tereti, variegata: ventre niveo: aculeo caudæ admodum nocivo. Nocturno tempore propius ad littora venit.”

Type locality: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Raja*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *mula*.

Arabic name (Latinised, FORSSKÅL): Mula.

Remarks: In his draft, FORSSKÅL treated this species as an unidentified species of *Raja* with the Arabic name ‘Mula’, and did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR, however, used the Arabic name as a species name. The name is binominal, accompanied by a diagnosis and therefore would be available as *Raja mula* Fabricius [ex Forsskål] in Niebuhr, 1775, with the authorship pending a decision of ICZN; the species was treated as valid by BONNATERRE (1788: 6) and WALBAUM (1792: 536). *Raja mula* is an unused senior synonym of *Raja narinari* Euphrasen, 1790. The name *Raja mula* is rejected, in accordance with Art. 23.2 and the preamble of ICZN; an application to the International Commission on Zoological Nomenclature will be necessary to retain the name *Raja narinari*, which is considered as a valid species, with the currently used name *Aetobatis narinari* (Euphrasen, 1790).

*Aetobatis narinari* (Euphrasen, 1790)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: IX): “14. [RAJA] d) TAJARA. [..., Arabic name] *Djiddæ*. HÖRRAEKA: Lohajæ. Cauda tereti; ventre niveo. Capta, vehementer pinnis verberat.”

Type localities: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia); “Lohajæ” (Al-Luhayya/Yemen).

Genus name: *Raja*.

Species names (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *tajara* or *hoerraeka*.

Arabic names (Latinised, FORSSKÅL): *Tajara*, *Hörraeka*.

Remarks: In his draft, FORSSKÅL treated this species as an unidentified species of *Raja* with two different Arabic names, ‘*Tajara*’ at Jeddah and ‘*Hörraeka*’ at Al-Luhayya. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR, however, used the Arabic names as two alternative species names, but had only a single diagnosis for them; he did not decide which of the two names to choose as species name. Therefore, we are left with a species name *Raja tajara hoerraeka*, which is not binominal and therefore not available (ICZN, Art. 5). The species

was subsequently described as *Raja Tajara* Bonnaterre [ex Forsskål], 1788 (BONNATERRE 1788: 6; treated as valid by WALBAUM 1792: 536), which is available, and a senior synonym of *Raja narinari* Euphrasen, 1790. The species is named *Aetobatis narinari* (Euphrasen, 1790) under current usage. To preserve the stability of nomenclature, it will be necessary to petition the International Commission on Zoological Nomenclature to suppress the name *Raja tajara* Bonnaterre [ex Forsskål], 1788.

*Myliobatis aquila* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[RAJA] aquila.”

Locality: “Melita” (La Valletta/Malta).

#### Acipenseridae – Sturgeons

*Acipenser sturio* Linnaeus, 1758

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “ACIPENSER sturio.”

Locality: “Melita” (La Valletta/Malta).

*Huso huso* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[ACIPENSER] huso.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is a very interesting record of the species from Malta. From records in the early 20<sup>th</sup> century, the species was known to be endemic to the Caspian Sea, Black Sea and Aegean Sea and adjacent watersheds. Though the species spawns in fresh water habitats which are not available in Malta, adults of the Aegean Sea population would have been capable of dispersing through the Mediterranean Sea towards Malta. The species may have been more widespread around the eastern Mediterranean in the past. Today, it is critically endangered in Turkish Black Sea (FRICKE et al. 2007: 22), and extinct in the Aegean Sea (and the Mediterranean).

#### Actinopterygii – Ray-finned fishes

Actinopterygii, incertae sedis

FORSSKÅL in NIEBUHR (1775a: XIII): “105. [CYPRINUS] c) LEUCISCUS: *Abu grymbi*.”

FORSSKÅL in NIEBUHR (1775a: 71): “105. CYPRINUS LEUCISCUS; (LINN.) *cauda subæquali*, P. D. & A. *ovatis*. ...”

Material: ZMUC P.261686 (1 dry skin).

Localities: “*DJIDDÆ*” (Jeddah, Juddah/Saudi Arabia); “LOHAJÆ” (Al-Luhayya/Yemen).

Remarks: This is a misidentification of *Cyprinus leuciscus* (non Linnaeus, 1758) [currently used name *Leuciscus leuciscus* (Linnaeus, 1758)], a species restricted to temperate freshwater habitats of Europe and western Asia; the record is unplaceable within the Actinopterygii. – FORSSKÅL in NIEBUHR (1775a: 71) described two varieties of this species; they were, however, not named, except for ‘*unus*’ (the one) and ‘*alter*’ (the other). *Cyprinus leuciscus unus* and *Cyprinus leuciscus alter* (as listed by ESCHMEYER 2007) cannot be regarded as species names.

Actinopterygii, incertae sedis

FORSSKÅL in NIEBUHR (1775a: XVII): “56. DAREDJ ET TIN [..., Arabic name] (obscurus) Est Hebræorum תַּחַךְ”.

Locality: – (Red Sea).

Remarks: This is an Arabic and a Hebrew name without a genus,

a diagnosis or description. The name is therefore not available as scientific name; it cannot be placed within the Actinopterygii.

Actinopterygii, incertae sedis

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “*ESOX lucius*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is a misidentification of *Esox lucius* (non Linnaeus, 1758), a species restricted to temperate freshwater habitats of the northern hemisphere; the record is unplaceable within the Actinopterygii.

Actinopterygii, incertae sedis

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “OSMERUS eperlanus.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is a misidentification of *Salmo eperlanus* (non Linnaeus, 1758), now named *Osmerus eperlanus*, a species restricted to the northeastern Atlantic, not occurring south of the Gironde estuary, western France; the record is unplaceable within the Actinopterygii.

Mormyridae – Elephantfishes

“*Mormyrus kannume* Forsskål in Niebuhr, 1775”

FORSSKÅL in NIEBUHR (1775a: XIII): “111. MORMYRUS KANNUME; [..., Arabic name] rostro prominente.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 74–75): “111. MORMYRUS KANNUME; *rostro decurvo, prominente: pinna D. lineari, longitudine corporis dimidii*.”

Type locality: “DAMIATAE” (Dumyāt/Egypt).

Genus name: *Mormyrus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *kannume*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Kannûme*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘kannume’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described *Mormyrus kannume* as a new species. The name is binominal, accompanied by a diagnosis and description, and would be available and valid as *Mormyrus kannume* Fabricius [ex Forsskål] in Niebuhr, 1775, with the authorship pending a decision of ICZN.

Elopidae – Tenpounders

“*Elops machnata* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “100. [ARGENTINA] b) MACHNATA; ossiculo maxillæ infer. *Machnat*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 68–69): “100. ARGENTINA MACHNATA; *lineari-lanceolata, membr. br. ultra 30 radios*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.17153 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 25, pl. 36; MØLLER 2006).

Genus name: *Argentina*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *machnata*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Machnat*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘machnat’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described *Argentina machnata* as a new species. The name is binominal, accompanied by a diagnosis and description, and would be available as *Argentina machnata* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Elops machnata* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 178) and WALBAUM (1792: 46–47).

Albulidae – Bonefishes

*Albula glossodonta* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XIII): “99. ARGENTINA a) GLOSSODONTA; lingua tuberculis osseis. *Bönuk* [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 68): “99. ARGENTINA GLOSSODONTA; *lingua basi tuberculis osseis dentata*.”

Type localities: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia); “LOHAJÆ” (Al-Luhayya/Yemen).

Type material: Syntype: ZMUC P.17152 (dry skin) (listed as holotype by KLAUSEWITZ & NIELSEN 1965: 25, pl. 36; MØLLER 2006; ESCHMEYER 2007).

Genus name: *Argentina*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *glossodonta*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Bönuk*.

Remarks: This species was listed by both FORSSKÅL and FABRICIUS in both the index and text as *Argentina glossodonta*. The name is binominal in both versions, accompanied by a diagnosis a description, and is therefore available as *Argentina glossodonta* Forsskål in Niebuhr, 1775. The species is considered as valid since WALBAUM (1792: 45–46, *Argentina glossodonta*). *Argentina bonuk* Lacepède [ex Forsskål], 1803 (LACEPÈDE 1803: 365–366, 368–369) was described as an unneeded replacement name for *Argentina glossodonta* Forsskål in Niebuhr, 1775; it is a junior synonym, though it was erroneously assigned to *Albula vulpes* (Linnaeus, 1758) by authors.

Anguillidae – Freshwater eels

*Anguilla anguilla* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XIV): “1. MURÆNA a) *anguilla*. *Αγγέλι*. Ar. *Tæjeban* [..., Arabic name]. vel *Hannaesch*.”

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “MURÆNA *anguilla*.”

Localities: – [“*Smirna et Constantinopoli*”] (İzmir/Turkey; İstanbul/Turkey); Alexandria? (Egypt); “Melita” (La Valletta/Malta).

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Tæjeban*, *Hannaesch*. Maltese name: “*Il Sallura*”.

Remarks: This is a Linnaean species listed by FORSSKÅL in NIEBUHR (1775a), based on *Muraena anguilla* Linnaeus, 1758. The actual vernacular Maltese name is “*Sallura*” (Anonymus 2007b).



## Muraenidae – Moray eels

*Echidna zebra* (Ahl, 1789)

FORSSKÅL in NIEBUHR (1775a: XIV, in part): “2. [MURÆNA] b) *ophis*. Lohajæ Far, Djiddæ Uz.”

Localities: “Lohajæ” (Al-Luhayya/Yemen); “Djiddæ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Muraena*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *ophis*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Far (Al-Luhayya), Uuz (Jeddah).

Remarks: This is a composite species, misidentified in part as *Muraena ophis* (non Linnaeus, 1758).

*Muraena helena* Linnaeus, 1758

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[MURÆNA] *serpens maculatus*.”

Locality: “Melita” (La Valletta/Malta). Maltese name: “Il muri-na”.

Remarks: This is a name only (nomen nudum), and therefore not available; according to the Maltese name, the record has been based on *Muraena helena* Linnaeus, 1758 (actual Maltese vernacular name “Morina”).

## Ophichthidae – Snake eels

*Echelus myrus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[MURÆNA] *myrus*.”

Locality: “Melita” (La Valletta/Malta).

*Ophichthus ophis* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XIV, in part): “2. [MURÆNA] b) *ophis*. Xέλι.”

Localities: – [“*Smirna et Constantinopoli*”] (İzmir/Turkey; İstanbul/Turkey).

Remarks: This is a composite species, based in part on *Muraena ophis* Linnaeus, 1758.

*Ophisurus serpens* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[MURÆNA] *serpens marinus*.”

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “Il serpt al báhar”.

Remarks: *Muraena serpens marinus* Forsskål [ex Anonymus] in Niebuhr, 1775 was described as a name only (nomen nudum), without a diagnosis, description or indication. It is therefore not an available name. The name was erroneously spelled *Muraena serpens marinis* by ESCHMEYER (2007). It is considered to be identical with *Ophisurus serpens* (Linnaeus, 1758). The actual vernacular Maltese name is “Serpt il-báhar halqu twil” (Anonymus 2007b).

## Muraenesocidae – Pike congers

*Muraenesox cinereus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: X): “2. [MURÆNA] b) CINEREA; suspecta. *Sjæga*. [..., Arabic name].”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 22): “2. MURÆNA TOTA CINEREA. Arab. *Sjæga* vel *Schæga* [..., Arabic name]. nomen cummune toti huic generi.”

Type locality: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.31250 (see KLAUSEWITZ & NIELSEN 1965: 13, pl. 1; MØLLER 2006).

Genus name: *Muraena*.

Species names (FORSSKÅL, FABRICIUS in NIEBUHR): *cinerea* or *tota cinerea*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Sjæga*, *Schæga*.

Remarks: This species was listed by FORSSKÅL in NIEBUHR (1775a: X) as *Muraena cinerea*, and then later (p. 22) described as *Muraena tota cinerea*, which is not binominal, but tied by the species code ‘2’ to p. X which is considered as the correct version and therefore available as *Muraena cinerea* Forsskål in Niebuhr, 1775. This species was subsequently described as *Muraena arabica* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 488) as an unneeded new name for *Muraena cinerea* Forsskål in Niebuhr, 1775; *Muraena arabica* is a junior synonym. The currently used name for the species is *Muraenesox cinereus* (Forsskål in Niebuhr, 1775) in the family Muraenesocidae. – This species was transferred to the genus *Conger* under the name *Conger cinereus* by RÜPPELL (1830: 115–116, pl. 29, fig. 1), which was not intended as an independent species description, but was a misidentification of *Muraena tota cinerea* of FORSSKÅL, as explicitly noted in the synonymy (RÜPPELL 1830: 115). The name *Conger cinereus* Rüppell, 1830 is therefore not available. GÜNTHER (1870: 38) treated the congrid species under the name *Conger marginatus* Valenciennes in Eydoux & Souleyet, 1850, with both FORSSKÅL’s *Muraena tota cinerea* and RÜPPELL’s *Conger cinereus* as questionable synonyms. The first available version of the name is *Conger cinereus* Klunzinger [ex Rüppell], 1871 described by KLUNZINGER (1871: 607–608), where RÜPPELL’s misidentification was treated as valid, with RÜPPELL as the author. This, however, causes serious problems, as *Conger flavipinnatus* Bennett, 1832, *Conger marginatus* Valenciennes in Eydoux & Souleyet, 1850, *Conger altipinnis* Kaup, 1856, and *Conger noordziekii* Bleeker, 1857 would all be senior synonyms. As the name *Conger cinereus* is of prevailing usage, I continue to use this name here, but an application to the International Commission on Zoological Nomenclature will be necessary to conserve this name and suppress the synonyms listed above. The currently used name is *Conger cinereus* Klunzinger [ex Rüppell], 1871, in the family Congridae. – FORSSKÅL in NIEBUHR (1775a: 22) named three varieties from Djiddah, *Muraena tota cinerea alba*, *M. tota cinerea flava*, and *M. tota cinerea rubra*. These are nomina nuda, as neither is accompanied by a diagnosis or indication; the names are not available.

## Congridae – Conger eels

*Conger conger* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[MURÆNA] *conger*.”

Locality: “Melita” (La Valletta/Malta).

## Engraulidae – Anchovies

*Engraulis encrasicolus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[CLUPEA] *encrasicolus*.”

Locality: “Melita” (La Valletta/Malta). Local name: “Il Sardella”.

*Stolephorus indicus* (Hasselt, 1823)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XVII): “45. [CLUPEA] e) *Schåleb* [..., Arabic name] quod nomen parum differt a voce *Slavon. Salåka*. Parva, digiti longitudine; ar-

gentea; utrinque vitta laterali fulva; dorso caeruleo. Vivam non vidi; sed deglutitam a Sombro reperi.”

Locality: – (Red Sea).

Material: No FORSSKÅL material extant.

Genus name: *Clupea*.

Species names (FORSSKÅL, FABRICIUS in NIEBUHR): *encrasicolus* or *baelama*?

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Láaf, Bælama, Sardin.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘schåleb’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described *Clupea schaleb* as a new species. ESCHMEYER (2007) listed the name erroneously as *Clupea schaleb* and gave the locality, also erroneously, as ‘Izmir and/or Istanbul, Turkey’. The Arabic name and the diagnosis, however, indicate that the species originated from the Red Sea. The name is binominal, accompanied by a diagnosis, and would be available as *Clupea schaleb* Fabricius [ex Forsskål] in Niebuhr, 1775, with the authorship pending a decision of ICZN. The name is a senior synonym of *Engraulis indicus* Hasselt, 1823, which is named *Stolephorus indicus* (Hasselt, 1823) under current usage. In order to stabilise this frequently used name, a petition to the International Commission on Zoological Nomenclature to suppress the name *Clupea schaleb* will be needed.

*Thryssa baelama* (Bloch & Schneider [ex Forsskål], 1801)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “107. [CLUPEA] b) ENCRASICOLUS. *Bælama*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 72): “107. CLUPEA BÆLAMA, ENCRASICOLUS? DESCR. *Corpus lanceolatum, digito longius: dig latum altum: compressum, argenteum: dorso fusco: ...*.”

Locality: – (Red Sea).

Material: No FORSSKÅL material extant.

Genus name: *Clupea*.

Species names (FORSSKÅL, FABRICIUS in NIEBUHR): *encrasicolus* or *baelama*?

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Láaf, Bælama, Sardin.

Remarks: FORSSKÅL misidentified this species as *Clupea encrasicolus* (non Linnaeus, 1758) in his index, and was undecided in the text whether this was a new species for which he used the substitute name ‘bælama’, or if it was *C. encrasicolus*. Though FABRICIUS in NIEBUHR (1775a) used the name *Clupea baelama*, *encrasicolus*? in the text, he did not clearly decide if this was a new species or not. Therefore, the name *Clupea baelama* Fabricius in Niebuhr, 1775 is not available (ICZN, Art. 11.5). GMELIN (1789: 1407) referred to *Clupea Baelama* in the synonymy of *Clupea setirostris*; the name is not available from this description either. WALBAUM (1792: 42) copied FORSSKÅL’s description and named the species ‘*Clupea baelama* an *Encrasicolus*’, which is not available for the same reason as FORSSKÅL’s description. The first available version of the name is *Clupea baelama* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 429). The species is valid within the family Engraulidae, with the currently used name *Thryssa baelama* (Bloch & Schneider [ex Forsskål], 1801). The species name was misspelled *Engraulis boelama* by KLUNZINGER (1871: 507). BROUSSONET’S (1782: 39–41) description of *Clupea setirostris* was based in part on the description of *Clupea encrasicolus*, *baelama* by FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a). With the lectotype designa-

tion by FRICKE (1999: 78), that species was restricted to the currently named *Thryssa setirostris* (Broussonet, 1782), with Tanna/Vanuatu as the type locality.

## Chirocentridae – Wolf herrings

“*Chirocentrus dorab* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “108. [CLUPEA] c) DORAB; dentex. *Lysan Dorab*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 72–73): “108. CLUPEA DORAB; *pinnis ventralibus minutis, labio superiori dentibus porrectis bicorni; inferiori longiori, dentibus validioribus, erectis*.”

Type localities: “DJIDDAE” (Jeddah, Juddah/Saudi Arabia); “MOCHHAE” (Al-Mukhā/Yemen).

Genus name: *Clupea*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *dorab*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR):

*Lysan* (Jeddah), *Machnat* or *Dorab* (Al-Mukhā).

Remarks: In his draft, FORSSKÅL used the Arabic name ‘dorab’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described *Clupea dorab* as a new species. The name is binominal, accompanied by a diagnosis and description, and would be available as *Clupea dorab* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Chirocentrus dorab* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid by BONNATERRE (1788: 187). *Clupea dentex* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 428–429) is a junior synonym of *Clupea dorab*.

## Clupeidae – Herrings

Clupeidae, indet.

FORSSKÅL in NIEBUHR (1775a: XVII): “41. CLUPEA a) *harengus*. *Αρεγγα*.”

Locality: Western Turkey or Greek Aegean islands.

Remarks: This record is based on a misidentification of *Clupea harengus* (non Linnaeus, 1758), a species which is restricted to the northwestern and northeastern Atlantic. FORSSKÅL’s material was based on an unidentified clupeid fish species.

Clupeidae, indet.

FORSSKÅL in NIEBUHR (1775a: XVII): “43. [CLUPEA] c) *Γώνος*.”

Locality: Western Turkey or Greek Aegean islands.

Remarks: This is not a valid species group name, as it was given only in Greek characters. The name is neither accompanied by a indication, diagnosis or description, and is not available. It cannot be placed within the family Clupeidae.

*Alosa agone* (Scopoli, 1786)

FORSSKÅL in NIEBUHR (1775a: XVII, part): “42. [CLUPEA] b) *alosa*. *Σαρδέλλα* vel *Σαυριδηπόλαμῦ*. Turc. *Sardella-balük*. Arab. *Sigbboga*. *Macula nigra pone branchias; pinnæ D. & C. albidæ, apice nigræ*.”

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “CLUPEA *alosa*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: These records are based in part on a name only, in part on a short diagnosis, misidentified as *Clupea alosa* (non Linnaeus, 1758). The diagnosis clearly refers to *Alosa agone*.

Judging from the Turkish name, however, other species were included under the name *Clupea alosa* as well; the name ‘Sardalya’ refers to species of sardines (FRICKE et al. 2007), i. e. *Sardina pilchardus* (Walbaum, 1792), *Sardinella aurita* (Valenciennes in Cuvier & Valenciennes, 1847) and *Sardinella maderensis* (Lowe, 1838).

*Amblygaster sirm* (Walbaum [ex Forsskål], 1792)

FORSSKÅL in NIEBUHR (1775a: XVII): “44. [CLUPEA] d) *charact. harengi*; sed minor. Arab. *Sirm*. [..., Arabic name] Maxilla inferiore longiore; corpore tripollicari; macula aurea pone oculos. Rad. B. 8. D. 19. P. 16. V. 8. A. 17. C. 18.”

Locality: – (Red Sea).

Material: No FORSSKÅL material extant.

Remarks: FORSSKÅL in NIEBUHR’S (1775a: XVII) note on *Clupea* sp. d is the basis for the description of *Clupea Sirm* by WALBAUM [ex FORSSKÅL] (1792: 38) as a variety of *Clupea harengus*, i. e. *Clupea harengus sirm*, which is now named *Amblygaster sirm* (Walbaum [ex Forsskål], 1792). It is uncertain if the basis of this note was really *A. sirm*, as judging from the colour description it may well have been *Herklotsichthys quadrimaculatus* (Rüppell, 1837). No type material of *Clupea harengus sirm* Walbaum [ex Forsskål], 1792 is known. It would therefore be advisable to describe a neotype for the species.

#### Chaniidae – Milkfishes

“*Chanos chanos* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIV): “110. [MUGIL] b) CHANOS; pinna D. unica. *Anged*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 74): “110. MUGIL CHANOS; pinna dorsi unica; p. caudæ utrinque bi-alata.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.17154 (1 dry skin) (see KLAUSEWITZ & NIELSEN 1965: 26, pl. 37; MÖLLER 2006).

Genus name: *Mugil*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *chanos*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Anged*; Turkish name of variety ‘b’: Chani.

Remarks: In his draft, FORSSKÅL used the Turkish name ‘chani’ as a substitute for a Latin name possibly to be selected for his variety ‘b’. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) confused the two varieties, and described *Mugil chanos* as a new species for the variety ‘a’. The name is binominal, accompanied by a diagnosis and description, and would be available as *Mugil chanos* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Chanos chanos* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 180–181) and WALBAUM (1792: 227–228). It was subsequently re-named *Chanos arabicus* Lacepède [ex Forsskål], 1803 (LACEPÈDE 1803: 395, 396), which is available, but a junior synonym of *Mugil chanos*. – ESCHMEYER (2007) erroneously gave ZMUC P.17154 as a syntype, and added ZMUC P.17151 as a further syntype. The latter specimen, however, is not a FORSSKÅL specimen, but a *Denticeps clupeoides* Clausen, 1959 from West Africa, collected in 1958, according to the ZMUC database (<http://zoologi.snm.ku.dk/samlinger/vertebrates/dokument3/>). – The Turkish name ‘chani’ leads to the suspicion that this may be a composite species, based in part on Turkish Mediterranean material which would belong to a different family.

In Turkey, several serranid fish species have the actual name ‘hani’ (FRICKE et al. 2007). For the sake of the stability of nomenclature, I here treat the species as if exclusively based on the Red Sea syntypes, ignoring possible Mediterranean origins of the name.

#### Cyprinidae – Minnows and carps

“*Barbus bynni* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “103. CYPRI-NUS a) BYNNI; niloticus. *Bynni*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 71): “103. CYPRI-NUS BYNNI; pinna dorsali radiis 13; tertio crasso, corneo.”

Type locality: “Niloticus” (River Nile/Egypt).

Type material: Neotype: BMNH 1907.12.2.1230 from Nile/Egypt; designation by BANISTER (1973: 27).

Genus name: *Cyprinus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *bynni*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Bynni*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘bynni’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described *Cyprinus bynni* as a new species. The name is binominal, accompanied by a diagnosis and description, and would be available as *Cyprinus bynni* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Barbus bynni* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species is considered as valid since WALBAUM (1792: 22–23, *Cyprinus Bynni*). This name was misspelled as *Cyprinus binny* by LACEPÈDE (1803: 490, 530).

*Labeo vulgaris* Heckel, 1847

FORSSKÅL in NIEBUHR (1775a: XIII): “104. [CYPRI-NUS] b) NILOTICUS. *Lebes* [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 71): “104. CYPRI-NUS NILOTICUS. Arab. *Lebés*. [..., Arabic name]”.

Locality: “Niloticus” (River Nile/Egypt).

Type material: Neotype: BMNH 1907.12.2.1074, as designated by REID (1985: 61); neotype designation invalid, as the species is objectively invalid.

Remarks: This is not an independent new species description, but is based on *Cyprinus niloticus* Linnaeus, 1758. Though this species was incorrectly treated as valid as *Labeo niloticus* (Forsskål, 1775) by LÉVÊQUE & DAGET (1984: 316) and others, that name is invalid. The first subsequent usage of FORSSKÅL’S version of the name *Cyprinus niloticus* is by GEOFFROY SAINT-HILAIRE (1809: pl. 9, fig. 2) (description by GEOFFROY SAINT-HILAIRE 1827: 282–286, *Cyprinus niloticus*), but this is neither available as it is indirectly based on the Linnaean species. Other authors directly referred to the Linnaean species *Cyprinus niloticus* (e. g. WALBAUM 1792: 23). *Labeo vulgaris* Heckel, 1847 (HECKEL 1847: 303, pl. 20, fig. 3) is the first available name for this species.

#### Citharinidae – Citharinids

*Distichodus nefasch* (Bonnaterre [ex Forsskål], 1788)

FORSSKÅL in NIEBUHR (1775a: XIII): “[97. SALMO] β) *niloticus*. *Rai*.”

FORSSKÅL in NIEBUHR (1775a: 66): “97. b) SALMO NILOTICUS,



*Linn. est Arabum Rai: rad. D. 9. adeoque diversissimus ab Hasselquistii qui est Ægyptiorum NEFASCH. M. br. ossibus 4. R. D. 23. dorso virescente: dentibus maxillæ infer. majoribus P. C. basi squamata: ...*

Type locality: – (Nile/Egypt).

Remarks: This is not an independent species description, but explicitly refers to *Salmo niloticus* (non Linnaeus, 1758) of HASSELQUIST (1762), which is treated by authors as a valid species of characid fishes, with the name *Distichodus niloticus* (Hasselquist, 1762). This name, however, is not attributable to HASSELQUIST (1762) as this is a rejected work [see Anonymus (1914, 1956), MELVILLE & SMITH (1987: 330)]. Furthermore, neither HASSELQUIST'S nor FORSSKÅL'S version can be considered as an independent new species description, but both are misidentifications of the Linnaean species *Salmo niloticus*. The first available name for this species is *Salmo nefasch* Bonnaterre [ex Forsskål], 1788 (BONNATERRE 1788: 169); the obligatory name is therefore *Distichodus nefasch* (Bonnaterre [ex Forsskål], 1788). – The species was subsequently described as *Salmo aegyptius* Gmelin [ex Hasselquist, Forsskål], 1789 (GMELIN 1789: 1386); this is a junior synonym of *Salmo nefasch* Bonnaterre [ex Forsskål], 1788. The species name was erroneously spelled *Salmo aegyptiacus* by WALBAUM (1792: 83).

#### Alestiidae – African tetras

*Hydrocynus forskahlii* (Cuvier, 1819)

FORSSKÅL in NIEBUHR (1775a: XIII): “97. SALMO α) *dentex*. *Roschål* [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 66): “97. SALMO, Arab. ROSCHAL, [..., Arabic name] *pinnis albidis: caudæ dimidio inferiore rubro: colore argenteo*. OBS.: *Est Hasselquistii Salmo dentex; quem Linn. ad Cyprinum rejecit: quamvis huc jure referendus. ...*”.

Locality: – (Nile/Egypt).

Remarks: This is not an independent species description, but explicitly refers to and is a misidentification of *Cyprinus dentex* Linnaeus, 1758, which has the currently used name *Alestes dentex* (Linnaeus, 1758). ‘Roschål’ is explicitly meant as the local Arabic name, not as a species or subspecies name. *Salmo dentex* Hasselquist, 1762 (HASSELQUIST 1762: 437) [considered by ESCHMEYER 2007 as not available, as published in a rejected work, see Anonymus (1914, 1956), MELVILLE & SMITH (1987: 330)], was not an independent species description, but just a new generic allocation of *Cyprinus dentex* Linnaeus, 1758. The first available name for this species is *Salmo roschal* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 81–82, as *Salmo Roschal*), which is based on FORSSKÅL in NIEBUHR'S (1775a) description of *Salmo dentex*. It is a senior synonym of *Hydrocyon forskahlii* Cuvier, 1819 (CUVIER 1819: 354, pl. 28, fig. 1), which is currently named *Hydrocynus forskahlii* (Cuvier, 1819) (see PARENTI in ESCHMEYER 2007). In order to preserve stability of nomenclature, a petition to the International Commission on Zoological Nomenclature will be needed to suppress the name *Salmo roschal* Walbaum [ex Forsskål], 1792.

#### Mochokidae – Upside-down catfishes

*Synodontis clarias* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XVI): “36 [SILURUS] c) *clarias*. Arab. *Schilân*. [..., Arabic name]”.

Locality: – (Nile/Egypt).

Remarks: This record is based on the Linnaean species *Silurus*

*clarias*, which is valid, with the currently used name *Synodontis clarias* (Linnaeus, 1758). The *Pimelodus clarias* or ‘Scheilan’ of GEOFFROY SAINT-HILAIRE (1809: pl. 13, figs. 3–4; 1827: 299–300) is not an independent species description, as assumed by ESCHMEYER (2007), but is a misidentification of *Silurus clarias* Linnaeus, 1758 [to which GEOFFROY SAINT-HILAIRE (1827: 299) explicitly referred], which was confused with and based on *Synodontis schall* (Bloch & Schneider, 1801).

#### Malapteruridae – Electric catfishes

*Malapterurus electricus* (Gmelin [ex Forsskål], 1789)

FORSSKÅL in NIEBUHR (1775a: VIII): “14. RAJA a) TORPEDO. *Rasch*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 15–16): “14. RAJA TORPEDO: *pinna dorsali adiposa, corpore nigro maculato, cirrhis oris sex*.”.

Locality: “In Nilo inferiori rarius: mihi obveniebat in pago Benha el ásal ad Nilum jacenti” (River Nile, at Banhã/Egypt, 30°28'N 31°11'E).

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Raasch.

Remarks: This record is based on a misidentification of *Raja torpedo* (non Linnaeus, 1758). The *Torpedo torpedo* (Linnaeus, 1758) of current usage is a marine species that does not enter brackish water. The species was re-named *Silurus electricus* (Gmelin [ex Forsskål], 1789) (GMELIN 1789: 1354); it is now considered as valid as *Malapterurus electricus* (Gmelin [ex Forsskål], 1789).

#### Plotosidae – Eeltail catfishes

*Plotosus lineatus* (Thunberg, 1787)

FORSSKÅL in NIEBUHR (1775a: XVI): “36. [SILURUS] d) Arab. *Boa vel Buja*. [..., Arabic name] *Mocchæ*.”.

Type locality: “*Mochhæ*” (Al-Mukhã/Yemen).

FORSSKÅL material: ZMUC P.28555 (dry skin). No types known (see KLAUSEWITZ & NIELSEN 1965: 24).

Genus name: *Silurus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): –.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Boa*, *Buja*.

Remarks: ESCHMEYER (2007) listed the name of this species as *Silurus arab* Forsskål, 1775, but the first valid description is by BLEEKER [ex FORSSKÅL] (1862: 111) as *Plotosus arab*. ‘Arab.’, however, is not a species name, but the abbreviation for ‘Arabic’, indicating that ‘Boa’ or ‘Buja’ are the Arabic names. This is clearly intended to be a *Silurus* sp., not a new species description. Therefore, the name *Silurus arab* is not available out of FORSSKÅL in NIEBUHR'S (1775a) description, but as *Plotosus arab* Bleeker [ex Forsskål], 1862. FORSSKÅL'S record is based on the species *Plotosus lineatus* Thunberg, 1787, and *Plotosus arab* Bleeker [ex Forsskål], 1862 is a junior synonym of that species.

#### Clariidae – Airbreathing catfishes

*Clarias anguillaris* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XVI): “34. [SILURUS] b) *anguillaris*. Arab. *Harmuth*.”.

Locality: – (Nile/Egypt).

Remarks: This record is based on the Linnaean species *Silurus anguillaris*, which is valid, with the currently used name *Clarias anguillaris* (Linnaeus, 1758).

## Schilbeidae – Schilbeid catfishes

*Schilbe mystus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XVI): “33. SILURUS a) *mystus*. Arab. *Schilbæ* [..., Arabic name]”.

Locality: – (Nile/Egypt).

Remarks: This record is based on the Linnaean species *Silurus mystus*, which is valid, with the currently used name *Schilbe mystus* (Linnaeus, 1758).

## Bagridae – Bagrid catfishes

*“Bagrus bajad* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “95. [SILURUS] b) BAJAD; [..., Arabic name] niloticus.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 66): “95. SILURUS BAJAD; *pinna dorsali postica adiposa; cirrhis 8.*”.

Type locality: “In *Nilo*” (River Nile/Egypt).

Genus name: *Silurus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *bajad*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Bajād*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘bajad’ or ‘bajād’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described *Silurus bajad* as a new species. The name is binominal, accompanied by a diagnosis and description, and would be available as *Silurus bajad* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Bagrus bajad* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The name was considered as valid since WALBAUM (1792: 569). It was subsequently misspelled *Porcus bayad* by GEOFFROY SAINT-HILAIRE (1809: pl. 15, figs. 1–2; 1827: 303).

*“Bagrus docmak* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “94. SILURUS a) DOCMAK; radio osseo. *Doqmâq*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 65): “94. SILURUS DOCMAK; *pinna dorsali postica adiposa, ani radiis decem, branch. 2 cirrhis octo.*”.

Type locality: “In *Nilo inferiori ad Deltam*” (Nile Delta/Egypt).

Genus name: *Silurus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *docmak*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Doqmâk*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘docmak’ or ‘doqmâk’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described *Silurus docmak* as a new species. The name is binominal, accompanied by a diagnosis and description, and would be available as *Silurus docmak* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Bagrus docmak* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was considered as valid since WALBAUM (1792: 572). The name was subsequently misspelled as *Silurus docmac* by BLOCH & SCHNEIDER (1801: 388) and other authors.

## Synodontidae – Lizardfishes

*Synodus saurus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[OSMERUS] *saurus.*”.

Locality: “Melita” (La Valletta/Malta).

Remarks: This is not an independent species name, but based on *Salmo saurus* Linnaeus, 1758; the species was either deliberately or erroneously transferred into the genus *Osmerus*. *Salmo saurus* is considered as valid with the currently used name *Synodus saurus* (Linnaeus, 1758).

## Moridae – Deepsea cods

## Moridae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “GADUS *aselus varius.*” (Local Maltese name: “L’Afnelli”).

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[GADUS] *asellus virescens.*”.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[GADUS] *asellus mollis.*” (Local Maltese name: “Il Munckaro”).

Locality: “Melita” (La Valletta/Malta).

Remarks: These are names only (nomina nuda); they are neither accompanied by diagnoses nor indications, and are therefore not available.

## Merlucciidae – Merluccid hakes

*Merluccius merluccius* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[GADUS] *merluccius.*”.

Locality: “Melita” (La Valletta/Malta).

## Phycidae – Phycid hakes

*Ciliata mustela* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[BLENNIUS] *mustela.*”.

Locality: “Melita” (La Valletta/Malta).

*Gaidropsarus mediterraneus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XIV, part): “5. GADUS *mediterraneus*. Γάλα. TURC. *Djelindsjik balük*. Pinna D. unica; nam prioris pinnae loco non sunt nisi ramenta tenuia in sulco depresso.”.

Localities: “Turc.” (probably both İzmit/Turkey, and İstanbul/Turkey), possibly also at Greek Aegean Sea islands.

Turkish name (FORSSKÅL’s transcription): *Djelindsjik balük*. Actual Turkish name: *Gelincik balığı* (FRICKE et al. 2007: 65).

Remarks: This species was listed by FORSSKÅL in NIEBUHR as *Gadus mediterraneus*, which clearly refers to the Linnaean species of this name. However, FABRICIUS in NIEBUHR apparently switched lines and added the diagnosis of *Gadum Salapia* under this heading, which clearly belongs to a different species, namely *Salaria basilisca* (Valenciennes in Cuvier & Valenciennes, 1836) (family Blenniidae, see below). The identity of the proper *Gadus mediterraneus* is confirmed by its local Turkish name ‘Gelincik balığı’, which is used for the three species of *Gaidropsarus* occurring in the Sea of Marmara and the Aegean Sea [*G. biscayensis* (Collett, 1890), *G. mediterraneus* (Linnaeus, 1758) and *G. vulgaris* (Cloquet, 1824), see FRICKE et al. (2007: 64–65)]; the species which is most common in inshore water and most likely to be found in fish markets is *Gaidropsarus mediterraneus*.

## G a d i d a e – Cods

## Gadidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[GADUS] *aeglefinus*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This species has been misidentified as *Gadus aeglefinus* (non Linnaeus, 1758), a species that does not occur south of the Bay of Biscay. The Maltese record cannot be assigned to a species; it is based on either *Merlangius merlangus* (Linnaeus, 1758), *Trisopterus luscus* (Linnaeus, 1758) or *Trisopterus minutus* (Linnaeus, 1758).

## O p h i d i d a e – Cusk-eels

## Ophidiidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “OPHIDION *gryllus*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is a name only (nomen nudum), and therefore not available; the record could have been based on either *Ophidion barbatum* Linnaeus, 1758, *Ophidion rochei* Müller, 1845 or *Parophidion vassali* (Risso, 1810).

## Ophidiidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[GADUS] *barbatus*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: The record of the Linnaean species name *Gadus barbatus* from Malta cannot be assigned to species level; the record could have been based on either *Ophidion barbatum* Linnaeus, 1758, *Ophidion rochei* Müller, 1845 or *Parophidion vassali* (Risso, 1810).

? *Brotula multibarbata* (Temminck & Schlegel, 1846)

FORSSKÅL in NIEBUHR (1775a: XIV): “6. OPHIDION. Arab. *Abu gudda*.”

Locality: – (Red Sea).

Genus name: *Ophidion*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): –.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu gudda*.

Remarks: This species was named only to the genus level by FORSSKÅL and FABRICIUS in NIEBUHR (1775a). The record most probably refers to *Brotula multibarbata* (Temminck & Schlegel, 1846), which is regularly found in shallow water in both Saudi Arabia and Yemen.

## L o p h i d a e – Goosefishes

*Lophius* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “LOPHIUS *piscatorius*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This record is a name only, and it cannot be assigned to species level; the record could have been based on *Lophius budegassa* Spinola, 1807 or *Lophius piscatorius* Linnaeus, 1758.

## M u g i l i d a e – Mulletts

## Mugilidae, indet.

FORSSKÅL in NIEBUHR (1775a: XVI): “[38. MUGIL *cephalus*] β)

*minor*: an varietas? Κεφαλόπέλο. Arab. *Gabbasj*. tempora migrandi observat periodica.”

Type locality: – (?Turkey; Red Sea).

Type material: No types known. Material may be among ZMUC P.71371 or ZMUC P.71374.

Genus name: *Mugil*.

Species/subspecies name (FORSSKÅL): *cephalus minor*?

Remarks: This species was listed by FORSSKÅL in NIEBUHR as *Mugil cephalus minor*; FORSSKÅL was uncertain if this was a variety of *Mugil cephalus*. As the name is neither accompanied by an indication, a diagnosis or a description, it is not available as *Mugil cephalus minor* Forsskål in Niebuhr, 1775. The material was of a composite origin, based on juvenile mugilid specimens observed in the Mediterranean and in the Red Sea. The name cannot be placed within the family Mugilidae.

“*Chelon tade* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIV): “[109. MUGIL a) CRENILABIS] δ) *Tåde*: [..., Arabic name] labio uncarinato.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 74): “109 [MUGIL CRENILABIS] d) *Tåde* [..., Arabic name] vel *Ædda*: labio uncarinato. Radiis pinnarum spinosis, rigidis. ...”

Type locality: – (Red Sea).

Genus name: *Mugil*.

Species/subspecies name (FORSSKÅL): –, unnamed variety of *Mugil crenilabis*; (FABRICIUS in NIEBUHR): *tåde*, *tåde* or *ædda*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Tåde*, *Ædda*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘tåde’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described the new species in two different versions, as a variety *Mugil crenilabis tåde* in the index on p. XIV, and as *Mugil crenilabis*, variety *tåde* or *ædda* on p. 74. It is assumed that it is meant to be a variety of *Mugil crenilabis* in both versions; though in the version in the text is not available as FABRICIUS did not decide whether to name the variety ‘tåde’ or ‘ædda’, it would be available from the index as *Mugil crenilabis tåde*. Both versions are linked together by the species code ‘109d’. The name is accompanied by a diagnosis, and would be available by indication (ICZN, Art. 12.2.2) as *Mugil crenilabis tåde* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Chelon tade* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was considered as valid since WALBAUM (1792: 227, *Mugil Tåde* vel *Aedda*). BLOCH & SCHNEIDER (1801: 116) erroneously named this taxon *Mugil crenilabis tåde*. – *Mugil planiceps* Valenciennes in Cuvier & Valenciennes, 1836 was regarded as a junior synonym of this species by HARRISON & SENOU (1999: 2091).

*Crenimugil crenilabis* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XIV): “109. MUGIL a) CRENILABIS. Arabi.”

FORSSKÅL in NIEBUHR (1775a: 73): “109. MUGIL CRENILABIS; *pinnna dorsali anteriora radiis 4. flexilibus: posteriore inermibus: labiis crenatis; inferiore bicarinato*.”

Type locality: “In Mari Rubro” (Red Sea).

Genus name: *Mugil*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *crenilabis*.



Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Arabi.

Remarks: Both FORSSKÅL and FABRICIUS in NIEBUHR described this species as *Mugil crenilabis*; the name is binominal in both the index and text, it was accompanied by a diagnosis and description, and is therefore available as *Mugil crenilabis* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 180) and WALBAUM (1792: 226–227).

“*Moolgarda seheli* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIV): “[109. MUGIL a) CRENILABIS] β) *Seheli*: integris labiis.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 73–74): “109 [MUGIL CRENILABIS] b) MUGIL SEHELI; præcedentis forte varietas. P. D. radii rigidiores: *Labia sine crenis & ciliis*. ...”

Type locality: “LOHAJÆ” (Al-Luhayya/Yemen); – (Red Sea).

Type material: Syntype: ?ZMUC P.71373 (dry skin) (listed as holotype by MØLLER 2006 and ESCHMEYER 2007) (see KLAUSEWITZ & NIELSEN 1965: 26, pl. 37; material has been confused with *Mugil tade*).

Genus name: *Mugil*.

Species/subspecies name (FORSSKÅL): –, unnamed variety of *Mugil crenilabis*; (FABRICIUS in NIEBUHR): *seheli*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Sehêli*, *Hari* (Lohaja), *Tobâr*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘seheli’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described the new species in two different versions, as a variety *Mugil crenilabis seheli* in the index on p. XIV, and as *Mugil crenilabis*, variety *Mugil seheli* on pp. 73–74. It is assumed that it is meant to be a variety of *Mugil crenilabis* in both versions; the name is accompanied by a diagnosis and description, and would be available as *Mugil crenilabis seheli* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Moolgarda seheli* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was considered as valid since WALBAUM (1792: 227, *Mugil Seheli*).

*Mugil cephalus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XVI): “38. MUGIL *cephalus*: Κέφαλος. Turc. *Kefal-balük*. Arab. *Buri*. [..., Arabic name] *Aliis Mukschen*.”

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “MUGIL *cephalus*.” Local Maltese name: “Il Caplar.”

Localities: – (probably both İzmir/Turkey, and İstanbul/Turkey); “Melita” (La Valletta/Malta); – (?Alexandria/Egypt; ?Red Sea).

*Mugil cephalus* (Linnaeus, 1758)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIV): “[109. MUGIL a) CRENILABIS] γ) *Öür*: [..., Arabic name] *labiis ciliatis*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 74): “109 [MUGIL CRENILABIS] c) *ÖÜR*, [..., Arabic name] *labio utroque ciliato; inferiori uni-carinato; oculis pinguedine fere obiectis operculo*, subtus & lateribus, atque pone. *Macula P. P. oblonga, obliqua. Vitta longitudinalis fusca, evidens*.”

Type locality: – (Red Sea).

Type material: Holotype: ZMUC P.71372 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 26, pl. 36; MØLLER 2006).

Genus name: *Mugil*.

Species/subspecies name (FORSSKÅL): –, unnamed variety of *Mugil crenilabis*; (FABRICIUS in NIEBUHR): *crenilabis öür*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Öür*.  
Remarks: In his draft, FORSSKÅL used the Arabic name ‘öür’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described this taxon as a variety *Mugil crenilabis öür* in both the index and text. The ‘ö’ is a substitute for the Latin spelling ‘oe’. The name is accompanied by a diagnosis and description, and would be available as *Mugil crenilabis öeur* Fabricius [ex Forsskål] in Niebuhr, 1775, with the authorship pending a decision of ICZN. The species was considered as valid by WALBAUM (1792: 227, *Mugil Oeur*). It is, however, a junior synonym of *Mugil cephalus* Linnaeus, 1758.

## Atherinidae – Old World silversides

*Atherina* sp.

FORSSKÅL in NIEBUHR (1775a: XIII): “101. ATHERINA a) HEPSETUS. *Geschgusch*. Constantinopoli vocatur Græcis Αδερίνα. ...”

Locality: “Constantinopoli” (İstanbul/Turkey).

Remarks: FORSSKÅL in NIEBUHR’s (1775a) *Atherina hepsetus* is of a composite origin. Neither can be considered as an independent species description, but refer to *Atherina hepsetus* Linnaeus, 1758; the Constantinople (İstanbul) material is based on either *Atherina hepsetus* Linnaeus, 1758 or *Atherina boyeri* Risso, 1810, while the Djiddæ (Jeddah) material is *Atherinomorus forskalii* (see below).

*Atherinomorus forskalii* (Rüppell, 1838)

FORSSKÅL in NIEBUHR (1775a: 69–70): “101. ATHERINA HEPSETUS. *Quam Hasselquist eodem descripsit nomine* ...”

Locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

FORSSKÅL material: ZMUC P.71370 (ex P.101), 1 specimen [indicated as holotype by ESCHMEYER (2007), though the specimen does not have type status].

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu geschgusch*, *Abu kesckul*, *Keschkusch*.

Remarks: FORSSKÅL in NIEBUHR’s (1775a) *Atherina hepsetus* is of a composite origin. Neither is an independent species description, but based on misidentified *Atherina hepsetus* (non Linnaeus, 1758); FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 69) referred to HASSELQUIST’s (1757) description from Egypt, while HASSELQUIST referred to LINNAEUS (1758) [HASSELQUIST (1757) rejected for nomenclatural purposes by the International Commission on Zoological Nomenclature, see Anonymus (1914, 1956) and MELVILLE & SMITH (1987: 330)]. While the Constantinople (İstanbul) record is based on *Atherina* sp. (see above), the Djiddæ (Jeddah) material was said to be based on *Atherinomorus lacunosus* (see RANDALL 2005: 78). This species was subsequently described as *Atherina forskalii* Rüppell, 1837 (RÜPPELL 1837: 132–133, pl. 33, fig. 1), based in part on FORSSKÅL in NIEBUHR’s description. It was considered as valid by KIMURA et al. (2007).

## Exocoetidae – Flyingfishes

Exocoetidae, indet.

FORSSKÅL in NIEBUHR (1775a: XVI): “39. EXOCOETUS a) *volitans*. Arab. *Djeråd el bâhr*, [..., Arabic name] i.e. *Gryllus marinus*. Djiddæ *Gharâra*. *Mocchæ Sabari*. *Toto itinere navali vidimus hunc piscem subinde catervatim volantem*. *Habitat sine dubio in Mari rubro, inde tamen minime sequi-*

tur, eum suisse Hebræorum *Selnu*, & ad castra usque Israelitarum volitasse.”

Localities: “Djiddæ” (Jeddah, Juddah/Saudi Arabia); “Mocchæ” (Al-Mukhā/Yemen).

Remarks: Though this record is based on the Linnaean name *Exocoetus volitans* Linnaeus, 1758, it is probably of a composite nature, based on various exocoetid species occurring in the Red Sea. GOREN & DOR (1994: 15) listed eight species of the family occurring in the area; most of them may have been seen during FORSSKÅL’s expedition and could be the basis for this record. A species named *Exocoetus gryllus* Klunzinger, 1871 (KLUNZINGER 1871: 586) is a junior synonym of *Parexocoetus mento* (Valenciennes in Cuvier & Valenciennes, 1847).

#### Hemiramphidae – Halfbeaks

“*Hemiramphus far* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “[98. ESOX MARGINATUS] β) *Far*. [..., Arabic name] Lohajæ.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 67): “98. [ESOX MARGINATUS] b) *far*; *Lohajæ*: huic simillimus; supra lineam argenteam maculis nigris notatus.”

Type locality: “*Lohajæ*” (Al-Luhayya/Yemen).

Genus name: *Esox*.

Species/subspecies name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *marginatus far*.

Arabic name (Latinised, FORSSKÅL): *Far*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘*Far*’ as a substitute for a Latin name to be selected. He did not decide if this was an undescribed subspecies at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described *Esox far* as a variety of *Esox marginatus*; the name was accompanied by a diagnosis, and would be available as *Esox far* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Hemiramphus far* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. This is a valid species.

*Hemiramphus marginatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XIII): “98. ESOX α) MARGINATUS; abdomine marginato. Gambarur. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 67): “98. ESOX MARGINATUS; *pinna dorsali anique oppositis; linea laterali argentea; maxilla inferiori sextuplo longiori*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.342523 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 25, pl. 35; MØLLER 2006).

Genus name: *Esox*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *marginatus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Gambarûr*.

Remarks: Both FORSSKÅL and FABRICIUS in NIEBUHR described this species as *Esox marginatus*; the name is binominal in both the index and text, it was accompanied by a diagnosis and description, and is therefore available as *Esox marginatus* Forsskål in Niebuhr, 1775. This is a valid species, now named *Hemiramphus marginatus* (Forsskål in Niebuhr, 1775).

?*Oxyporhamphus bruuni* Parin, Collette & Shcherbachev, 1980

FORSSKÅL in NIEBUHR (1775a: XVI): “40. [EXOCOETUS] b) *non volitans*: alius eodem nomine arabico, & huic similis; sed macerrimus, meris quasi ossiculis constans.”

Locality: – (Red Sea).

Remarks: This cannot be regarded as an independent new species description, as FORSSKÅL in NIEBUHR (1775a) merely stated that this is ‘not *volitans*’, but did not give a proper species name. The name is neither binominal, nor sufficiently described or diagnosed, and is therefore not available as *Exocoetus non volitans* Forsskål in Niebuhr, 1775; the record was probably based on the hemiramphid *Oxyporhamphus bruuni* Parin, Collette & Shcherbachev, 1980. The name *Exocoetus non volitans* Forsskål in Niebuhr, 1775 was not included in ESCHMEYER (2007).

#### Belonidae – Needlefishes

Belonidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[ESOX] *bellone*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is a record of *Esox bellone* (non Linnaeus, 1761); the spelling of the species name as ‘*bellone*’ is erroneous. The record is based on the name only, and cannot be assigned to species level; it may be attributable to either *Belone acus* Risso, 1827, *Belone svetovidovi* Collette & Parin, 1970 or *Tylosurus imperialis* (Rafinesque-Schmaltz, 1810).

*Belone acus* Risso, 1827

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII) (part): “[98. ESOX] γ) *bellone*; Constantinop. Græcis Βελανίδα. Turc. *Sargan baluk*, i. e. *piscis cornutus*.”

Locality: “Constantinopolis” (İstanbul/Turkey).

Remarks: This is a misidentification of *Esox bellone* (non Linnaeus, 1758) or *Esox bellone* (non Linnaeus, 1761) (discussion of taxonomy see below under *Tylosurus choram*), a species now named *Belone belone* (Linnaeus, 1761), and restricted to the northeastern Atlantic. FORSSKÅL’s Turkish material is based on *Belone acus* Risso, 1827; this species has the actual Turkish name ‘*Zargana*’ (FRICKE et al. 2007: 69).

*Tylosurus acus* (Lacepède, 1803)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[ESOX] *acus*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is a misidentification of *Syngnathus acus* (non Linnaeus, 1758), under a different genus *Esox* because the author felt that it was related to the belonids. The name cannot be considered as an independent species description; LACEPÈDE (1803: 325, 327, pl. 1, fig. 3) subsequently named the species *Sphyaena acus*. This name was suppressed by Opinion 900 (Anonymus 1969), but the opinion was widely ignored by the ichthyological community since 1965; it is therefore recommended by ESCHMEYER (2007) to retain the name *Tylosurus acus* (Lacepède, 1803) as the valid name of the species.

*Tylosurus choram* (Rüppell, 1837)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII) (part): “[98. ESOX] γ) *bellone*; Chærman. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 67): “98. [ESOX MARGINATUS] c) ESOX BELONE; *Maris Rubri*; linea laterali juxta abdomen; & pinnis pone excisis. *Rad. B. 14. D. 22. P. 13. V. 7. A. 21. C. 15. Arab. Chærman* [..., Arabic name] vel *Choram*.”

Locality: “*Maris Rubri*” (Red Sea).

Remarks: This is not an independent species description, but is a misidentification of *Esox bellone* (non Linnaeus, 1758) or *Esox bellone* (non Linnaeus, 1761). *Esox bellone* Linnaeus, 1758 is a nomen dubium in Belonidae according to COLLETTE

& PARIN (1970: 17–18); *Esox belone* Linnaeus, 1761 was placed on Official List in Opinion 225 (Anonymus 1954) as the type species of *Belone* Cuvier, 1816, and is now named *Belone belone* (Linnaeus, 1761), a species which is restricted to the northeastern Atlantic. FORSSKÅL'S Red Sea material was based on a species that was subsequently described as *Belone choram* by RÜPPELL (1837: 72).

### Holocentridae – Squirrelfishes

#### Holocentridae, indet.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “55. [SCIÆNA] m) ABU SAMF. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 49): “55. SCIÆNA ABU SAMF; [..., Arabic name] cum prioribus [*Sciaena spinifera*] forte eadem: aut tantum varietas. Maxime convenit cum *Murdjan*. *Dentes* incisores, validi, conici: molares obtusi. *Opercula* integra: posteriora uno aculeo: anteriora, nuda. *Dorsum* virens, guttis albis. ...”.

Type locality: [Djiddæ] (Jeddah, Juddah/Saudi Arabia).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *abu samf*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Abu samf.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘abu samf’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described *Sciaena abu samf* as a new species. The name is, however, not binominal, as the species name is consisting of two words; though it was accompanied by a diagnosis, it is not available as *Sciaena abu samf* Fabricius [ex Forsskål] in Niebuhr, 1775 (ICZN, Art. 5). The name is neither available from the *Sciaena abu samf* described by WALBAUM (1792: 310–311), as a copy of FORSSKÅL'S description, for the same reasons. *Sciaena abusamf* Lacepède [ex Forsskål], 1802 was subsequently described by LACEPÈDE (1802: 307, 311), and is the first available version of the name as it was binominal and accompanied by a diagnosis. The species is at present unplaceable in the family Holocentridae; judging from the description (white spots in dorsal fin, etc.), it may have been based on either “*Neoniphon sammara* (Forsskål in Niebuhr, 1775)”, or on *Sargocentron marisrubri* Randall, Golani & Diamant, 1989.

#### “*Myripristis murdjan* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “52. SCIÆNA i) MURDJAN; labiis retusis. *Murdjân*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 48): “52. SCIÆNA MURDJAN; labiis retusis. Arab. *Murdjan*. [..., Arabic name]”.

Type locality: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.4041 (part of dry skin, head missing) (see KLAUSEWITZ & NIELSEN 1965: 19, pl. 15; MØLLER 2006).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *murdjan*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Murdjan*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘murdjân’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described

*Sciaena murdjan* as a new species. The name is binominal, accompanied by a diagnosis and description, and would be available as *Sciaena murdjan* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Myripristis murdjan* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 120) and WALBAUM (1792: 316). BLOCH & SCHNEIDER (1801: 86) erroneously spelled the name *Perca murdian*.

#### “*Neoniphon sammara* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “53. [SCIÆNA] k) SAMMARA; albo-ocellata. *Farer*. *M'sámmer*.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 44): “SCIÆNA ... 3) FARER: a) branch. radiis 7. b) radiis 8.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 48–49): “53. SCIÆNA SAMMARA; *dorso rubro-ænea: lateribus argenteis: vittis undique obscurioribus, punctis ocellatis*.”.

Type locality: “*Djiddæ*” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.4042 (part of dry skin, head missing) (see KLAUSEWITZ & NIELSEN 1965: 19, pls. 15–16; MØLLER 2006).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *sammara*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Farer*, *Hömri*, *Msammer*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘sammara’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described *Sciaena sammara* as a new species. The name is binominal in both the index and text, accompanied by a diagnosis and description, and would be available as *Sciaena sammara* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Neoniphon sammara* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 120) and WALBAUM (1792: 316–317). The name was misspelled as *Holocentrus samara* by RÜPPELL (1829: 85) and KLUNZINGER (1870: 720–721). “(*Sciaena*) *farer* Forsskål in Niebuhr, 1775” {would be (*Sciaena*) *farer* Fabricius [ex Forsskål] in Niebuhr, 1775} is another name for this species, out of the version on p. 44 (the name was not mentioned by ESCHMEYER 2007); it is binominal, accompanied by a diagnosis, available, and an unused synonym of “*Sciaena sammara* Forsskål in Niebuhr, 1775”. I hereby act as the first reviser of this case to select *Sciaena sammara* as the senior synonym.

#### *Sargocentron rubrum* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI): “51. [SCIÆNA] h) RUBRA; fronte spinosa. *Atâja*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 48): “51. SCIÆNA RUBRA, ATAJA; Arab. *Ataja*. [..., Arabic name]”.

FORSSKÅL locality: – (Red Sea).

Type locality: Off Customs dock, Port Sudan harbor, Sudan, Red Sea, 3–4 m (as defined by neotype).

Type material: Neotype: BPBM 28183, as selected by RANDALL & HEEMSTRA (1985: 17).

Genus name: *Sciaena*.

Species names (FORSSKÅL): *rubra*; (FABRICIUS in NIEBUHR): *rubra* or *ataja*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Ataja*.

Remarks: FORSSKÅL intended to describe this new species as *Sciaena rubra*, as listed in the index on p. XI. FABRICIUS in



NIEBUHR (1775a) erroneously used the name *Sciaena rubra, ataja* for the new species in the text on p. 48. Though the latter version is not binominal and therefore not available (ICZN, Art. 5), both versions are linked together by the species code '51'; the version in the index is binominal, it is accompanied by a diagnosis and description on p. 48, and is therefore available by indication (ICZN, Art. 12.2.2) as *Sciaena rubra* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 120) and WALBAUM (1792: 315–316). *Holacanthus ataja* Lacepède [ex Forsskål], 1802 (LACEPÈDE 1802: 526, 530–531) is an unneeded new name for *Sciaena rubra* Forsskål in Niebuhr, 1775; it is available, but a junior synonym.

*Sargocentron spiniferum* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “54. [SCIÆNA] I SPINIFERA; capite spinoso. *Gabâja*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 49): “54. SCIÆNA SPINIFERA: *rubra*; *pinnis dorsalibus connexis: capite spinoso, operculi anterioribus spina longissima*.”.

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia); – (Red Sea).

Type material: Syntype: ZMUC P.4043 (dry skin) (listed as holotype by MÖLLER 2006 and ESCHMEYER 2007) (see KLAUSEWITZ & NIELSEN 1965: 19, pl. 16).

Genus name: *Sciaena*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *spinifera*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Gabâja*, *Gebaja*, *Asmud*.

Remarks: This new species was described by both FORSSKÅL and FABRICIUS in NIEBUHR (1775a) under the name *Sciaena spinifera*. The name is binominal in both the index and text, it is accompanied by a diagnosis and description, and is available as *Sciaena spinifera* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 120–121) and WALBAUM (1792: 317).

#### Zeidae – Dories

*Zeus faber* Linnaeus, 1758

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[ZEUS] *faber*.”.

Locality: “Melita” (La Valletta/Malta). Local name: “l’Aurata”.

#### Syngnathidae – Pipefishes

*Syngnathoides biaculeatus* (Bloch, 1785)

FORSSKÅL in NIEBUHR (1775a: XVII): “54. SYNGNATHUS *pelagicus*. Arab. *Abu zummâra*. [..., Arabic name] *Corpus heptagonum; cauda trigona*.”.

Locality: – (Red Sea).

Remarks: This cannot be regarded as an independent new species description, but is a misidentification of the species *Syngnathus pelagicus* (non Linnaeus, 1758). FORSSKÅL’s record is based on *Syngnathoides biaculeatus* (Bloch, 1785).

#### Centriscidae – Shrimpfishes

*Centriscus scutatus* Linnaeus, 1758

FORSSKÅL in NIEBUHR (1775a: XVII): “53. CENTRISCUS *scutatus*. Arab. *Farras el bâhr* vel *Kesah el bâhr*. Est piscis abdominalis non thoracicus; nam Membr. Br. radiata juxta aperturam branchialem, ut reliqui pisces ejusdem ordinis. *Fistu-*

*larie proximus est. Rad. B. 4. D. 3. 10. P. 11. V. 6. A. 11. C. 9. Lohajæ*.”.

Locality: “Lohajæ” (Al-Luhayya/Yemen).

Material: No FORSSKÅL material extant.

Remarks: This is not an independent species description, but a record of the Linnaean species *Centriscus scutatus*.

*Macroramphosus scolopax* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XIII): “96. [SILURUS] c) CORNUTUS, rostro recurvo. Gall. *Chardonneres*.”.

FORSSKÅL in NIEBUHR (1775a: 66): “96. SILURUS CORNUTUS, *pinnis pect. inermibus; radio pinnæ dorsalis primæ dentato*.”.

Type locality: “MASSILIÆ” (Marseille/France).

Genus name: *Silurus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *cornutus*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Silurus cornutus*; the description was accompanied by a diagnosis and description. The name is available as *Silurus cornutus* Forsskål in Niebuhr, 1775. It is a junior synonym of *Macroramphosus scolopax* (Linnaeus, 1758).

*Macroramphosus scolopax* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “BALISTES *scolopax*.”.

Locality: “Melita” (La Valletta/Malta).

#### Scorpaenidae – Scorpionfishes

*Helicolenus dactylopterus* (Delaroche, 1809)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “SCORPÆNA (sp.)”.

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “I Cipullazza”.

Remarks: According to the Maltese name listed by FORSSKÅL, this record is based on the blackbelly rosefish *Helicolenus dactylopterus* (Delaroche, 1809) (actual vernacular Maltese name “Cipullazza ta l’ghajn”; Anonymus 2007b).

Scorpaenidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “COTTUS *scorpius*.”.

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “I Scorfua”.

Remarks: This is a misidentification of the species *Cottus scorpius* (non Linnaeus, 1758). The actual vernacular Maltese name “Scorfna” (Anonymus 2007b) refers to several species of *Scorpaena* sp.

*Scorpaena porcus* Linnaeus, 1758

FORSSKÅL in NIEBUHR (1775a: X): “7. COTTUS a) MASSILIENSIS, ambiguus. Gall. *Rascasse*.”.

FORSSKÅL in NIEBUHR (1775a: 24–25): “7. COTTUS MASSILIENSIS, *capite polyacantho, pinnis dorsalibus coadunatis*.”.

Type locality: [Massiliensis] (Marseille/France) (erroneously listed as ‘Arabia’ by ESCHMEYER 2007).

Genus name: *Cottus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *massiliensis*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Cottus massiliensis*; the description was accompanied by a diagnosis and description; the name is available as *Cottus massiliensis* Forsskål in Niebuhr, 1775. It was considered by FORSSKÅL to be identical with *Scorpaena scrofa*, and he apparently intended to check the identity of the species before publishing it as a new species. FORSSKÅL differentiated the species from *Cottus cataphractus* (*Agonus*

*cataphractus*) and *Cottus scorpius* (*Myoxocephalus scorpius*). This species name was clearly not ready for publication, but FABRICIUS in NIEBUHR published it out of FORSSKÅL's manuscript notes. The species was considered as valid by WALBAUM (1792: 393), but is a junior synonym of *Scorpaena porcus* Linnaeus, 1758.

*Scorpaena scrofa* Linnaeus, 1758

FORSSKÅL in NIEBUHR (1775a: XIV): "10. SCORPÆNA *porcus*. Σκορπήνα. Turc. Scorpis baluk. ...".

Localities: "Turc." (probably both İzmir/Turkey, and İstanbul/Turkey).

Turkish name (FORSSKÅL's transcription): Scorpis balük. Actual Turkish name: İskorpit balığı (FRICKE et al. 2007: 77).

Remarks: This species was listed by FORSSKÅL in NIEBUHR as *Scorpaena porcus*, which clearly refers to the Linnaean species *Scorpaena porcus*. However, the species was apparently misidentified, as the Turkish name of *Scorpaena porcus* is 'Lipsoz' (FRICKE et al. 2007: 77). The name 'İskorpit balığı' refers to *Scorpaena scrofa* Linnaeus, 1758, a species which is also common in the Sea of Marmara and Aegean Sea.

Triglidæ – Searobins

*Chelidonichthys cuculus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[TRIGLA] *cuculus*."

Locality: "Melita" (La Valletta/Malta).

*Chelidonichthys gurnardus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XVI): "32. TRIGLA *gurnardus*. Χελιδονόψαρο. Turc. Kirlanidsj-balük. P. Pect. superne brunneis, fasciis undulatis, obscure cæruleis; margine api, cis dilute cæruleo, subtus virescente."

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[TRIGLA] *gurnardus*."

Localities: "Turc." (?İstanbul/Turkey); "Melita" (La Valletta/Malta).

Actual Turkish name: Benekli kirlangiç (FRICKE et al. 2007: 77).

Remarks: This species is common around both İzmir and İstanbul/Turkey. It was probably collected by FORSSKÅL at İstanbul using the chartered fishing vessel.

*Chelidonichthys gurnardus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[TRIGLA] *milyus*."

Locality: "Melita" (La Valletta/Malta). Local Maltese name: "I Taira".

Remarks: *Trigla milyus* Forsskål in Niebuhr, 1775 is a name only (nomen nudum), not accompanied by additional information, and therefore not available. The local name refers to *Chelidonichthys gurnardus* (Linnaeus, 1758).

*Chelidonichthys lucernus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[TRIGLA] *lucerna*."

Locality: "Melita" (La Valletta/Malta). Local name: "I Tigie-ga".

*Trigla lyra* Linnaeus, 1758

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[TRIGLA] *lyra*."

Locality: "Melita" (La Valletta/Malta). Local name: "I Triglia".

Platycephalidae – Flatheads

*Platycephalus indicus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: X): "8. [COTTUS] b) INSIDIATOR. Rogad. [..., Arabic name]".

FABRICIUS in NIEBUHR (1775a: 25): "8. COTTUS ROGAD; INSIDIATOR."

Type locality: – (Red Sea).

Type material: Holotype: ZMUC P.8012 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 13, pl. 2; MØLLER 2006).

Genus name: *Cottus*.

Species name (FORSSKÅL): *insidiator*; (FABRICIUS in NIEBUHR): *rogad*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Rágede, Rogad, Raked.

Remarks: This species was named in two different versions, *Cottus rogad*, *insidiator* in the text on p. 25, and *Cottus insidiator rogad* in the index on p. X, with the name 'Rogad' clearly intended as local Arabic name. Though the name *Cottus rogad*, *insidiator* is not binominal and therefore not available (ICZN, Art. 5), the name is available by indication (ICZN, Art. 12.2.2) as *Cottus insidiator* Forsskål in Niebuhr, 1775 from the index on p. X. A diagnosis and description are found on p. 25, and both versions are linked together by the species code '8'. *Cottus insidiator* was treated as valid since BONNATERRE (1788: 68) and WALBAUM (1792: 392), but is a junior synonym of *Platycephalus indicus* (Linnaeus, 1758).

Perciformes – Perches

Perciformes, incertae sedis

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "CHÆTODON *paru*."

Locality: "Melita" (La Valletta/Malta).

Remarks: *Chaetodon paru* Forsskål [ex Anonymus] in Niebuhr, 1775 is a name only (nomen nudum), neither accompanied by a diagnosis nor an indication, and therefore not available. The species is unplaceable (PYLE in ESCHMEYER 2007). Under the same name *Chaetodon paru* Bloch, 1787 (BLOCH 1787: 57, pl. 197) was described, which is currently treated as a valid species, with the currently used name *Pomacanthus paru* (Bloch, 1787).

Perciformes, incertae sedis

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[PERCA] *asper*."

Locality: "Melita" (La Valletta/Malta).

Remarks: This is a misidentification of *Perca asper* (non Linnaeus, 1758). The species is unplaceable within the Perciformes.

Perciformes, incertae sedis

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "PERCA *lucioperca*."

Locality: "Melita" (La Valletta/Malta).

Remarks: This is a misidentification of *Perca lucioperca* (non Linnaeus, 1758). The species is unplaceable within the Perciformes.

Perciformes, incertae sedis

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "[BLENNIUS] *gunellus*."

Locality: "Melita" (La Valletta/Malta).

Remarks: This is a misidentification of *Blennius gunnellus* (non Linnaeus, 1758); the latter has the currently used name *Pholis gunnellus* (Linnaeus, 1758), and is restricted to the north-

eastern Atlantic. FORSSKÅL's Maltese record is unplaceable within the Perciformes.

Perciformes, incertae sedis

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "ANARHICHAS *lupus marinus*."

Locality: "Melita" (La Valletta/Malta).

Remarks: This is a nomen nudum, and a misidentification of *Anarhichas lupus* (non Linnaeus, 1758); the latter species is restricted to the northeastern Atlantic and does not occur south of the North Sea. FORSSKÅL's Maltese record is unplaceable within the Perciformes.

A m b a s s i d a e – Asiatic glassfishes

*Ambassis natalensis* Gilchrist & Thompson, 1908

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): "67. [SCIÆNA] y) SAFGHA; maxilla inferiore longiore."

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 53): "67. SCIÆNA SAFGHA; Arab. P. D. duplici 𐤑; immaculata. Cauda forscicata. Oblonga, argentea: Maxillæ dentatæ; inferior, longior. Opercula tenuiter serrata."

Type locality: – (Red Sea).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *safgha*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Safgha*.

Remarks: In his draft, FORSSKÅL used the Arabic name 'Safgha' as a substitute for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR listed the species *Sciaena safgha* as a new species in the index; he used 'safgha' as the species name in the text, but explicitly mentioned that this is the Arabic name ('Arab.'). The name is accompanied by a diagnosis in the text; as both the index and the text are linked together by the species code '67', the name *Sciaena safgha* Fabricius [ex Forsskål] in Niebuhr, 1775 is therefore not available from the text, but would be available by indication (ICZN, Art. 12.2.2) from the index, with the authorship pending a decision of ICZN. The name was used by subsequent authors as valid, e.g. WALBAUM (1792: 319, *Sciaena safgha*) and BLOCH & SCHNEIDER (1801: 86, *Perca safgha*). This is a rarely used senior synonym of *Ambassis natalensis* Gilchrist & Thompson, 1908 according to ANDERSON & HEEMSTRA (2003: 205). DOR (1984: 94) and GOREN & DOR (1994: 24) used *Sciaena safgha* as a valid name. *Ambassis natalensis* is here retained as the valid name for the species to preserve the name of prevailing usage, but an application to the International Commission on Zoological Nomenclature is needed to reject the senior synonym *Sciaena safgha*.

M o r o n i d a e – Temperate basses

*Dicentrarchus* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "GASTEROSTEUS *aculeatus*."

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[GASTEROSTEUS] *pungitius*."

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[GASTEROSTEUS] *spinachia*." "L'Isnotta" (local Maltese name).

Locality: "Melita" (La Valletta/Malta).

Remarks: This is a misidentification of the three Linnaean species *Gasterosteus aculeatus* (non Linnaeus, 1758), *G. pungi-*

*tius* (non Linnaeus, 1758) [now named *Pungitius pungitius* (Linnaeus, 1758)], and *G. spinachia* (non Linnaeus, 1758) [now named *Spinachia spinachia* (Linnaeus, 1758)], species restricted to the northeastern Atlantic and northern hemisphere freshwater, not occurring in Malta. According to the vernacular Maltese name (actual name "Spnotta", Anonymus 2007b), the record is based on *Dicentrarchus* spp., probably both *D. labrax* (Linnaeus, 1758) and *D. punctatus* (Bloch, 1792).

*Dicentrarchus labrax* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XI): "[42. PERCA h) SUMMANA] γ) *sciaena nilotica* Λάβραξ."

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[PERCA] *labrax*."

FORSSKÅL in NIEBUHR (1775a: 42, part): "... Linn. *Perca nilot.*? Gr. Λάβραξ: quæ certius *Sciaena* est; quia pinna dorsi prima tota in fossa reconditur: & radii Dors. 7? Cauda linearis, ascendens; pinna ani albidia, apice fusca."

Localities: "Nile" (Egypt); "Melita" (La Valletta/Malta).

Remarks: *Sciaena nilotica* (non Linnaeus, 1758) was erroneously diagnosed and described in the synonymy of *Perca summana* (p. XI), or *Perca summana fusco-guttata* (p. 42). This is most probably due to a confusion of FORSSKÅL's species description sheets by FABRICIUS (in NIEBUHR 1775a), as FORSSKÅL apparently decided that this species belonged to the genus *Sciaena* rather than *Perca*. FORSSKÅL's *Sciaena nilotica* (non Linnaeus, 1758) is based on a misidentified *Dicentrarchus labrax* (Linnaeus, 1758). The Linnaean species *Perca nilotica* is a different, valid species of cichlid fishes, with the currently used name *Oreochromis niloticus* (Linnaeus, 1758).

S e r r a n i d a e – Sea basses

Serranidae, indet.

FORSSKÅL in NIEBUHR (1775a: XV): "24. LABRUS a) *striatus*. Πετρόγαρον. Græcorum Literatis: Πέρονς."

Locality: – (Aegean Sea of Turkey or Greece).

Remarks: This is not an independent new name, but a misidentification of *Labrus striatus* (non Linnaeus, 1758); *Centropristis striata* (Linnaeus 1758) is restricted to the West Atlantic. FORSSKÅL's record is based on an unidentified serranid fish, either an *Epinephelus* or a *Mycteroperca*.

"*Aethaloperca rogae* (Forsskål in Niebuhr, 1775)"

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): "36. PERCA b) ROGAA; subnigra. *Rogáa*. [..., Arabic name]".

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 38–39): "36. [PERCA] ROGAA; *nigro-rufescens*; *cauda æquali*; *pinnis nigris*: *branchiostega & capitis lobis obtectis, obscure-rubris*."

Type locality: "DJIDDÆ" (Jeddah, Juddah/Saudi Arabia).

Genus name: *Perca*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *rogae*.

Arabic name (Latinised, FORSSKÅL): *Rogáa*.

Remarks: In his draft, FORSSKÅL used the Arabic name 'Rogáa' as a substitute for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described *Perca rogae* as a new species; the name is binominal in both the index and text, it was accompanied by a diagnosis and description, and the name would be therefore available as *Perca rogae* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Aethaloperca rogae* (Fabricius [ex Forsskål] in Niebuhr,



1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 131) and WALBAUM (1792: 344).

*Aethaloperca rogae* (Forsskål in Niebuhr, 1775)"

FORSSKÅL in NIEBUHR (1775a: XI): "37. [PERCA] c) LUNARIA; P. C. macula lunata. *Bint er robbân*."

FORSSKÅL in NIEBUHR (1775a: 39): "37. PERCA LUNARIA; *ferrugineo-nigra: pinnis pect. nigris, pone flavis: dorsali & caudæ pone hyalino-albis*."

Type locality: "DJIDDÆ" (Jeddah, Juddah/Saudi Arabia).

Genus name: *Perca*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *lunaria*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Bint er robbân*.

Remarks: Both FORSSKÅL and FABRICIUS in NIEBUHR described this new species using the name *Perca lunaria*; the name is binominal in both the index and text, it was accompanied by a diagnosis and description, and the name is therefore available as *Perca lunaria* Forsskål in Niebuhr, 1775. It is a synonym of "*Perca rogae* Forsskål in Niebuhr, 1775" {would be *Perca rogae* Fabricius [ex Forsskål] in Niebuhr, 1775}. BONNATERRE (1788: 131), GMELIN (1789: 1315–1316) and WALBAUM (1792: 344) used both names, *Perca rogae* and *Perca lunaria*, for separate species. GÜNTHER (1859: 97, 116) still treated both names separate, though *Perca lunaria* was considered as doubtful. BLOCH & SCHNEIDER (1801: 334–335) was the first reviewing author giving preference to the name *rogae*; he treated '*lunaria*' only as a variety of *Bodianus rogae*. The species is now named "*Aethaloperca rogae* (Forsskål in Niebuhr, 1775)" (see above). – *Bodianus lunulatus* Shaw [ex Forsskål], 1803 (SHAW 1803: 575) is an unneeded new name for *Perca lunaria* Forsskål in Niebuhr, 1775; it is a junior synonym of "*Perca rogae* Forsskål".

*Cephalopholis argus* Bloch & Schneider, 1801

FORSSKÅL in NIEBUHR (1775a: XI): "[41. PERCA g) MINIATA] β) *cæruleo-ocellata*. Bæláb. [..., Arabic name]".

FORSSKÅL in NIEBUHR (1775a: 41): "41. [PERCA MINIATA] b) *Varietas: colore fusco: ocellis cæruleis: P. A. margine postico alba, & P. D. partis inermis margine superiori. Arab. Baeláh: vel Abu beláh [..., Arabic name]*".

Type locality: – (Red Sea).

Type material: Holotype: ZMUC P.43568 (see KLAUSEWITZ & NIELSEN 1965: 18).

Genus name: *Perca*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): *miniata caeruleo-ocellata*.

Arabic names (Latinised, FORSSKÅL): Baeláh, Abu beláh; (FABRICIUS in NIEBUHR): Baeláb.

Remarks: Both FORSSKÅL and FABRICIUS in NIEBUHR listed this name as a variety of *Perca miniata* in the index, and gave a brief diagnosis as '*Perca miniata* b) Varietas' in the text on p. 41. As both versions are linked together by the species code '41b', the name is available by indication (ICZN, Art. 12.2.2) as *Perca miniata caeruleoocellata* Forsskål in Niebuhr, 1775, which is a synonym of *Perca miniata* Forsskål in Niebuhr, 1775. Though DOR (1984: 96–97) considered this variety to be a junior synonym of *Cephalopholis minata* (Forsskål in Niebuhr, 1775), FORSSKÅL's description leaves no doubt that it is in fact an unused senior synonym of *Cephalopholis argus* Bloch & Schneider, 1801. An application to the International Commission on Zoological Nomenclature will be needed to retain the currently used latter name. This species was subsequently described as *Perba balah* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 338–339; misspelled *Perca balati* in index on p. 711), which is available

and another senior unused synonym of *Cephalopholis argus*; this name needs suppression by the Commission as well.

*Cephalopholis miniata* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI): "41. [PERCA] g) MINIATA; rubra; cæruleo-guttata. Zarbûn. [..., Arabic name]".

FORSSKÅL in NIEBUHR (1775a: 41): "41. PERCA MINIATA; *coccineo-rubra, guttis cæruleis undique adspersa: cauda rotundata*."

Type localities: "DJIDDÆ" (Jeddah, Juddah/Saudi Arabia); "Lo-hajæ" (Al-Luhayya/Yemen).

Type material: Syntype: ZMUC P.43567 (dry skin) (listed as holotype by MÖLLER 2006 and ESCHMEYER 2007) (see KLAUSEWITZ & NIELSEN 1965: 17, pl. 9).

Genus name: *Perca*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *miniata*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Zarbûn, Ataja.

Remarks: Both FORSSKÅL and FABRICIUS in NIEBUHR described this species as *Perca miniata*, in the sense of the major variation of the species or *Perca miniata miniata*; the name is binominal in both the index and text, it was accompanied by a diagnosis and description, and is therefore available as *Perca miniata* Forsskål in Niebuhr, 1775. The species was treated as valid by BONNATERRE (1788: 131–132) and later authors. KLAUSEWITZ & NIELSEN (1965: 17) discussed the possible mixing of *Perca miniata* and *Perca miniata* var β. For the sake of stability of nomenclature, it is here assumed that FORSSKÅL's syntype ZMUC P.43567 is really meant to be *Perca miniata*, and is herewith designated as the lectotype of the species. This species was subsequently named *Pomacentrus burdi* Lacepède [ex Forsskål, 1775] (LACEPÈDE 1802: 506, 511–512); this name is available, and a junior synonym of *Perca miniata*.

*Cephalopholis miniata* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI): "[41. PERCA g) MINIATA] γ) *cæruleo-guttata, major. Nadjil*".

FORSSKÅL in NIEBUHR (1775a: 42): "41. [PERCA MINIATA] c) *Exstantior est varietas: rubra, guttis cæruleis. Arab. Nadjil vel Nâgeu. ...*".

Type locality: "Ad Promont. *Djymûm* ante *Jamboam*" (Ra's Baridî, NNW Yanbu'/Saudi Arabia, 24°17'N 37°31'E).

Genus name: *Perca*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): *miniata caeruleo-guttata*.

Arabic names (Latinised, FORSSKÅL): Nadjil, Nâgeu; (FABRICIUS in NIEBUHR): Nadjil.

Remarks: Both FORSSKÅL and FABRICIUS in NIEBUHR listed this name as a variety of *Perca miniata* in the index, and gave a brief diagnosis as '*Perca miniata* c) ... varietas' in the text on p. 42. As both versions are linked together by the species code '41c', the name is available by indication (ICZN, Art. 12.2.2) as *Perca miniata caeruleoguttata* Forsskål in Niebuhr, 1775, which is a synonym of *Perca miniata* Forsskål in Niebuhr, 1775, with the currently used name *Cephalopholis miniatus* (Forsskål in Niebuhr, 1775). The first reviser was GMELIN (1789: 1317), choosing *Perca miniata* as the priority version of the name. This species was subsequently named *Perca nadjil* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 339); this name is available, and a junior synonym of *Perca miniata*.

*Epinephelus* sp.

FORSSKÅL in NIEBUHR (1775a: XIV): "[110. MUGIL b) CHANOS] β) *magnus. Xávoç*".

FORSSKÅL in NIEBUHR (1775a: 74): “110. [MUGIL CHANOS] b) Iste, *Anged*, sola magnitudine differt ab alio 3 uln. long. Græc. *Χάνοϛ*. Turc. *Chani*.”

Type locality: – (İstanbul or İzmir, Turkey).

Genus name: *Mugil*.

Species/subspecies name (FORSSKÅL): *chanos magnus*; (FABRICIUS in NIEBUHR): *chanos* (var.).

Greek name: *Χάνοϛ*; Turkish name: *Chani*.

Remarks: FORSSKÅL considered this fish first as a variety of his *Mugil chanos*, and named in *Mugil chanos magnus* in the index. FABRICIUS in NIEBUHR also considered it as a variety of *Mugil chanos* in the text, but did not provide a name for the taxon, only calling it variety ‘b’. Both versions are linked together by the species code ‘110b’, but they are neither accompanied by an indication, a diagnosis or a description. The name (which is not included in ESCHMEYER 2007) is not available as *Mugil chanos magnus* Forsskål in Niebuhr, 1775; the species cannot be placed within the genus *Epinephelus*. The actual Turkish name ‘Hani’ refers to *Serranus* or *Epinephelus* sp. (*Serranidae*) (FRICKE et al. 2007); judging from the body size of 3 uln., it must have been based on *Epinephelus* sp.

#### *Epinephelus* sp.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XV): “26. PERCA? Σελέβαρδο. Arab. *Ugar* vel *Guaza*; aliis *Örsusa*; an idem? P. V. membrana coadunata. Opercula Br. serrata.”

Locality: – (Alexandria, Al-Iskandarīyah/Egypt, Mediterranean Sea).

Remarks: Though the name PERCA? Σελέβαρδο is accompanied by a brief diagnosis, it is not available as the species name was not written in Latin letters. The Arabic name ‘Guaza’ may refer to the species *Perca guaza* (non Linnaeus, 1758). The record is obviously based on an *Epinephelus* sp., probably *Epinephelus marginatus* (Lowe, 1834).

#### *Epinephelus* sp.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XV): “[26. PERCA? Σελέβαρδο] β) *lilia minor*; forte varietas. Ρεφὸ.”

Locality: – (İstanbul/Turkey, or İzmir/Turkey).

Remarks: This variety name *Perca? Σελέβαρδο lilia minor* Fabricius in Niebuhr, 1775 is not accompanied by a diagnosis, and the species name is not written in Latin characters; therefore, the name is not available. As this was considered as a variety of *Perca? Σελέβαρδο*, the record is probably based on another *Epinephelus* sp. The name was not listed by ESCHMEYER (2007).

#### *Epinephelus areolatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI): “[42. PERCA h) SUMMANA] δ) *areolata*. *Daba*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 42, part): “42. [PERCA SUMMANA] c) PERCA AREOLATA; *corpore cinereo, albido; guttis fusco-flavescentibus*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.43570 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 18, pl. 10; MØLLER 2006).

Genus name: *Perca*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): *summana areolata*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Daba*.

Remarks: FORSSKÅL apparently first considered this fish as a variety of *Perca summana*, but later changed the heading to *Perca areolata*. FABRICIUS in NIEBUHR described this name as a variety of *Perca summana* in the index, and as a variety ‘*Perca areolata*’ of the species *Perca summana* in the text;

the name is accompanied by a diagnosis and description. The name is available as *Perca summana areolata* Forsskål in Niebuhr, 1775. It was considered as valid since WALBAUM (1792: 345–346, *Perca areolata*).

#### *Epinephelus areolatus* (Forsskål in Niebuhr, 1775)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 44): “*Perca dentibus DABA*. Dentes maxillares laterales, incurvi: superioris maxillæ majores quam palatini, seu interiores: ...”.

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.43570 (see KLAUSEWITZ & NIELSEN 1965: 18, pl. 10).

Genus name: *Perca*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *daba*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘Daba’ as a substitute for a Latin name to be selected (which he elsewhere did as ‘*Perca areolata*’). He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. ‘*Perca dentibus daba*’ means ‘teeth of *Perca daba*’; this implies that it is a teeth description of the specimen described elsewhere in the paper as *Perca areolata* (see above). FABRICIUS in NIEBUHR thus described the teeth of *Perca daba* as a new species; the name is binominal in both the index and text, it was accompanied by a diagnosis, and would be available as *Perca daba* Fabricius [ex Forsskål] in Niebuhr, 1775, with the authorship pending a decision of ICZN. The name is not mentioned by ESCHMEYER (2007). It is an unused synonym of *Epinephelus areolatus* (Forsskål in Niebuhr, 1775), recognisable by the Arabic name ‘Daba’. GMELIN (1789: 1317–1318) was the first revising author and chose the name *Perca areolata* as the valid name for the species.

#### *Epinephelus fasciatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI): “39. [PERCA] e) FASCIATA. An *Perca?*”.

FORSSKÅL in NIEBUHR (1775a: 40): “39. PERCA FASCIATA; *rubra, fasciis transversis, latis, albidis, sub-quaternis*.”

Type locality: “In *Mari rubro* ad promontorium Mohammed hamo capto” (Ras Muhammad, southern Sinai/Egypt, 27°44'N 34°15'E).

Genus name: *Perca*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *fasciata*.

Remarks: Both FORSSKÅL and FABRICIUS in NIEBUHR described this species as *Perca (?) fasciata*, indicating in the index and in the remarks that they were not sure if to associate it really with the genus *Perca*. The name is binominal in both the index and text, it was accompanied by a diagnosis and description, and is therefore available as *Perca fasciata* Forsskål in Niebuhr, 1775. This species was treated as valid since BONNATERRE (1788: 131) and WALBAUM (1792: 346). *Holocentrus erythraeus* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 320) and *Holocentrus forskaeli* Lacepède [ex Forsskål], 1802 (LACEPÈDE 1802: 337, 376–378) were described as unneeded new names for *Perca fasciata* Forsskål in Niebuhr, 1775; they are junior synonyms.

#### *Epinephelus fuscoguttatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI): “[42. PERCA h) SUMMANA] β) *fusco-guttata*. *Kassjara*.”.

FORSSKÅL in NIEBUHR (1775a: 42, part): “42. [PERCA SUMMANA] b) Ab hac parum diversa *Varietas*: FUSCO-GUTTATA. Corpus cærulescens. ...”.

FORSSKÅL localities: “Sues” (As-Suways/Egypt); “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type locality: Sams Pier, Jidda/Jeddah/Juddah, Saudi Arabia (as defined by neotype).

Type material: Neotype: USNM 147594, as selected by RANDALL (1964: 291).

Genus name: *Perca*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): *summana fusco-guttata*.

Arabic names (Latinised, FORSSKÅL): Kassjara, Koschar; (FABRICIUS in NIEBUHR): Kassjara.

Remarks: Both FORSSKÅL and FABRICIUS in NIEBUHR listed this name as a variety of *Perca summana* in the index and the text; the name is accompanied by a diagnosis and description. The name is available as *Perca summana fuscoguttata* Forsskål in Niebuhr, 1775, which is a valid species, with the currently used name *Epinephelus fuscoguttatus* (Forsskål in Niebuhr, 1775). This species was subsequently described as *Perca koschar* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 345), which is an available name, and a junior synonym of *Perca summana fuscoguttata*. Parts of FORSSKÅL's remarks ('*Perca nilot. ...*') refer to a different species, the moronid fish *Dicentrarchus labrax* (see above).

*Epinephelus marginatus* (Lowe, 1834)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "[PERCA] *cernua*."

Locality: "Melita" (La Valletta/Malta). Local Maltese name: "I Cerna".

Remarks: This is a misidentification of *Perca cernua* (non Linnaeus, 1758). According to the Maltese name (actual vernacular Maltese name "Cerna"; Anonymus 2007b), this record has been based on *Epinephelus marginatus* (Lowe, 1834).

"*Epinephelus summana* (Forsskål in Niebuhr, 1775)"

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): "42. [PERCA] h) SUMMANA; albo-guttata; fusca. *Summân*."

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 42): "42. PERCA SUMMANA; *cauda rotundata: corpore cinereo-fusco, guttis albis undique adperso*."

Type locality: – (Red Sea).

Type material: Holotype: ZMUC P.43569 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 18, pl. 10; MØLLER 2006).

Genus name: *Perca*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *summana*.

Arabic names (Latinised, FORSSKÅL): Summân, Symman; (FABRICIUS in NIEBUHR): Summân.

Remarks: In his draft, FORSSKÅL used the Arabic name 'Summân' as a substitute for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described *Perca summana* as a new species; the name is binominal in both the index and text, it was accompanied by a diagnosis and description, and therefore would be available as *Perca summana* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Epinephelus summana* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid as *Perca summana* since BONNATERRE (1788: 132) and WALBAUM (1792: 345). The name was misspelled *Serranus sumana* by KLUNZINGER (1870: 685).

"*Epinephelus tauvina* (Forsskål in Niebuhr, 1775)"

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): "38. [PERCA] d) TAUVINA; longa, rufo-guttata. *Tauvîna*. [..., Arabic name]".

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 39–40): "38. PERCA

TAUVINA; *lineari-oblonga, fusca; guttis ferrugineo-nigris in capite, & corpore: cauda rotundata*."

Type locality: "DIDDÆ" (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.43565 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 17, pl. 8; MØLLER 2006).

Genus name: *Perca*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *tauvina*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Tauvîna*.

Remarks: In his draft, FORSSKÅL used the Arabic name 'Tauvîna' as a substitute for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described *Perca tauvina* as a new species; the name is binominal in both the index and text, it was accompanied by a diagnosis and description, and therefore would be available as *Perca tauvina* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Epinephelus tauvina* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 131) and WALBAUM (1792: 340–341).

*Serranus cabrilla* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XI): "32. [LABRUS] g) CHANUS; lineatus. Xávi."

FORSSKÅL in NIEBUHR (1775a: 36): "32. LABRUS CHANUS; *cauda bifida; capite utrinque rivulis tribus cærulescentibus; quadrato cæruleo sub oculo*."

Type locality: "CONSTANTINOPOLI" (Istanbul/Turkey).

Genus name: *Labrus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *lapina*.

Remarks: In his draft, FORSSKÅL used the Greek name Xávi as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described the new species as *Labrus chanus*; the new name is binominal both in the index and in the text, it is accompanied by a diagnosis and description, and would be available as *Labrus chanus* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. The species was considered as valid by WALBAUM (1792: 245), but is a junior synonym of *Perca cabrilla* Linnaeus, 1758, with the currently used name *Serranus cabrilla* (Linnaeus, 1758). The Turkish name 'chani' listed by FORSSKÅL corresponds with the modern name 'Hani' (as 'Asil hani', see FRICKE et al. 2007: 80). The species is regularly found in the Bosphorus and Marmara Sea near Istanbul; today it is near threatened in Turkey (FRICKE et al. 2007: 80).

*Serranus hepatus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "[LABRUS] *sachettus*."

Type locality: "Melita" (La Valletta/Malta).

Remarks: The name *Labrus sachettus* Forsskål [ex Anonymus] in Niebuhr, 1775a is a name only (nomen nudum), as it is neither accompanied by a diagnosis nor an indication. Judging from the species name 'sachettus', it is based on *Serranus hepatus* (Linnaeus, 1758), which has the Italian local name 'Sachetto'.

"*Variola louti* (Forsskål in Niebuhr, 1775)"

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): "40. [PERCA] f) LOUTI; cauda bi-falcata. *Louti*. [..., Arabic name]".



FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 40–41): “40. PERCA LOUTI; *oblongo-lanceolata: miniata: guttis pallide-violaceis: cauda bifalcata: pinnarum omnium margine postico flavo.*”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 44): “*Perca dentibus* LOUTI. [..., Arabic name] *Dentes incisores nulli. ...*”

Type localities: “Djiddæ” (Jeddah, Juddah/Saudi Arabia); “Lo-hajæ” (Al-Luhayya/Yemen).

Type material: Syntype: ZMUC P.43566 (listed as holotype by MÖLLER 2006 and ESCHMEYER 2007) (see KLAUSEWITZ & NIELSEN 1965: 17, pl. 9).

Genus name: *Perca*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *louti*.

Arabic names (Latinised, FORSSKÅL): Louti; (FABRICIUS in NIEBUHR): Louti, Schån.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘Louti’ as a substitute for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described *Perca louti* as a new species; the name is binominal in both the index (p. XI) and the text (pp. 40–41), and the version on p. 44 means ‘teeth of *Perca louti*’; the name was accompanied by a diagnosis and description, and therefore would be available as *Perca louti* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Variola louti* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 133) and WALBAUM (1792: 338).

Type material: Lectotype: ZMUC P.44109 (dry skin, ex ZMUC P.4773), as designated by KLAUSEWITZ & NIELSEN (1965: 18; see also pl. 11); paralectotype: ZMUC P.44110 (dry skin, ex ZMUC P.4774) (MÖLLER 2006).

Genus name: *Sciaena*.

Species names (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *hamrur*, *abu hamrur*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Abu hamrûr.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘hamrur’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described the new species in two different versions, as *Sciaena hamrur* on pp. 11 and 45, and as *Sciaena abu hamrur* on p. 44. Though the latter version is not binominal and therefore not available (ICZN, Art. 5), the name is accompanied by a diagnosis and description on p. 45, and the version on p. 45 is binominal, thus the name would be available as *Sciaena hamrur* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Priacanthus hamrur* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 122) and WALBAUM (1792: 310, *Sciaena abu hamrur*; 313, *Sciaena hamrur*). BLOCH & SCHNEIDER (1801: 307) erroneously gave the name as *Anthias hamur*.

#### Pseudochromidae – Dottybacks

*Haliophis guttatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: X): “1. MURÆNA a) GUTTATA. *Sjææka.*”

FORSSKÅL in NIEBUHR (1775a: 22): “1. MURÆNA GUTTATA: *glauca, guttis nigris; macula majori utrinque prope caput.*”

Type locality: “Djiddæ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Muraena*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *guttata*.

Arabic name (Latinised, FORSSKÅL): Sjaeka; (FABRICIUS in NIEBUHR): Sjaeæka (meaning Sjaeka).

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Muraena guttata*; the name is binominal, and accompanied by a diagnosis and description; the name is available as *Muraena guttata* Forsskål in Niebuhr, 1775, and was treated as valid by BONNATERRE (1788: 35). *Muraena maculata* Lacepède [ex Forsskål], 1800 (LACEPÈDE 1800: 265–266) is an unneeded new name for *Muraena guttata* Forsskål in Niebuhr, 1775; it is available, but a junior synonym.

#### Priacanthidae – Bigeyes

“*Priacanthus hamrur* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “44. SCIÆNA a) HAMRUR; squamiceps. *Abu hamrûr.*”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 44): “SCIÆNA ... 1) ABU HAMRUR: hujus characterem vide in descriptione”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 45): “44. SCIÆNA HAMRUR; cupreo-rubra: pinnis obscurioribus; capite undique squamato: ore subverticali: squamarum margine membranaceo.”

Type localities: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia); “LO-HAJÆ” (Al-Luhayya/Yemen).

#### Apogonidae – Cardinalfishes

*Cheilodipterus arabicus* (Gmelin [ex Forsskål], 1789)

FORSSKÅL in NIEBUHR (1775a: XI): “43. [PERCA] i) LINEATA, lineis nigris. *Djesauvi.*”

FORSSKÅL in NIEBUHR (1775a: 42–43): “43. PERCA LINEATA; *pinnis dorsi binis remotis: corpore argenteo, lineis nigris, longitudinalibus; macula caudæ aurea, medio nigra.*”

Locality: “Djiddæ” (Jeddah, Juddah/Saudi Arabia).

Remarks: This is not an independent new species description, as proposed by several authors, but an incorrect use of the species *Perca lineata* (non Linnaeus, 1758), based on a misidentification; while the Linnaean *Perca lineata* is based on the haemulid fish *Plectorhinchus lineatus* (Linnaeus, 1758). The first available name for FORSSKÅL’s fish is *Perca arabica* Gmelin [ex Forsskål], 1789 (GMELIN 1789: 1312), which is now valid as *Cheilodipterus arabicus* (Gmelin [ex Forsskål], 1789). The name *Cheilodipterus lineatus* does not have the author FORSSKÅL in NIEBUHR, 1775, as assumed by several authors. The species was subsequently described as *Perca lineata* by WALBAUM (1792: 329–330), and as *Cheilodipterus lineatus* by LACEPÈDE [ex COMMERSON] (1801: 540, 542, pl. 34, fig. 1), a name considered as a senior synonym of *Centropomus macrodon* which was described by LACEPÈDE [ex COMMERSON] (1802: 252). *Cheilodipterus lineatus* was believed by several authors to be a secondary homonym of *Perca lineata* Forsskål in Niebuhr, 1775, which is, however, not a species independent from *Perca lineata* Linnaeus, 1758, but a misidentification (see FRICKE 1999: 233), as both FORSSKÅL and NIEBUHR had the 10<sup>th</sup> edition of *Systema naturae* by LINNAEUS (1758) readily available (NIEBUHR, 1775: 18), but did not give individual credit to the authors of their species names. Both names were frequently used, so the use of *Cheilodipterus lineatus* (Linnaeus, 1758) as the valid name for the species recently named *Cheilodipterus macrodon* by other authors (e.g. GON & RANDALL 2003: 32–33), is obligatory.

## Sillaginidae – Sillagos

“*Sillago sihama* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “102. [ATHERINA] b) SIHAMA; thoracica. *Sihâmi*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 70): “102. ATHERINA SIHAMA; *pinnis V. subthoracicus; radiis D. pinnæ primæ undecim*.”

Type locality: “LOHAJÆ” (Al-Luhayya/Yemen).

Type material: Holotype: ZMUC P.45164 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 27, pl. 38; MØLLER 2006).

Genus name: *Atherina*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *sihama*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Sihâmi*, *Sjhâmi*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘*Sihâmi*’ as a substitute for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. The FORSSKÅL specimen was labelled ‘*Atherina* sp.’ according to KLAUSEWITZ & NIELSEN (1965: 27). FABRICIUS in NIEBUHR described *Atherina sihama* as a new species; the name is binominal in both the index and text; the name was accompanied by a description, and therefore would be available as *Atherina sihama* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Sillago sihama* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 178–179).

## Pomatomidae – Bluefishes

*Pomatomus saltatrix* (Linné, 1766)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “35. PERCA a) LOPHAR, *pinnis V. adnatis. Λοφάρι*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 38): “35. PERCA LOPHAR; *argentea; dorso dipterygio; pinnis ventralibus adnatis*.”

Type locality: “CONSTANTINOPOLI” (İstanbul/Turkey).

Genus name: *Perca*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *lophar*.

Turkish name (FORSSKÅL): *Lofâr balûk*.

Actual Turkish name: *Lüfer* (FRICKE et al. 2007: 83).

Remarks: In his draft, FORSSKÅL used the name ‘*lofâr*’ or ‘*lophar*’ as a substitute for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Perca lophar*. The name is binominal, accompanied by a diagnosis and description, and would be available as *Perca lophar* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. The name was considered as valid by WALBAUM (1792: 332), but is a junior synonym of *Pomatomus saltatrix* (Linné, 1766).

## Coryphaenidae – Dolphinfishes

*Coryphaena hippurus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “CORYPHÆNA *hippurus*.”

Locality: “Melita” (La Valletta/Malta). Local name: “I Lampuca”.

Remarks: The actual vernacular Maltese name of this species is “Lampuka” (Anonymus 2007b).

## Echeneidae – Remoras

*Echeneis naucrates* Linnaeus, 1758

FORSSKÅL in NIEBUHR (1775a: XIV): “7. ECHENEIS *neucrates*. Djiddæ *Keide* [..., Arabic name] vel *Kaml el Kersch*; [..., Arabic name] id est: *pediculus Squali Carebar*, quia sæpe adhæret tenaciter huic pisci, Lohajæ *Keda*.”

Localities: “Djiddæ” (Jeddah, Juddah/Saudi Arabia); “Lohajæ” (Al-Luhayya/Yemen).

Remarks: This is clearly the Linnaean name *Echeneis naucrates* or *E. naucrates* Linnaeus, 1758. In the area, species attached to sharks are either *Echeneis naucrates* Linnaeus, 1758 or *Remora remora* (Linnaeus, 1758), both of which were known to LINNAEUS (1758) and should have been identifiable for FORSSKÅL, so it is assumed that the identification was correct.

*Remora remora* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “ECHENEIS *remora*.”

Locality: “Melita” (La Valletta/Malta).

## Carangidae – Jacks

Carangidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[ZEUS] *gallus*.”

Locality: “Melita” (La Valletta/Malta). Local name: “I Serduk”.

Remarks: This is a misidentification of *Zeus gallus* (non Linnaeus, 1758); *Selene gallus* (Linnaeus, 1758) is a West Atlantic species and does not occur in the Mediterranean Sea. As the name is listed without diagnosis or indication, the record cannot be assigned to genus or species level.

*Alepes djedaba* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “75. [SCOMBER] g) DJEDABA; cauda sine carinis. *Djedaba*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 56–57): “75. SCOMBER DJEDABA; *albus, lateribus & caudæ pinna flavis*.”

Type localities: “LOHAJÆ.” (Al-Luhayya/Yemen); “DJIDDÆ.” (Jeddah, Juddah/Saudi Arabia); “SUES” (As-Suways/Egypt).

Type material: Syntype: ZMUC P.46441 (dry skin) (erroneously listed as holotype by KLAUSEWITZ & NIELSEN 1965: 22, pl. 26; MØLLER 2006; ESCHMEYER 2007).

Genus name: *Scomber*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *djedaba*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Susnok*, *Djedaba*, *Bajad*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘*djedaba*’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described it as *Scomber djedaba* in both the index and text; the name is accompanied by a diagnosis and description, and would be available as *Scomber djedaba* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Alepes djedaba* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since

BONNATERRE (1788: 142) and WALBAUM (1792: 219). This species was subsequently described as *Scomber albus* Gmelin [ex FORSSKÅL], 1789 (GMELIN 1789: 1334), which is a junior synonym of “*Scomber djeddaba* Forsskål in Niebuhr, 1775”. The name was misspelled as *Caranx djeddaba* by RÜPPELL (1830: 97, pl. 25, fig. 3) and KLUNZINGER (1871: 458).

*Carangoides armatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “68. [SCIÆNA] z ARMATA; nucha spinifera. *Galemfish*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 53): “68. SCIÆNA? ARMATA, GALEMFISH. Facies Scombri. ...”

Type locality: – (Red Sea).

Genus name: *Sciaena*.

Species names (FORSSKÅL): *armata*; (FABRICIUS in NIEBUHR): *armata*, *galemfish*.

Arabic name (Latinised, FORSSKÅL): *Galemfish*.

Remarks: FORSSKÅL intended to describe this species as *Sciaena armata*, and this is how it was named in the index on p. XII, but he was uncertain about the generic affiliation, and only doubtfully included it in *Sciaena*. FABRICIUS in NIEBUHR described the species on p. 53 as *Sciaena armata*, *galemfish*. As FABRICIUS in NIEBUHR (1775a) described two alternative names for the species, *armata* or *galemfish*, he did not clearly decide how to name the species, so the version on p. 53 is not available (ICZN, Art. 11.5). Both versions, however, are linked together by the species code ‘68’; the name on p. XII is thus accompanied by a brief description, and is available by indication (ICZN, Art. 12.2.2) as *Sciaena armata* Forsskål in Niebuhr, 1775. *Sciaena armata* was treated as valid since BONNATERRE (1788: 125) and WALBAUM (1792: 319).

“*Carangoides bajad* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “[71. SCOMBER c) FERDAU] β) linea laterali elata, carinata. *Bajad*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 55): “71. [SCOMBER FERDAU] b) BAJAD; *Varietas. Opercula anteriora obesa.* ...”

Type locality: – (Red Sea).

Type material: Syntypes: ZMUC P.46437–46438 (2 dry skins, head of smaller specimen missing) (see KLAUSEWITZ & NIELSEN 1965: 22, pl. 25; MØLLER 2006).

Genus name: *Scomber*.

Species/subspecies name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *ferdau bajad*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Bajad*; (FABRICIUS in NIEBUHR): *Abu sænsun*, *Hælj*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘bajad’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described it as a new variety in two versions, as *Scomber ferdau* var. β in the index on p. XII, and as *Scomber ferdau bajad* on p. 55. The name is accompanied by a short description, and would be available as *Scomber bajad* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Carangoides bajad* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. This species was treated as valid since WALBAUM (1792: 220).

“*Carangoides ferdau* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “71. [SCOMBER c) FERDAU; quinque-fasciatus. *Ferdau*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 55): “71. SCOMBER

FERDAU; *ovali-oblongus, argenteus, guttis aureis lateralibus; fasciis transversis fuscis quinque, obsoletis*.”

Type locality: “DIIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: No types known. A specimen with the label saying holotype (ZMUC P.46442, as figured in KLAUSEWITZ & NIELSEN 1965: 22, pl. 27; MØLLER 2006) is not this species.

Genus name: *Scomber*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *ferdau*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Ferdau*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘ferdau’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described it as a new species as *Scomber ferdau*. The name is binominal in both the index and text, is accompanied by a diagnosis and description, and would be available as *Scomber ferdau* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Carangoides ferdau* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 141) and WALBAUM (1792: 219–220).

*Carangoides fulvoguttatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “73. [SCOMBER] e) FULVOGUTTATUS. *Gæzz*. [..., Arabic name]”

FORSSKÅL in NIEBUHR (1775a: 56): “73. SCOMBER FULVOGUTTATUS; simillimus (S. 71) [*Scomber ferdau*] guttis aureis per latera frequentibus, orbiculatis, inordinatis; ...”

Type locality: – (Red Sea).

Genus name: *Scomber*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *fulvo-guttatus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Gæzz*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Scomber fulvo-guttatus*; the name is binominal, and accompanied by a diagnosis and description; it is available as *Scomber fulvoguttatus* Forsskål in Niebuhr, 1775. The species has been treated as valid since WALBAUM (1792: 220). *Caranx gaess* Lacepède [ex Forsskål], 1801 (LACEPÈDE 1801: 59, 75–76, misspelled *Caranx gaess* on p. 59) is an unneeded new name for *Scomber fulvoguttatus* Forsskål in Niebuhr, 1775; it is available, but a junior synonym.

*Caranx ignobilis* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “72. [SCOMBER] d) IGNOBILIS; argenteo-cærulescens. *Kirb*. [..., Arabic name]”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 55–56): “72. SCOMBER IGNOBILIS, KIRM; *argenteus; dorso cærulescente: pinnis pectoralibus & ventralibus rufescentibus*.”

Type localities: “Djiddæ” (Jeddah, Juddah/Saudi Arabia); “Lo-hajæ” (Al-Luhayya/Yemen).

Type material: Syntypes: ZMUC P.46439–46440 (2 dry skins, extremely poor condition) (see KLAUSEWITZ & NIELSEN 1965: 22, pl. 26; MØLLER 2006).

Genus name: *Scomber*.

Species names (FORSSKÅL): *ignobilis*; (FABRICIUS in NIEBUHR): *ignobilis*, *kirm*.

Arabic names (Latinised, FORSSKÅL): *Kirm*, *Djarm*, *Girb*, *Kórab* (smaller), *Djim* (larger); (FABRICIUS in NIEBUHR): *Kirb*.

Remarks: FORSSKÅL intended to describe this species as *Scomber ignobilis*, and this is how it was named in the index on p. XII. FABRICIUS in NIEBUHR described the species on pp. 54–55 as *Scomber ignobilis*, *kirm*. As FABRICIUS in NIEBUHR (1775a) described two alternative names for the species, *ignobilis* or



*kirm*, he did not clearly decide how to name the species, so the version on pp. 55–56 is not available (ICZN, Art. 11.5). Both versions, however, are linked together by the species code ‘72’; the name on p. XII is thus accompanied by a diagnosis and description, and is available by indication (ICZN, Art. 12.2.2) as *Scomber ignobilis* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 142) and WALBAUM (1792: 218).

*Caranx ignobilis* (Forsskål in Niebuhr, 1775)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “74. [SCOMBER] f) SANSUN; immaculatus. *Abu sansun*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 56): “74. SCOMBER SANSUN; *argenteo-nitens, immaculatus; caudæ carina elata, æquali*.”

Type locality: “LOHAJÆ.” (Al-Luhayya/Yemen).

Genus name: *Scomber*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *sansun*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu sansun, Abu læjla, Baghe, Dheirak, Bockas*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘sansun’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described it as *Scomber sansun* in both the index and text; the name is binominal, accompanied by a diagnosis and description, and would be available as *Scomber sansun* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. It was treated as valid by BONNATERRE (1788: 142) and WALBAUM (1792: 217). According to C. B. KLUNZINGER (unpublished manuscript, SMNS, ca. 1883), *Scomber sansun* is a junior synonym of *Caranx ignobilis* (Forsskål in Niebuhr, 1775).

*Gnathanodon speciosus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “70. [SCOMBER] b) SPECIOSUS; aureus, fasciis nigris alternis. *Rim*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 54–55): “70. SCOMBER RIM, SPECIOSUS; *pallide aureus; fasciis verticis obliquis; corporis septem nigris, alternis*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Scomber*.

Species names (FORSSKÅL): *speciosus*; (FABRICIUS in NIEBUHR): *rim, speciosus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Rim*.

Remarks: FORSSKÅL intended to describe this species as *Scomber speciosus*, and this is how it was named in the index on p. XII. FABRICIUS in NIEBUHR described the species on pp. 54–55 as *Scomber rim, speciosus*. As FABRICIUS in NIEBUHR (1775a) described two alternative names for the species, *rim* or *speciosus*, he did not clearly decide how to name the species, so the version on pp. 54–55 is not available (ICZN, Art. 11.5). Both versions, however, are linked together by the species code ‘70’; the name on p. XII is thus accompanied by a diagnosis and description, and is available by indication (ICZN, Art. 12.2.2) as *Scomber speciosus* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 143) and WALBAUM (1792: 217–218).

*Lichia amia* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[SCOMBER] *amia*.”

Locality: “Melita” (La Valletta/Malta).

“*Scomberoides lysan* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “69. SCOMBER a) LYSAN; spinis d. 7, distinctis. *Lysan*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 54): “69. SCOMBER LYSAN; *albido-maculatus; spinis dorsalibus septem primis separatis*.”

Type localities: “Djiddæ” (Jeddah, Juddah/Saudi Arabia); “Lohajæ” (Al-Luhayya/Yemen).

Type material: Lectotype: ZMUC P.46435 (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 22; see also pl. 25); paralectotype: ZMUC P.46436 (dry skin) (MØLLER 2006).

Genus name: *Scomber*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *lysan*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Mys-siæf, Lysan, Öbri*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘lysan’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described it as a new species as *Scomber lysan*. The name is binominal in both the index and text, is accompanied by a diagnosis and description, and would be available as *Scomber lysan* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Scomberoides lysan* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid by BONNATERRE (1788: 140), GMELIN (1789: 1325, *Gasterosteus lysan*), and WALBAUM (1792: 216–217). *Centronotus lysan* is not an independent species description, but an incorrect subsequent spelling by LACEPÈDE (1801: 309, 316–317).

*Trachinotus blochii* (Lacepède [ex Commerson], 1801)

FORSSKÅL in NIEBUHR (1775a: XII): “76. [SCOMBER] h) FALCATUS; pinna dorsi & ani falcata. *Hogel*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 57): “76. SCOMBER FALCATUS; *rhomboidalis; pinna secunda dorsi & ani falcata*.”

Localities: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia); “LOHAJÆ” (Al-Luhayya/Yemen).

FORSSKÅL material (no types as no new species description): NRM 16675 (1 dry), ZMUC P.46444 and 46445 (2 dry skins) (see KLAUSEWITZ & NIELSEN 1965: 22; MØLLER 2006).

Remarks: This is not an independent species description, but a misidentification of *Labrus falcatus* (non Linnaeus, 1758), which was here placed in the genus *Scomber* [currently used name *Trachinotus falcatus* (Linnaeus, 1758)]. The subsequent usage as *Scomber falcatus* Bonnaterre [ex Forsskål], 1788 (BONNATERRE 1788: 142–143) and other authors is neither available. The first available name of the species is *Caesiomorus blochii* Lacepède [ex Commerson], 1801, with the currently used name *Trachinotus blochii* (Lacepède [ex Commerson], 1801).

*Trachinotus ovatus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[SCOMBER] *glaucus*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This record is based on *Scomber glaucus* Linnaeus, 1758, which is a synonym of *Gasterosteus ovatus* Linnaeus, 1758.

*Trachurus mediterraneus* (Steindachner, 1868)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[SCOMBER] *trachurus*.”

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “Savrella”.

Remarks: The actual vernacular Maltese name is “Sawrella ghajnejh kbar” (Anonymus 2007b).

*Trachurus ponticus* Aleev, 1956

FORSSKÅL in NIEBUHR (1775a: XVI): “29. [SCOMBER] c) *trachurus*. Σταυρίδια. Turc. *Staurit-balıık*. Spina ante pinnam D. primam, tecta cute tam tenera, ut sæpe prorumpat & videatur nuda.”

Locality: – (İstanbul/Turkey).

Actual Turkish name: İstavrit (FRICKE et al. 2007: 85).

Remarks: This is a misidentification of the species *Scomber trachurus* (non Linnaeus, 1758); according to the Turkish name, the record is based on *Trachurus ponticus* (Aleev, 1956), a species which is a migrant regularly found in shallow water around İstanbul. The specimen recorded by FORSSKÅL was probably collected by the fishing vessel which he chartered in Constantinople/İstanbul.

#### Leiognathidae – Ponyfishes

*Leiognathus berbis* (Valenciennes [ex Forsskål] in Cuvier & Valenciennes, 1835)

FORSSKÅL in NIEBUHR (1775a: XII): “[77. SCOMBER e) EQUULA] β) minimus. *Melliet*.”

FORSSKÅL in NIEBUHR (1775a: 58): “77. [SCOMBER EQUULA] b); DJIDDÆ *Melliet*; LOHAJÆ *Berbis*; [..., Arabic name] A priori differt: *Magnitudine*; ...”

Type localities: “Djiddæ” (Jeddah, Juddah/Saudi Arabia); “Lohajæ” (Al-Luhayya/Yemen).

Genus name: *Scomber*.

Species/subspecies name (FORSSKÅL): *equula minimus*; (FABRICIUS in NIEBUHR): –.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Melliet*, *Berbis*.

Remarks: This species was described by FORSSKÅL and FABRICIUS in NIEBUHR in two versions, as *Scomber equula minimus* in the index on p. XII, and as *Scomber equula* var. ‘b’ in the text on p. 58. Both versions are linked together by the species code ‘77b’; the name is therefore accompanied by a diagnosis/description, and is available by indication (ICZN, Art. 12.2.2) as *Scomber equula minimus* Forsskål in Niebuhr, 1775. Unfortunately, this is an unused senior synonym of the species described as *Equula berbis* by VALENCIENNES [ex FORSSKÅL] in CUVIER & VALENCIENNES (1835: 85), with the latter name being an unnecessary new name for *Scomber equula minimus* of FORSSKÅL in NIEBUHR (1775a). The unused name *Scomber equula minimus* is here rejected according to the preamble and Art. 23.2 of ICZN; however, a petition to the International Commission on Zoological Nomenclature will be needed to suppress the name *Scomber equula minimus* Forsskål in Niebuhr, 1775 and retain the name *Equula berbis* Valenciennes [ex Forsskål] in Cuvier & Valenciennes, 1835 for this species, which is currently considered as valid, with the currently used name *Leiognathus berbis* (Valenciennes [ex Forsskål] in Cuvier & Valenciennes, 1835). The species was subsequently named *Scomber melliet* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 220–221); this is another senior synonym of *Equula berbis*, and needs suppression by the Commission as well.

*Leiognathus equulus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “77. [SCOMBER] e) EQUULA; gibbo duplici. *Abu kurse*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 58): “77. SCOMBER EQUULA; *pinnullis pinnaque dorsi connatis*.”

Type locality: – (Red Sea).

Type material: Lectotype: ZMUC P.48219 (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 23); paralectotype: ZMUC P.48220 (dry skin) (MØLLER 2006).

Genus name: *Scomber*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *equula*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu kurse*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Scomber equula*; the name is binominal in both the index and text, is accompanied by a diagnosis, and is therefore available as *Scomber equula* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 141) and WALBAUM (1792: 220).

#### Lutjanidae – Snappers

*Lutjanus argentimaculatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI): “50. [SCIÆNA] g) ARGENTIMACULATA; dentibus fastigiatis. *Scháafen*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 47–48): “50. SCIÆNA ARGENTIMACULATA; Arab. Schäafen. [..., Arabic name].”

Type locality: – (Red Sea).

Genus name: *Sciaena*.

Species name (FORSSKÅL): *argentimaculata*; (FABRICIUS in NIEBUHR): *argenti-maculata*, *argentimaculata*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Scháafen*.

Remarks: This new species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Sciaena argentimaculata*. The name is binominal in both the index and text, accompanied by a diagnosis and description, and available as *Sciaena argentimaculata* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 123) and WALBAUM (1792: 313). *Sciaena argentata* Gmelin [ex Forsskål], 1789 (GMELIN 1789: 1300–1301) is an unneeded new name for *Sciaena argentimaculata* Forsskål in Niebuhr, 1775, and a junior synonym. *Perca argentata* of BLOCH & SCHNEIDER (1801: 86) is not an independent new species description, but a change of the generic assignment of *Sciaena argentata* Gmelin; it cannot be treated as a primary homonym of *Perca argentata* Bloch, 1792 (BLOCH 1792: 86, pl. 311, fig. 1) from Japan.

*Lutjanus bohar* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “47. [SCIÆNA] d) BOHAR; dorso recto. *Bohar*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 44): “SCIÆNA ... 2) HOBAR. a) OMNES HÆ SCIÆNE MACULA GAUDENT NIGRA SUB JUNCTURA PINNARUM DORS. b) IMMACULATÆ. ...”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 46): “47. SCIÆNA BOHAR; *rubens*, *lineis nebulisve albidis*.”

Type locality: – (Red Sea).

Type material: Holotype: ZMUC P.4779 (see KLAUSEWITZ & NIELSEN 1965: 19, pl. 14; MØLLER 2006).

Genus name: *Sciaena*.

Species names (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *bohar*, *hobar*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Bohâr*, *Bhâr*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘bohâr’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described it as a new species in two different versions, as *Sciaena bohar* on

pp. XI and 46, and as *Sciaena hobar* on p. 44. Most probably *Sciaena hobar* is a spelling error. The name *Sciaena bohar* is binominal in both the index and text, accompanied by a diagnosis and description, and would be available as *Sciaena bohar* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Lutjanus bohar* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. This species was treated as valid since BONNATERRE (1788: 122–123) and WALBAUM (1792: 314).

*Lutjanus fulviflamma* (Forsskål in Niebuhr, 1775)

FORSSKÅL IN NIEBUHR (1775a: XI): “45. SCIÆNA b) FULVIFLAMMA. *Abu noqta*. [..., Arabic name]”.

FORSSKÅL IN NIEBUHR (1775a: 45–46): “45. SCIÆNA FULVIFLAMMA; *pinnis dorsalibus connexis; flavicans, macula laterali nigra; vittis longitudinalibus aureis*.”.

Type locality: – (Red Sea).

Type material: Lectotype: ZMUC P.4775 (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 18; see also pl. 12); paralectotype: ZMUC P.4776 (dry skin) (MØLLER 2006).

Genus name: *Sciaena*.

Species name (FORSSKÅL, FABRICIUS IN NIEBUHR): *fulviflamma*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS IN NIEBUHR): Abu noqta, Håbar, Hober.

Remarks: This new species was described by both FORSSKÅL and FABRICIUS IN NIEBUHR as *Sciaena fulviflamma*. The name is binominal in both the index and text, accompanied by a diagnosis and description, and available as *Sciaena fulviflamma* Forsskål in Niebuhr, 1775; it was treated as valid since BONNATERRE (1788: 120) and WALBAUM (1792: 316). *Centroponus hober* Lacepède [ex Forsskål], 1802 (LACEPÈDE 1802: 248, 255–256, 263–264) is an unneeded new name for *Sciaena fulviflamma* Forsskål in Niebuhr, 1775; it is available, but a junior synonym.

*Lutjanus gibbus* (Forsskål in Niebuhr, 1775)

FORSSKÅL IN NIEBUHR (1775a: XI): “48. [SCIÆNA] e) GIBBA; dorso gibbo. *Nagil*. [..., Arabic name]”.

FORSSKÅL IN NIEBUHR (1775a: 46–47): “48. SCIÆNA GIBBA; *rubens, albo-guttata, dorso gibbo*.”.

Type locality: – (Red Sea).

Genus name: *Sciaena*.

Species name (FORSSKÅL, FABRICIUS IN NIEBUHR): *gibba*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS IN NIEBUHR): Nagil, Naqil, Asmûdi.

Remarks: This new species was described by both FORSSKÅL and FABRICIUS IN NIEBUHR as *Sciaena gibba*. The name is binominal in both the index and text, accompanied by a diagnosis and description, and available as *Sciaena gibba* Forsskål in Niebuhr, 1775; the species was treated as valid since BONNATERRE (1788: 123) and WALBAUM (1792: 314). – *Sciaena gibbosa* of SHAW (1803: 539) is not an independent species description, but a spelling error for *Sciaena gibba*.

“*Lutjanus kasmira* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] IN NIEBUHR (1775a: XI): “46. [SCIÆNA] c) KASMIRA; *quadrivittata. Kasjmiri*.”.

FABRICIUS [ex FORSSKÅL] IN NIEBUHR (1775a: 46): “46. SCIÆNA KASMIRA; *flavescens, vittis utrinque cæruleis quatuor majoribus*.”.

Type locality: – (Red Sea).

Type material: Lectotype: ZMUC P.4777 (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 18; see also 11–19, pl. 13); paralectotype: ZMUC P.4778 (dry skin) (MØLLER 2006).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS IN NIEBUHR): *kasmira*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS IN NIEBUHR): Kasjmiri, Tyrki.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘Kasjmiri’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS IN NIEBUHR (1775a) described *Sciaena kasmira* as a new species; it is binominal in both the index and text, accompanied by a diagnosis and description, and would be available as *Sciaena kasmira* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Lutjanus kasmira* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. This species was treated as valid since BONNATERRE (1788: 122) and WALBAUM (1792: 314–315).

*Macolor niger* (Forsskål in Niebuhr, 1775)

FORSSKÅL IN NIEBUHR (1775a: XI): “49. [SCIÆNA] f) NIGRA. *Gatîe*. [..., Arabic name]”.

FORSSKÅL IN NIEBUHR (1775a: 47): “49. SCIÆNA NIGRA; *tota nigra, ventre fusco-albescente*.”.

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype (or syntype): ZMUC P.4780 (see KLAUSEWITZ & NIELSEN 1965: 19, pls. 14–15; MØLLER 2006). Another FORSSKÅL specimen attributed to *Sciaena nigra* (ZMUC P.4781), which may be another syntype, is based on *Lutjanus* sp.

Genus name: *Sciaena*.

Species name (FORSSKÅL, FABRICIUS IN NIEBUHR): *nigra*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS IN NIEBUHR): Gatîe.

Remarks: This new species was described by both FORSSKÅL and FABRICIUS IN NIEBUHR as *Sciaena nigra*. The name is binominal in both the index and text, accompanied by a diagnosis and description, and available as *Sciaena nigra* Forsskål in Niebuhr, 1775; the species was treated as valid by BONNATERRE (1788: 123) and later authors.

#### Gerreidae – Mojarras

“*Gerres oeyena* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] IN NIEBUHR (1775a: XI): “29. [LABRUS] d) ÖYENA; labio prolabente. *Abu öyena* vel *Kuvër*. [..., Arabic name] Lohajæ.”.

FABRICIUS [ex FORSSKÅL] IN NIEBUHR (1775a: 35): “29. LABRUS ÖYENA; *corpore argenteo; radiis dorsalibus 2–5 subinermibus*.”.

Type localities: “LOHAJÆ” (Al-Luhayya/Yemen); “SUES” (As-Suways/Egypt); “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Lectotype: ZMUC P.48209 (listed as holotype by ESCHMEYER 2007), selected by KLAUSEWITZ & NIELSEN 1965: 16; see also 16–17, pl. 7; MØLLER 2006).

Genus name: *Labrus*.

Species name (FORSSKÅL, FABRICIUS IN NIEBUHR): *öyena*.

Arabic names (Latinised, FORSSKÅL): Abu öyena, Kuvër.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘öyena’ as a substitute for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS IN NIEBUHR described the new species as *Labrus öyena*; as the ‘ö’ is the Latin equivalent of ‘oe’, the species name must be spelled ‘oeyena’. The name is binominal both in index and text, is accompanied by a diagnosis and description, and therefore would be available as *Labrus*



*oeyena* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Gerres oeyena* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was considered as valid since WALBAUM (1792: 241, *Labrus Oeyena*; 291, *Labrus Oyena*, misspelling in index). Two additional paralectotypes (ZMUC P.48210–48211) were identified as *Gerres argyreus* (Bloch & Schneider, 1801) by KLAUSEWITZ & NIELSEN (1965: 16–17), which is also a junior synonym of *Gerres oeyena*. BLOCH & SCHNEIDER (1801: 245) erroneously spelled the name *Labrus oeyna*.

*Gerres longirostris* (Lacepède [ex Commerson], 1801)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “29. [LABRUS d) ÖYENA] β) *Gasa*; [..., Arabic name] vittis rubris.”

FORSSKÅL in NIEBUHR (1775a: 35): “29b. [LABRUS ÖYENA] b) Huic maxime affinis alius *Vittis rubris, interruptis*. Hic Ar. *Gasa*: [..., Arabic name] prior *Abu Öyena*. ...”

Type locality: – (Red Sea, Al Luhayya/Yemen?).

Genus name: *Labrus*.

Species/subspecies name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *öyena gasa*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Gasa*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘gasa’ as a substitute for a Latin name to be selected for a subspecies of *Labrus (öyena)*. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the new taxon as *Labrus öyena gasa* in the index on p. XI, but omitted the subspecies name on p. 35 and only cited it as the Arabic name. ESCHMEYER (2007) believes the name is not available as it was listed without a scientific name. However, the name is described as a subspecies name in the index, and accompanied by a diagnosis there; the species was not collected at Gasa, as ESCHMEYER stated, but ‘Gasa’ was the Arabic name. Despite the fact that it is not mentioned explicitly in the text on p. 35, a little more detail is given there, and both index and text are linked together; the name would be available by indication (ICZN, Art. 12.2.2) from the subspecies description in the index as *Labrus oeyena gasa* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN (considered as valid as *Labrus gasa* by WALBAUM 1792: 241). According to the diagnosis, this is an unused senior synonym of *Labrus longirostris* Lacepède [ex Commerson], 1801, which has the currently used name *Gerres longirostris* (Lacepède [ex Commerson], 1801). In order to preserve the latter name, a petition to the International Commission on Zoological Nomenclature will be needed.

#### H a e m u l i d a e – Grunts

“*Plectorhinchus gaterinus* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “[59. SCIÆNA q) GATERINA; fusco-guttata *Gaterin*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 45): “SCIÆNA ... 6) GATERIN, operculis posterioribus inermibus.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 50): “59. SCIÆNA GATERINA; flavido-cærulescens, nigro-guttata, maculis sparsis.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Lectotype: ZMUC P.48212 (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 20; see also pl. 18); paralectotype: ZMUC P.48213 (dry skin) (MÖLLER 2006).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *gaterina*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Gaterin*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘Gaterin’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Sciaena gaterina*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and would be available as *Sciaena gaterina* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Plectorhinchus gaterinus* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 124) and WALBAUM (1792: 315). *Sciaena gaterin* of Fabricius [ex Forsskål] in Niebuhr (1775a: 45) is a misspelling of *Sciaena gaterina*.

“*Plectorhinchus gaterinus* (Forsskål in Niebuhr, 1775)”

FORSSKÅL in NIEBUHR (1775a: XII): “[59. SCIÆNA GATERINA] β) *gaterina minor*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 51): “59. [SCIÆNA GATERINA] b) SCIÆNA ABU-MGATERIN; [..., Arabic name] *vittis fuscis, utrinque quatuor, nigro guttatis, pinnis flavis*.”

Type locality: – (Red Sea).

Type material: Syntypes: ZMUC P.48216 (1 dry skin); ZMUC P.48217 (1 dry skin) (see KLAUSEWITZ & NIELSEN 1965: 20; MÖLLER 2006).

Genus name: *Sciaena*.

Species/subspecies name (FORSSKÅL): *gaterina minor*; (FABRICIUS in NIEBUHR): *abu-mgaterin*.

Arabic name (Latinised, FORSSKÅL): Abu Mgaterin.

Remarks: In his draft, FORSSKÅL apparently used the subspecies *Sciaena gaterina minor* for this taxon, as listed in the index on p. XII. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Sciaena abu-mgaterin*, obviously confusing the Arabic name with the species name. *Sciaena gaterina minor* is linked to *Sciaena abu-mgaterin* on p. 51 by the species code ‘51b’; it is therefore accompanied by a diagnosis and description, and would be available by indication (ICZN, Art. 12.2.2) as *Sciaena gaterina minor* Forsskål in Niebuhr, 1775 (which is not included in ESCHMEYER 2007), the authorship pending a decision of ICZN. This species was considered to be valid by WALBAUM (1792: 315, *Sciaena abu-mgaterin*), but is a synonym (the juvenile form) of “*Plectorhinchus gaterinus* (Forsskål in Niebuhr, 1775)”. GMELIN (1789: 1303) was the first reviser, choosing *Sciaena gaterina* as the senior synonym.

*Plectorhinchus schotaf* (Walbaum [ex Forsskål], 1792)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “[59. SCIÆNA GATERINA] γ) media maxilla edentula. *Schotaf*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 51): “59. [SCIÆNA GATERINA] c) SCHOTAF [..., Arabic name] vel SOFAT Arab.”

Type locality: – (Red Sea).

Type material: Lectotype: ZMUC P.48214 (dry skin, listed as holotype by MÖLLER 2006), as designated by KLAUSEWITZ & NIELSEN (1965: 20; see also pl. 19); paralectotype: ZMUC P.48215 (dry skin).

Genus name: *Sciaena*.

Species/subspecies name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): – (*schotaf* or *sofat* as Arabic names).

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Schotaf, Sofat.

Remarks: Neither FORSSKÅL nor FABRICIUS in NIEBUHR provided a name for this form; they described it as *Sciaena gaterina*  $\gamma$  in the index on p. XII, and *Sciaena gaterina*  $\epsilon$  on p. 51. The name ‘Schotaf’ is clearly marked as Arabic name in the index, separated from the species name by a diagnosis; ‘Schotaf’ or ‘Sofat’ are clearly marked as Arabic names, and not scientific species/subspecies names, in the text on p. 51, and even if ‘schotaf’ would be interpreted as a species/subspecies name, it would not be available because FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a) would then have described it as either *Sciaena gaterina schotaf* or *Sciaena gaterina sofat*, and therefore did not clearly decide which name they intended to use. GMELIN (1789: 1303) listed *Sciaena Sofat* as a junior synonym of *Sciaena Gaterina*, which makes his *Sciaena sofat* not available as mentioned in synonymy, and not considered as valid by subsequent authors (ICZN, Art. 11.5, 11.6.2). The first available version of the name is as *Sciaena schotaf* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 315). It is a valid species with the currently used name *Plectorhynchus schotaf* (Walbaum [ex Forsskål], 1792). The name was misspelled as *Diagramma shotaf* by RÜPPELL (1830: 126).

*Plectorhynchus schotaf* (Walbaum [ex Forsskål], 1792)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “[59. SCIÆNA q) GATERINA] δ) FÆTELA: [..., Arabic name] maxima.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 50–51): “59. [SCIÆNA GATERINA] ... d) FÆTELA; [..., Arabic name] Dentes, Labia, Nares, Oculi, Vertex, Cauda, Squamæ priorum [*Sciaena schotaf*]. Opercula anteriora non sinuata, subtus integra. Spina A. secunda longior & crassior tertia. Color fuscus, venter albidus, immaculatus. ...”

Type locality: – (Red Sea, probably Jeddah).

Genus name: *Sciaena*.

Species/subspecies name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *gaterina faetela*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Faetela.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘Faetela’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the subspecies as *Sciaena gaterina faetela*; the name is accompanied by a diagnosis and description, and would be available as *Sciaena faetela* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN; judging on the description, it is conspecific with *Plectorhynchus schotaf* (Walbaum [ex Forsskål], 1792), which is a major problem as it would be a senior synonym of that species. In order to preserve stability of nomenclature, a petition to the International Commission on Zoological Nomenclature will be necessary to suppress the name *Sciaena faetela* Fabricius [ex Forsskål] in Niebuhr, 1775. This species was subsequently misspelled *Diagramma fatela* by RÜPPELL (1830: 126), and *Diagramma foetela* by KLUNZINGER (1870: 737–738). This species was subsequently named *Sciaena maxima* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 318–319); this is another synonym of *Plectorhynchus schotaf* and needs suppression by the Commission as well.

*Pomadasys argenteus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “60. [SCIÆNA] r) ARGENTEA; nigro-guttata. *Nagem*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 51): “60. SCIÆNA ARGENTEA, NAGEB; *guttis nigris in corporis dimidio superiori*?”.

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia); – “Alis” (Red Sea).

Type material: Syntype: ZMUC P.48218 (dry skin) (listed as holotype by ESCHMEYER 2007) (see KLAUSEWITZ & NIELSEN 1965: 20–21, pls. 19–20; MØLLER 2006).

Genus name: *Sciaena*.

Species names (FORSSKÅL): *argentea*; (FABRICIUS in NIEBUHR): *argentea, nageb*.

Arabic name (Latinised, FORSSKÅL): *Nagem*; (FABRICIUS in NIEBUHR): *Nageb*.

Remarks: FORSSKÅL planned to name this species *Sciaena argentea*, and this is how the species is listed in the index on p. XII. FABRICIUS in NIEBUHR described it in the text on p. 51 as *Sciaena argentea, nageb*. The name is binominal in the index, but in the text, two alternative names are proposed, *argentea* or *nageb*. Both index and text are linked together by the species code ‘60’; the name is accompanied by a diagnosis and description, and is available by indication (ICZN, Art. 12.2.2) as *Sciaena argentea* Forsskål in Niebuhr, 1775 (*Sciaena nageb*, however, is not available). This species was considered as valid since WALBAUM (1792: 317–318). The species was subsequently named *Sciaena nageb* Bonnaterre [ex Forsskål], 1788 (BONNATERRE 1788: 121), which is a junior synonym. The *Pristipoma nageb* of RÜPPELL (1838: 124, pl. 30, fig. 2) is not an independent new species description (as erroneously assumed by ESCHMEYER 2007), but based in part on FORSSKÅL in NIEBUHR’s description, and on BONNATERRE’s *Sciaena nageb*. – *Perca argentata* Bloch & Schneider [part: ex Gmelin, Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 86) was subsequently based on this species and on *Sciaena argentimaculata* (see above, *Lutjanus argentimaculatus*), and is an unneeded junior synonym of the latter species; it is also a primary homonym of *Perca argentata* Bloch, 1792 (BLOCH 1792: 86, pl. 311, fig. 1) from Japan.

*Pomadasys stridens* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “58. [SCIÆNA] p) STRIDENS. *Korkor*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 50): “58. SCIÆNA STRIDENS; Arab. *Korkor* vel *Gorgor* [..., Arabic name]”.

FORSSKÅL locality: – (Red Sea).

Type locality: Massawa, Eritrea, Red Sea (as defined by neotype).

Type material: Neotype: HUI F.6708, as designated by IWATSUKI et al. (1995: 459).

Genus name: *Sciaena*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *stridens*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Korkor, Gorgor*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Sciaena stridens*; the name is binominal in both the index and text, is accompanied by a description, and is therefore available as *Sciaena stridens* Forsskål in Niebuhr, 1775; the species was treated as valid since BONNATERRE (1788: 121) and WALBAUM (1792: 317). *Perca korkor* Lacepède [ex Forsskål], 1802 (LACEPÈDE 1802: 397, 418–421; misspelled *Perca korker* on p. 397) is an unneeded new name for *Sciaena stridens* Forsskål in Niebuhr, 1775; it is available, but a junior synonym.

## Nemipteridae – Threadfin breams

“*Scolopsis ghanam* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “56. [SCIÆNA] n) GHANAM. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 44): “SCIÆNA ... 4) GHANAN.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 50): “56. SCIÆNA GHANAM; *albida, lateribus utrinque vittis gemina, alba*.”.

Type localities: “Djiddæ” (Jeddah, Juddah/Saudi Arabia); “Lo-hajæ” (Al-Luhayya/Yemen).

Type material: Syntype: ZMUC P.4782 (dry skin) (listed as holotype by ESCHMEYER 2007) (see KLAUSEWITZ & NIELSEN 1965: 19, pl. 17; MÖLLER 2006).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *ghanam*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Abu m’sámmer, Ghanam.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘Ghanam’ as a substitute for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the new species as *Sciaena ghanam*. The name is binominal both in index and text, is accompanied by a diagnosis and description, and therefore would be available as *Sciaena ghanam* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Scolopsis ghanam* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 123) and WALBAUM (1792: 318). *Sciaena ghanam* of FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 44) is a misspelling of *Sciaena ghanam*.

## Lethrinidae – Emperors

## Lethrinidae, indet.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “[61. SCIÆNA s) NEBULOSA] β) *violaceo-fasciata*. *Abu hamrûr*.”.

FORSSKÅL in NIEBUHR (1775a: 52): “61. [SCIÆNA NEBULOSA, HAMRUR] b) *Variat*: vittis longitudinalibus obsolete violaceis; quarum una prope abdomen rubens, lata. Arab. *Abu hamrûr*.”.

Type locality: – (Red Sea).

Genus name: *Sciaena*.

Species/subspecies name (FORSSKÅL): (Var. b.); (FABRICIUS in NIEBUHR): *nebulosa violaceo-fasciata*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Abu hamrûr.

Remarks: In his draft, FORSSKÅL listed this as variety ‘b’ without a scientific variety name. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) did not give a variety name in the text, but printed ‘*violaceo-fasciata*’ as the variety name in the index. The name was accompanied by a brief diagnosis, and would be available as *Sciaena nebulosa violaceofasciata* Fabricius in Niebuhr, 1775, the authorship pending a decision of ICZN. This species is not identifiable within the family Lethrinidae.

*Lethrinus* sp.

FORSSKÅL in NIEBUHR (1775a: XII): “[64. SCIÆNA v) OBSOLETA] β) *lamina maxillari*. *Dib*.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 53): “64. [SCIÆNA

RAMAK, OBSOLETA] b) *DIB* (Arab.) *lamina transversa membranacea in utraque maxilla*. Dentes laterales acuti. Cæterum simillima priori: sed major 2 spitham.”.

Type locality: – (Red Sea).

Type material: No types known. Material may be among ZMUC P.49350 or P.49351.

Genus name: *Sciaena*.

Species/subspecies name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *ramak obsoleta dib*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Dib*.

Remarks: In his draft, FORSSKÅL listed this as variety ‘b’ without a scientific variety name. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) did not give a variety name in the index, but printed ‘*dib*’ as the variety name in the text, though explicitly stating that this is an Arabic name (‘Arab.’). Though the name was accompanied by a brief diagnosis, it is not available as *Sciaena ramak obsoleta dib* Fabricius in Niebuhr, 1775, because the subspecies name consisted of two words and was therefore not trinominal (ICZN, Art. 5), and because the variety name was not meant to be a scientific name, but clearly indicated to be the Arabic name. The species was subsequently named *Sciaena Dib* by GMELIN [ex FORSSKÅL] in 1789 (GMELIN 1789: 1305), based on FORSSKÅL in NIEBUHR’s (1775a) diagnosis; it would be available as *Sciaena dib* Gmelin [ex Forsskål], 1789. This species was considered as valid by WALBAUM (1792: 310), but is not identifiable within the genus *Lethrinus*. It would be recommendable to have this name suppressed by a petition to the International Commission on Zoological Nomenclature.

*Lethrinus* sp.

FORSSKÅL in NIEBUHR (1775a: XII): “[64. SCIÆNA v) OBSOLETA] γ) *Suli*. *Djard*. *Mork*. *Saka*. *Kersit*.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 53): “64. [SCIÆNA RAMAK, OBSOLETA] c) *Nomine tantum notæ sunt mihi sequentes*: SULI: DJARD: MORK: SAKA: KERSIT.”.

Type locality: – (Red Sea).

Type material: No types known. Material may be among ZMUC P.49350 or P.49351.

Genus name: *Sciaena*.

Species/subspecies name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *ramak obsoleta suli*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Suli*, *Djard*, *Mork*, *Saka*, *Kersit*.

Remarks: In his draft, FORSSKÅL listed several Arabic names of this variety of *Sciaena obsoleta*, but did not assign a scientific variety name. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) used ‘*suli*’ as the variety name in the index, but not in text. Though both index and text versions are linked together by the species code ‘64γ’ or ‘64c’, *Sciaena obsoleta suli* Fabricius in Niebuhr, 1775 is neither accompanied by a diagnosis nor a description, and therefore not available. It is not identifiable within the genus *Lethrinus*.

“*Lethrinus harak* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “63. [SCIÆNA] u) HARAK; pinnis rubris. *Abu m’harrak*.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 52): “63. SCIÆNA HARAK; *virescens, pinnis pallide rubris; macula utrinque nigra lineari infra lineam lateralem*.”.

Type locality: – (Red Sea).



Type material: Lectotype: ZMUC P.49348 (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 21; see also pl. 22) (listed as syntype by MØLLER 2006); paralectotype: ZMUC P.49349 (dry skin) (MØLLER 2006).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *harak*.

Arabic name (Latinised, FORSSKÅL): Abu m'harrak; (FABRICIUS in NIEBUHR): Abu m'harrak.

Remarks: In his draft, FORSSKÅL used the Arabic name “M'harrak” or “harak” as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Sciaena harak*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and would be available as *Sciaena harak* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Lethrinus harak* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 124) and WALBAUM (1792: 312).

“*Lethrinus mahsena* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “62. [SCIÆNA] t) MAHSENA; transversim fasciata *Mobseni*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 52): “62. SCIÆNA MAHSENA; fusca, lineata, fasciis transversis nebulosis, argenteis. Arab. *Sjôur mohseni*: Aliis *Sööbi*: vel *Höśni*: *Mæhseni*. [..., Arabic name]”.

Type locality: “Capta ad promontorium *Djimûm*” (Ra’s Barîdî, NNW Yanbu’, Saudi Arabia, 24°17'N 37°31'E).

Type material: Lectotype: ZMUC P.49346 (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 21; see also pl. 21); paralectotype: ZMUC P.49347 (dry skin) (MØLLER 2006).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *mahsena*.

Arabic names (Latinised, FORSSKÅL): *Sjôur mehseni*, *Sööbi*, *Höśni*, *Maehseni*; (FABRICIUS in NIEBUHR): *Mobseni*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘Maehseni’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Sciaena mahsena*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and would be available as *Sciaena mahsena* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Lethrinus mahsena* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN; it is a valid species. This species was subsequently named *Sciaena masehna* by WALBAUM (1792: 310, 715); this is not an independent species description, but a spelling error.

*Lethrinus nebulosus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “61. [SCIÆNA] f) NEBULOSA. *Schaur*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 52): “61. SCIÆNA NEBULOSA, HAMRUR; Ar. *Schâûr*. [..., Arabic name] Aliis *Bónkose*. [..., Arabic name]”.

Type locality: – (Red Sea); – “Aliis” (Red Sea).

Type material: Syntype: ZMUC P.49345 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 21, pl. 20) (listed as holotype by MØLLER 2006 and ESCHMEYER 2007).

Genus name: *Sciaena*.

Species names (FORSSKÅL): *nebulosa*; (FABRICIUS in NIEBUHR): *nebulosa*, *hamrur*.

Arabic names (Latinised, FORSSKÅL): *Schâûr*, *Bónkose*; (FABRICIUS in NIEBUHR): *Schaur*.

Remarks: FORSSKÅL intended to describe this species as *Sciaena nebulosa*, and this is how it was named in the index on p. XII. FABRICIUS in NIEBUHR described the species on p. 52 as *Sciaena nebulosa*, *hamrur*; the name ‘hamrur’ was confused with the variety ‘b’, which has the Arabic name ‘Abu hamrûr’, a name that does not apply to the nominal form *Sciaena nebulosa*. As FABRICIUS in NIEBUHR (1775a) described two alternative names for the species, *nebulosa* or *hamrur*, he did not clearly decide how to name the species, so the version on p. 52 is not available (ICZN, Art. 11.5). Both versions, however, are linked together by the species code ‘61’; the name on p. XII is thus accompanied by a diagnosis and description, and is available by indication (ICZN, Art. 12.2.2) as *Sciaena nebulosa* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 124) and WALBAUM (1792: 310).

*Lethrinus obsoletus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “64. [SCIÆNA] v) OBSOLETA; flavo-violaceo-lineata *Ramak*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 52–53): “64. SCIÆNA RAMAK, OBSOLETA; *albedo-virescens*, *lineis longitudinalibus obsoletis*, *violaceo-flaventibus*; *pinnis rubentibus*.”.

Type locality: – (Red Sea).

Type material: Lectotype: ZMUC P.49352 (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 21; see also pl. 23); paralectotype: ZMUC P.49353 (dry skin) (MØLLER 2006).

Genus name: *Sciaena*.

Species names (FORSSKÅL): *obsoleta*; (FABRICIUS in NIEBUHR): *ramak*, *obsoleta*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Ramak*.

Remarks: FORSSKÅL intended to describe this species as *Sciaena obsoleta*, and this is how it was named in the index on p. XII. FABRICIUS in NIEBUHR described the species on pp. 52–53 as *Sciaena ramak*, *obsoleta*. As FABRICIUS in NIEBUHR (1775a) described two alternative names for the species, *ramak* or *obsoleta*, he did not clearly decide how to name the species, so the version on pp. 52–53 is not available (ICZN, Art. 11.5). Both versions, however, are linked together by the species code ‘64’; the name on p. XII is thus accompanied by a diagnosis and description, and is available by indication (ICZN, Art. 12.2.2) as *Sciaena obsoletus* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 124), who also acted as the first reviser of this case, and chose the name *obsoletus* as having priority over *ramak*.

*Monotaxis grandoculis* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “65. [SCIÆNA] w) GRANDOCULIS; cærulescens. *Abu æjn*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 53): “65. SCIÆNA GRANDOCULIS; *cærulescens*: *labio inferiore gibbo*.”.

Type locality: “*DJIDDÆ*” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Sciaena*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *grandoculis*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu æjn*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Sciaena grandoculis*; the name is binominal in both the index and text, is accompanied by a description, and is therefore available as *Sciaena grandoculis* Forsskål in Niebuhr, 1775. The species was treated as

valid since BONNATERRE (1788: 125) and WALBAUM (1792: 311–312).

### Sparidae – Porgies

“*Acanthopagrus berda* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “24. [SPARUS] d) BERDA; spinis basi bulbosis. *Abu basal* vel *Nezi*. [..., Arabic name] *Lohajæ*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 32–33): “24. SPARUS BERDA; *cinereo-albidus; squamis lateralibus singulis fascia media, transversa, fusca: spinis dorsalibus recumbentibus*.”

Type locality: “Lohajæ” (Al-Luhayya/Yemen).

Type material: Holotype: ZMUC P.50555 (see KLAUSEWITZ & NIELSEN 1965: 16, pl. 6; MØLLER 2006).

Genus name: *Sparus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *berda*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu basal*, *Nezi*, *Berda*.

Remarks: In his draft, FORSSKÅL did not give a species name, but used ‘berda’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Sparus berda*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and therefore would be available as *Sparus berda* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Acanthopagrus berda* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was considered as valid since WALBAUM (1792: 292). Though ESCHMEYER (2007) states that this was described as a new name for *Chaetodon bifasciatus* Forsskål in Niebuhr, 1775 (see below, *Acanthopagrus bifasciatus*), no evidence for this hypothesis is found in the original description.

*Acanthopagrus bifasciatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XIII): “91. [CHÆTODON] n) BIFASCIATUS. *Rabâgi*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 64–65): “91. CHÆTODON BIFASCIATUS; *cauda bifida, flava, fasciis duabus capitis nigris*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.50557 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 24, pl. 35; MØLLER 2006).

Genus name: *Chaetodon*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *bifasciatus*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Rabâgi*, *Rabdja*, *Robgi*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Chaetodon bifasciatus*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and is therefore available as *Chaetodon bifasciatus* Forsskål in Niebuhr, 1775. The species was treated as valid by BONNATERRE (1788: 85). *Holocentrus rabaji* Lacepède [ex Forsskål], 1802 (LACEPÈDE 1802: 724, 725) was described as a new unneeded name for *Chaetodon bifasciatus*, and is a junior synonym.

*Argyrops spinifer* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI, part): “23. [SPARUS] c) SPINIFER; *quinque-filaris*. *Naddjar*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 32): “23. SPARUS SPINIFER; *spinis dorsalibus recumbentibus, mediis quinque filiformibus, longioribus*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Sparus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *spinifer*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Naddjar*, *Quidjâdj*, *Djidjadj el bâhr*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Sparus spinifer*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and is therefore available as *Sparus spinifer* Forsskål in Niebuhr, 1775; it is in part a valid species (considered as valid since WALBAUM 1792: 299–300), now named *Argyrops spinifer* (Forsskål in Niebuhr, 1775). Turkish and Egyptian records of *Sparus spinifer* by FORSSKÅL in NIEBUHR (1775a: XI, part) are based on *Pagrus* sp. (see below). A neotype needs to be selected for this species in order to stabilise the usage as *Argyrops spinifer*.

*Boops boops* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XV): “22. [SPARUS] k) *cantharus*. Oblongus, vertice rugoso. *Būpa*. Turc. *Vupa*. Arab. *Mâsi*. An idem cum *Sp. boope?*. Vel. *Γύπα*. *Smirnensium?*”.

Localities: “Smirna?” (İzmir/Turkey); “Alexandria” (Alexandria, Al-Iskandarīyah/Egypt, Mediterranean Sea).

Material: ZMUC P.50552 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 16).

Genus name: *Sparus*.

Actual Turkish names: *Kupez*, *lopa* (FRICKE et al. 2007: 86).

Remarks: This is not an independent new species description, but a misidentification of *Sparus cantharus* (non Linnaeus, 1758); the record is based on *Boops boops* (Linnaeus, 1758). This species is common in the Marmara Sea near İstanbul and the Aegean Sea near İzmir in Turkey; it was probably collected by FORSSKÅL using a chartered fishing vessel at Constantinople/İstanbul. One of the actual Turkish names of the species is ‘lopa’ (FRICKE et al. 2007: 86), which resembles the ‘vupa’ recorded by FORSSKÅL.

*Boops boops* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SPARUS] *boops*.”

Locality: “Melita” (La Valletta/Malta).

*Crenidens crenidens* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XV): “19. [SPARUS] g) CRENIDENS. *Djiddæ Rasan*. Sués *Boreis* [..., Arabic name] vel *Ersan*. *Opercula inermia*. ...”.

Type localities: “Djiddæ” (Jeddah, Juddah/Saudi Arabia); “Sués” (As-Suways/Egypt).

Type material: Syntype: ZMUC P.50551 (probably from Jeddah) (see KLAUSEWITZ & NIELSEN 1965: 16, pl. 5) (listed as holotype by MØLLER 2006).

Genus name: *Sparus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *crenidens*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Rasan*, *Boreis*, *Ersan*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Sparus crenidens*; the name is binominal in both the index and text, is accompanied by a diagnosis, and is therefore available; it is a valid species, now named *Crenidens crenidens* (Forsskål in Niebuhr, 1775). The species was named *Sparus crenideus* by WALBAUM (1792: 303, 716); this is not an independent species description, but a spelling error. It was subsequently described as *Crenidens forskalii* Valenciennes in Cuvier & Valenciennes, 1830 (VALENCIENNES in CUVIER & VALENCIENNES 1830: 378), which is a junior synonym of *Crenidens crenidens*.

?*Cheimerius nufar* (Valenciennes in Cuvier & Valenciennes, 1830)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XVII): “55. [?*Sciaena*] NAQUA; piscis maris rubri obscurus; (an *Sciaena* 48?) ...”

Locality: – (Red Sea).

Remarks: FORSSKÅL in NIEBUHR (1775a) used the Arabic name ‘naqua’ as a substitute for a scientific name possibly to be selected for this species, doubtfully arranged in the genus *Sciaena*, and possibly thought conspecific with *Sciaena gibba* (species code ‘48’). FABRICIUS in NIEBUHR (1775a) used (*Sciaena?*) *naqua* to name a species which was insufficiently diagnosed, not meant to be a new species with certainty, and therefore not available as *Sciaena naqua* Fabricius in Niebuhr, 1775. The record was probably based on the sparid fish *Cheimerius nufar* (Valenciennes in Cuvier & Valenciennes, 1830). The name *Naqua* was erroneously interpreted by ESCHMEYER (2007) to be a subgenus of *Sciaena*, and considered a species of *Lutjanus*.

*Dentex* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SPARUS] *dentex*.”

Locality: “Melita” (La Valletta/Malta). Local name: “Il Denti-ci”.

Remarks: The record of the Linnaean species name *Sparus dentex* from Malta cannot be assigned to species level; the record could have been based on either *Dentex dentex* (Linnaeus, 1758), *Dentex gibbosus* (Rafinesque-Schmaltz, 1810), *Dentex macrophthalmus* (Bloch, 1791) or *Dentex maroccanus* Valenciennes in Cuvier & Valenciennes, 1830 (actual vernacular Maltese name “Denci”; Anonymus 2007b).

*Diplodus annularis* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XV): “17. SPARUS e) *annularis*. Σπάρος. Turc. *Smarid*. Arab. *Háros*. Corpus ovale. Ad caudam non ocellus, sed macula nigra. P. V. flava.”

Localities: “Turc.” (Turkey); “Alexandria” (Alexandria, Al-Iskandarīyah/Egypt, Mediterranean Sea).

Actual Turkish names: İsparoz, İspari (FRICKE et al. 2007: 87).

Remarks: This is a record of the Linnaean species *Sparus annularis*; its currently used name is *Diplodus annularis* (Linnaeus, 1758). The species frequently occurs in the Marmara Sea near İstanbul and the Aegean Sea near İzmir in Turkey.

*Diplodus annularis* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[SPARUS] *sparus*.”

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “Il Spargu”.

Remarks: *Sparus sparus* Forsskål [ex Anonymus] in Niebuhr, 1775 is a name only (nomen nudum), as it was listed with neither a diagnosis nor an indication. The name is not included in ESCHMEYER (2007). According to the Maltese name, the record has been based on *Diplodus annularis* (Linnaeus, 1758) (actual vernacular Maltese name “Sparlu”; Anonymus 2007b).

*Diplodus sargus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XV): “20. [SPARUS] h) *sargus*. Ασκάδαρος.”

Locality: – (Turkey).

Remarks: This is a record of the Linnaean species *Sparus sargus*; its currently used name is *Diplodus sargus* (Linnaeus, 1758), with the actual Turkish name ‘Sargoz’ (FRICKE et al. 2007: 87). The species frequently occurs in the Marmara Sea near İstanbul and the Aegean Sea near İzmir in Turkey.

*Lithognathus mormyrus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XV): “14. [SPARUS] b) *mormyrus*. Μύρμυρ.”

Locality: – (Turkey?).

Remarks: This is a record of the Linnaean species *Sparus mormyrus*; its currently used name is *Lithognathus mormyrus* (Linnaeus, 1758), with the actual Turkish name ‘Mirmir’ (FRICKE et al. 2007: 87). The species frequently occurs in the Marmara Sea near İstanbul and the Aegean Sea near İzmir in Turkey.

*Oblada melanura* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XV): “18. [SPARUS] f) *melanurus*. Μελανύρα. Arab. *Kabli* vel *Schargûsch*.”

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[SPARUS] *melanurus*.”

Localities: – (Turkey?); “Alexandria” (Alexandria, Al-Iskandarīyah/Egypt, Mediterranean Sea); “Melita” (La Valletta/Malta).

Remarks: These records are based on the Linnaean species *Sparus melanurus*; its currently used name is *Oblada melanura* (Linnaeus, 1758). This species frequently occurs in the Marmara Sea near İstanbul and the Aegean Sea near İzmir in Turkey (FRICKE et al. 2007: 88), and in other parts of the Mediterranean Sea.

*Pagellus erythrinus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SPARUS] *erythrinus*.”

Locality: “Melita” (La Valletta/Malta). Local name: “Il Pagella”.

Remarks: This record under the Linnaean name *Sparus erythrinus* from Malta has actually been based on *Pagellus erythrinus* (Linnaeus, 1758), according to the Maltese name (actual vernacular Maltese name “Pagella”; Anonymus 2007b).

*Pagrus* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SPARUS] *pagrus*.”

Locality: “Melita” (La Valletta/Malta). Local name: “Il Pagru”.

Remarks: This record under the Linnaean name *Sparus pagrus* from Malta cannot be assigned to species level; the record could have been based on either *Pagrus auriga* Valenciennes, 1843 or *Pagrus caeruleostictus* (Valenciennes in Cuvier & Valenciennes, 1830), both bearing the actual vernacular Maltese name “Pagru” (Anonymus 2007b).

*Pagrus* sp.

FORSSKÅL in NIEBUHR (1775a: XI, part): “23. SPARUS c) SPINIFER; quinque-filaris. Constantinopoli *Merdjan*.”

Type localities: “Constantinopoli” (İstanbul/Turkey); “DAMI-ATE” (Dumyāt/Egypt); (part).

Remarks: *Sparus spinifer* Forsskål in Niebuhr, 1775 was in part described from Constantinople/İstanbul, Turkey; according to the presence of filaments in the dorsal fin, and the Turkish name (actual Turkish name ‘Mercan’), it could be based on either of the two species of *Pagrus* occurring in the Marmara Sea and Bosphorus in the area (FRICKE et al. 2007: 88): *Pagrus auriga* Valenciennes, 1843 (Çizgili mercan), or *Pagrus caeruleostictus* (Valenciennes in Cuvier & Valenciennes, 1830) (Antenli mercan). Both species are today no longer known from Marmara Sea, but do occur in the Aegean Sea. Red Sea materials of *Sparus spinifer* belong to a valid species, *Argyrops spinifer* (Forsskål in Niebuhr, 1775). A neotype needs to be selected for this species in order to fix the usage as *Argyrops spinifer*.



*Pagrus caeruleostictus* (Valenciennes in Cuvier & Valenciennes, 1830)

FORSSKÅL in NIEBUHR (1775a: XV): “15. [SPARUS] c) *pagrus*. Μερχταύη. Turc. *Mertsan*. nomen Persicum. Venter a capite ad anum fere rectus; unde habitus Triglaë.”

Locality: “Turc.” (İzmir/Turkey).

Actual Turkish name: Antenli mercan (FRICKE et al. 2007: 88).

Remarks: This is a misidentification of the species *Sparus pagrus* (non Linnaeus, 1758); according to the Turkish name and the diagnosis, the record is based on *Pagrus caeruleostictus* (Valenciennes in Cuvier & Valenciennes, 1830), a species which is regularly found in the Aegean Sea near İzmir/Turkey, but not in the Marmara Sea near Istanbul. The Turkish name of the co-occurring *Pagrus pagrus* (Linnaeus, 1758) is ‘Fangri’ (FRICKE et al. 2007: 88).

*Rhabdosargus haffara* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “25. [SPARUS] e) HAFARA; lineis flavis 14. *Haffāra*. [..., Arabic name]”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 33): “25. SPARUS HAFARA. DESCR. Facies Mormyri. Fasciæ transversæ nullæ. ...”

Type locality: – (Red Sea).

Genus name: *Sparus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *haffara*.

Arabic name (Latinised, FORSSKÅL): *Haffāra*; (FABRICIUS in NIEBUHR): *Haffāra*.

Remarks: In his draft, FORSSKÅL used ‘Haffara’ as a substitute name for a Latin name to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described it as a new species *Sparus haffara*. The name is binominal in both the index and text, and accompanied by a description; it would therefore be valid as *Sparus haffara* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Rhabdosargus haffara* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN, and was treated as valid since BONNATERRE (1788: 101) and WALBAUM (1792: 203).

*Rhabdosargus sarba* (Gmelin [ex Forsskål], 1789)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “22. [SPARUS] b) SARBA; argenteus. *Arid*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 31–32): “22. SPARUS SARBA; ovato-oblongus, argenteus: vittis obsoletis plurimis: linea aurea utrinque juxta pinnas ventrales flavas: an *Salpa* Linn.?”

Type localities: “DJIDDE” (Jeddah, Juddah/Saudi Arabia); “Suénsium” (As-Suways/Egypt).

Type material: Lectotype: ZMUC P.50553 (said to be a holotype by ESCHMEYER 2007) (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 16, see also pls. 5–6); paralectotype: ZMUC P.50554 (dry skin) (MØLLER 2006).

Genus name: *Sparus*.

Species names (FORSSKÅL): – (*argenteus*); (FABRICIUS in NIEBUHR): *sarba* or *salpa*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Arid*, *Kosar*, *Sarba*.

Remarks: FORSSKÅL was not sure if this was a new species or a record of *Sparus salpa* Linnaeus, 1758 from the Red Sea; he used the Arabic name ‘sarba’ as a substitute for a Latin name eventually to be selected, if this turned out to be a new species. FABRICIUS in NIEBUHR mentioned in the text that this is either a new species *Sparus sarba*, or *Sparus salpa*. As neither FORSSKÅL nor FABRICIUS were sure of the identity of the new species, but used two alternative names, the name *Sparus sarba* Fabricius [ex Forsskål] in Niebuhr, 1775 is not available. The first available version of the name is *Sparus sarba* Gmelin [ex Forsskål], 1789 (GMELIN 1789: 1275). The species was considered as valid since WALBAUM (1792: 294–205).

*Sarpa salpa* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XV): “SPARUS a) *salpa*. Σάλπα.”

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[SPARUS] *salpa*.”

Localities: – (İstanbul or İzmir, Turkey); “Melita” (La Valletta/Malta). Local Maltese name: “I Scilpa”.

*Sparus aurata* Linnaeus, 1758

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “SPARUS *auratus*.”

Locality: “Melita” (La Valletta/Malta).

*Spondyliosoma cantharus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XV): “16. [SPARUS] d) Μαυρόψαρο: lineatus, ovalis; cauda bifida; vertice laevi; corpore albo, lineis flavicantibus interceptis in medio latere. ...”

Type locality: – (İstanbul or İzmir, Turkey).

Genus name: *Sparus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *Μαυρόψαρο*.

Remarks: While FORSSKÅL used the Greek name ‘Μαυρόψαρο’ as a substitute for a Latin name possibly to be selected, FABRICIUS in NIEBUHR took the name to describe it as a new species. However, as the name is not in Latin characters, it is not available. *Sparus Μαυρόψαρο* is an unavailable junior synonym of *Sparus cantharus* Linnaeus, 1758; its currently used name is *Spondyliosoma cantharus* (Linnaeus, 1758). This species was subsequently described as *Sparus mauropsarus* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 301) and *Sparus mauropsaro* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 279), based on FORSSKÅL’S *Sparus Μαυρόψαρο*; *Sparus mauropsaro* is a junior synonym of *Spondyliosoma cantharus* (Linnaeus, 1758). ESCHMEYER (2007) erroneously gave the type locality of *Sparus mauropsaro* Bloch & Schneider as ‘Red Sea’, but it is western Turkey. PARENTI in ESCHMEYER (2007), also erroneously, gave the identity of *Sparus mauropsarus* Walbaum as *Rhabdosargus sarba* (non Gmelin [ex Forsskål], 1789).

*Spondyliosoma cantharus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XV): “23. [SPARUS] l) *strongilus*. Στρόγγιλο. Turc. *Strongil*. Arab. *Guegāra*. Oblongus, sublineatus, ...”

Type localities: “Turc.” (Turkey); “Alexandria” (Alexandria, Al-Iskandariyah/Egypt, Mediterranean Sea).

Genus name: *Sparus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *strongilus*.

Remarks: While FORSSKÅL, in his draft, used the Greek name ‘Στρόγγιλο’ as a substitute for a Latin name possibly to be selected, FABRICIUS in NIEBUHR used the *Sparus strongilus* to describe it as a new species. The name is binominal and accompanied by a diagnosis; it would therefore be available as *Sparus strongilus* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. The name was subsequently spelled *Sparus strongylus* by BLOCH & SCHNEIDER (1801: 285). *Sparus strongilus* Fabricius [ex Forsskål] in Niebuhr, 1775 is a junior synonym of *Sparus cantharus* Linnaeus, 1758.

*Spondyliosoma cantharus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SPARUS] *cantharus*.”

Locality: “Melita” (La Valletta/Malta).

## Centracanthidae – Picarel porgies

*Spicara maena* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XV): “21. [SPARUS] *i maena*. Σερώλα.”

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SPARUS] *mænas*.”

Localities: – (Turkey?); “Melita” (La Valletta/Malta). Local Maltese name: “Il Minnula”.

Remarks: Both records are based on the Linnaean species *Sparus maena*, which is a valid species with the currently used name *Spicara maena* (Linnaeus, 1758). The species frequently occurs at İstanbul and İzmir in Turkey; the specimen which forms the basis of the record on p. XV was probably collected by FORSSKÅL with the chartered fishing vessel at Constantinople/İstanbul, Turkey. The species name ‘*mænas*’ is a spelling error for ‘*maena*’, not an independent naming of the species.

*Spicara smaris* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “SPARUS *smaris*.”

Locality: “Melita” (La Valletta/Malta).

## Sciaenidae – Drums

## Sciaenidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SCIÆNA] *umbrina*.”

Type locality: “Melita” (La Valletta/Malta).

Remarks: This is a name only (nomen nudum), as it was accompanied by neither a diagnosis, nor a description or indication. Therefore, the name is not available as *Sciaena umbrina* Forsskål in Niebuhr, 1775. The species is unidentifiable within the family Sciaenidae.

*Sciaena umbra* Linnaeus, 1758

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SCIÆNA] *umbra*.”

Locality: “Melita” (La Valletta/Malta).

## Mullidae – Goatfishes

*Mullus surmuletus* Linnaeus, 1758

FORSSKÅL in NIEBUHR (1775a: XVI): “31. MULLUS *barbatus*. Βαρβόβυ. Turc. *Tekir*. *Esca vulgaris & fastidita Constantinopoli*; *Romanis olim ichthyophaga & pretiosa luxuria*.”

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “MULLUS *surmuletus*.”

Localities: “Constantinopoli” (İstanbul/Turkey); “Melita” (La Valletta/Malta).

Actual Turkish name: *Tekir* (FRICKE et al. 2007: 90).

Remarks: The Turkish record is a misidentification of the species *Mullus barbatus* (non Linnaeus, 1758); according to the Turkish name, the record is based on *Mullus surmuletus* Linnaeus, 1758, a species which is regularly found in shallow water around İstanbul. The specimen recorded by FORSSKÅL was probably collected by the fishing vessel which he chartered in Constantinople/İstanbul. *Mullus barbatus* has the

actual Turkish name ‘*Barbun*’ (FRICKE et al. 2007: 90). From Malta, *Mullus surmuletus* is given as a name only, so we cannot be sure if it was correctly identified.

*Parupeneus forsskali* (Fourmanoir & Guézé [ex Forsskål], 1976)

FORSSKÅL in NIEBUHR (1775a: X): “19. MULLUS a) AURIFLAMMA; *vittis aureis*. *Ambîr*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 30): “19. MULLUS AURIFLAMMA: *cirrhis duobus albis, vitta utrinque fulva; dorso fusco aeneo: caudæ pinna flava, immaculata*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.49343 (see KLAUSEWITZ & NIELSEN 1965: 14–15, pl. 4; MØLLER 2006).

Genus name: *Mullus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *auriflamma*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Ambîr*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Mullus auriflamma*; as the name would have been available and might have threatened its commonly used junior synonym *Upeneus vanicolensis* Valenciennes in Cuvier & Valenciennes, 1831, *Mullus auriflamma* Forsskål, 1775 was placed on Official Index of Rejected Names in Opinion 846 (Anonymus 1968). *Pseudupeneus forsskali* Fourmanoir & Guézé, 1976 (FOURMANOIR & GUÉZÉ 1976: 45) was described as a replacement name for *Mullus auriflamma*; the species has the currently used name *Parupeneus forsskali* (Fourmanoir & Guézé [ex Forsskål], 1976). *Mullus auriflamma* was erroneously placed in the synonymy of *Mulloidichthys vanicolensis* (Valenciennes in Cuvier & Valenciennes, 1831) by authors, including RANDALL (2005: 293) and ESCHMEYER (2007).

*Upeneus vittatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: X): “20. [MULLUS] b) VITTATUS; *quinque-fasciatus*. *Abu dagn*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 31): “20. MULLUS VITTATUS; *cirrhis geminis: corporis vittis utrinque duabus fuscis, tribus flavis: pinna caudæ oblique fuscata*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.49344 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 15–16, pl. 4; MØLLER 2006).

Genus name: *Mullus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *vittatus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu dagn*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR (1775a) as *Mullus vittatus*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and is therefore available. The species was treated as valid since BONNATERRE (1788: 144) and WALBAUM (1792: 620).

## Monodactylidae – Moonfishes

*Monodactylus argenteus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XII): “78. [SCOMBER] k) RHOMBEUS; *Abu gurr*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 58): “78. SCOMBER RHOMBEUS: *pinnis ventralibus uni-radiatis*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.50556 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 23, pl. 29; MØLLER 2006).

Genus name: *Scomber*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *rhombeus*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Abu gurr, Abu tabak.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Scomber rhombeus*; the name is binominal in both text and index, is accompanied by a diagnosis and description, and therefore available as *Scomber rhombeus* Forsskål in Niebuhr, 1775. The name was considered as valid by WALBAUM (1792: 221–222). It is, however, a junior synonym of *Monodactylus argenteus* (Linnaeus, 1758).

#### Kyphosidae – Sea chubs

##### *Kyphosus cinerascens* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “66. [SCIÆNA] x) CINERASCENS. *Tähmel*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 53): “66. SCIÆNA CINERASCENS, TAHMEL; *cinereo-virescens, lineis longitudinalibus flavis*.”

Type locality: – (Red Sea).

Genus name: *Sciaena*.

Species names (FORSSKÅL): *cinerascens*; (FABRICIUS in NIEBUHR): *cinerascens, tahmel*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Tähmel*.

Remarks: FORSSKÅL intended to describe this species as *Sciaena cinerascens*, and this is how it was named in the index on p. XII. FABRICIUS in NIEBUHR described the species on p. 53 as *Sciaena cinerascens, tahmel*. As FABRICIUS in NIEBUHR (1775a) described two alternative names for the species, *cinerascens* or *tahmel*, he did not clearly decide how to name the species, so the version on p. 53 is not available (ICZN, Art. 11.5). Both versions, however, are linked together by the species code ‘66’; the name on p. XII is thus accompanied by a diagnosis and description, and is available by indication (ICZN, Art. 12.2.2) as *Sciaena cinerascens* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 125, *Sciaena cinerascens*) and WALBAUM (1792: 312). RÜPPELL (1837: 35) treated the second of FORSSKÅL in NIEBUHR’s names for this species, ‘tahmel’, as valid, and named it *Pimelepterus tahmel*; *Pimelepterus tahmel* Rüppell, 1837 is a junior synonym of *Sciaena cinerascens* Forsskål in Niebuhr, 1775.

#### Chaetodontidae – Butterflyfishes

##### *Chaetodon auriga* Forsskål in Niebuhr, 1775

FORSSKÅL in NIEBUHR (1775a: XIII): “81. CHÆTODON c) AURIGA; radio quinto filari. *Mókti*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 60): “81. CHÆTODON AURIGA; *albidus, oblique fasciatus; radio pinnæ dorsalis quinto in filum producto*.”

Type localities: “Djiddæ” (Jeddah, Juddah/Saudi Arabia); “Lo-hajæ” (Al-Luhayya/Yemen).

Type material: Holotype: ZMUC P.52401 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 23, pl. 32; MØLLER 2006).

Genus name: *Chaetodon*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *auriga*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Mókti*, *Tabak el kuss*, *Schaüsch*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Chaetodon auriga*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and is therefore available as *Chaetodon auriga* Forsskål in Niebuhr, 1775. The species is considered as valid since WALBAUM (1792: 422).

##### *Chaetodon fasciatus* Forsskål in Niebuhr, 1775

FORSSKÅL in NIEBUHR (1775a: XII): “80. [CHÆTODON] b) FASCIATUS; flavus. *Tabak el kûs*.”

FORSSKÅL in NIEBUHR (1775a: 59–60): “80. CHÆTODON FASCIATUS; *flavus; fascia oculari nigra: supra nucham, alba: per latera, ferrugineo-fusca*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.52400 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 23, pl. 31; MØLLER 2006).

Genus name: *Chaetodon*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *fasciatus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Tábak el kûs*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Chaetodon fasciatus*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and is therefore available as *Chaetodon fasciatus* Forsskål in Niebuhr, 1775. The species was considered as valid since RÜPPELL (1852: 9). *Chaetodon tabak* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 421) and *Chaetodon flavus* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 225–226) were described as unneeded new names for *Chaetodon fasciatus* Forsskål in Niebuhr, 1775; they are junior synonyms.

##### *Chaetodon mesoleucos* Forsskål in Niebuhr, 1775

FORSSKÅL in NIEBUHR (1775a: XIII): “83. [CHÆTODON] e) MESOLEUCOS; hinc albus, inde fuscus. *Hadjan*”.

FORSSKÅL in NIEBUHR (1775a: 61): “83. CHÆTODON MESOLEUCOS; *parte anteriore albus, posteriore fuscus, fasciis nigris*.”

Type locality: “MOCHHÆ” (Al-Mukhā/Yemen).

Genus name: *Chaetodon*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *mesoleucos*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Hadjan*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Chaetodon mesoleucos*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and is therefore available as *Chaetodon mesoleucos* Forsskål in Niebuhr, 1775. The species is considered as valid since WALBAUM (1792: 411, *Chaetodon mesoleucus* sensu FORSSKÅL, spelling error). This is one of the last fish species discovered by P. S. FORSSKÅL in May, June or July 1763. *Chaetodon hadjan* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 227) was described as an unneeded new name for *Chaetodon mesoleucos* Forsskål in Niebuhr, 1775, to distinguish this species from *Chaetodon mesoleucus* Bloch, 1787 [BLOCH 1787: 117, pl. 216, fig. 2; currently used name *Chaetodontoplus mesoleucus* (Bloch, 1787), Pomacanthidae]; *Chaetodon hadjan* is a junior synonym of *Chaetodon mesoleucos* Forsskål in Niebuhr, 1775. The name *Chaetodon mesoleucus arabicus* Walbaum [ex Forsskål], 1792 was described as a ‘varietas aut alia species’ (variety or other species) by WALBAUM (1792: 411); it is accompanied by a description, is available, but a junior synonym of *Chaetodon mesoleucos* Forsskål in Niebuhr, 1775.

##### *Chaetodon pictus* Forsskål in Niebuhr, 1775

FORSSKÅL in NIEBUHR (1775a: XIII): “92. [CHÆTODON] o) PICTUS; albidus, violaceo-lineatus.”

FORSSKÅL in NIEBUHR (1775a: 65): “92. CHÆTODON PICTUS; *albidus, lineis obliquis violaceis, fascia nigra oculorum & caudæ*.”

Type locality: “Mochhæ” (Al-Mukhā/Yemen).

Genus name: *Chaetodon*.



Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *pictus*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Chaetodon pictus* the name is binominal in both the index and text, is accompanied by a diagnosis and description, and is therefore available as *Chaetodon pictus* Forsskål in Niebuhr, 1775. The species is considered as valid since WALBAUM (1792: 422–423). This is one of the last fish species discovered by P. S. FORSSKÅL in May, June or July 1763.

#### Pomacanthidae – Angelfishes

“*Pomacanthus asfur* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “84. [CHÆTODON] f) ASFUR; fascia lunari. *Asfür*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 61): “84. CHÆTODON ASFUR; *niger; fascia transversa, lunari-cuneata flava*.”

Type locality: “LOHAJĒ” (Al-Luhayya/Yemen).

Genus name: *Chaetodon*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *asfur*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Tabak el herr, Asfür.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘asfur’ as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Chaetodon asfur*; the name is binominal in both text and index, is accompanied by a diagnosis and description, and therefore would be available as *Chaetodon asfur* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Pomacanthus asfur* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was treated as valid since BONNATERRE (1788: 88–89) and WALBAUM (1792: 406).

*Pomacanthus maculosus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XIII): “85. [CHÆTODON] g) MACULOSUS; cinereo-cæruleus. *Arusa*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 62): “85. CHÆTODON MACULOSUS, ARUSA; *cinereus, maculis transversis cæruleis: operculis anterioribus uni-spinosis*.”

Type locality: “LOHAJĒ” (Al-Luhayya/Yemen).

Type material: Holotype: ZMUC P.52402 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 23–24, pl. 33; MØLLER 2006).

Genus name: *Chaetodon*.

Species names (FORSSKÅL): *maculosus*; (FABRICIUS in NIEBUHR): *maculosus, arusa*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Arusa, Aruset el bâhr.

Remarks: FORSSKÅL intended to describe this species as *Chaetodon maculosus*, and this is how it is named in the index on p. XIII. FABRICIUS in NIEBUHR described the species on p. 62 as *Chaetodon maculosus, arusa*; they did not decide how to name the species, either *maculosus* or *arusa*, and therefore the version on p. 62 is not available (ICZN, Art. 11.5). The version on p. XIII is linked by the species code ‘85’ to the diagnosis and description on p. 62; it is therefore available by indication (ICZN, Art. 12.2.2) as *Chaetodon maculosus* Forsskål in Niebuhr, 1775. The species was considered as valid since WALBAUM (1792: 415–416). It was subsequently re-named *Chaetodon arusa* Bonnaterre [ex Forsskål], 1788 (BONNATERRE 1788: 89), which is a junior synonym, and later described with an erroneous spelling *Holacanthus aruset* by

LACEPÈDE (1802: 528, 535); the latter name is not an independent species description, but a spelling error. The name *Chaetodon arusa* was erroneously considered by authors to be a synonym of *Pomacanthus asfur* (see ESCHMEYER 2007).

*Pomacanthus maculosus* (Forsskål in Niebuhr, 1775)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “[84. CHÆTODON f) ASFUR] β) *cærulescens. Hæddaja*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 61): “84. [CHÆTODON ASFUR] b) *Varietas visa Mochhæ: cærulescens; lituris & fasciis obliquis; lineolis violaceis: P. A. brevior P. C.*”.

Type locality: “MOCHHĒ” (Al-Mukhā/Yemen).

Genus name: *Chaetodon*.

Species/subspecies name (FORSSKÅL): *asfur cærulescens*; (FABRICIUS in NIEBUHR): –.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Hæddaja.

Remarks: FORSSKÅL used the Latin name ‘cærulescens’ as a variety/subspecies of *Chaetodon asfur*. Though FABRICIUS in NIEBUHR only mentioned it as variety β of *Chaetodon asfur*, both versions are linked together by the code ‘84b’; as FORSSKÅL’s version is trinominal as *Chaetodon asfur cærulescens*, and FABRICIUS’s version is accompanied by a diagnosis, the name is considered to be available by indication (ICZN, Art. 12.2.2) as *Chaetodon asfur cærulescens* Forsskål in Niebuhr, 1775. Though ESCHMEYER (2007) considers that based on type style in adjacent entries, this name was not proposed as a scientific name, the linking together of index and text versions is justified and recognisable by the species code ‘84b’ (like in other FORSSKÅL species), and thus makes the name available. This is the juvenile of *Pomacanthus maculosus* (Forsskål in Niebuhr, 1775), which was described in the same paper. GMELIN (1789: 1267) was the first to consider *Chaetodon maculosus* Forsskål in Niebuhr, 1775 as a valid species, while he listed *Chaetodon cærulescens* in the synonymy of *Chaetodon asfur*. This usage was followed henceforth. I therefore consider the name *Chaetodon maculosus* Forsskål in Niebuhr, 1775 as having priority over *Chaetodon asfur cærulescens* Forsskål in Niebuhr, 1775. *Pomacanthus maculosus* (Forsskål in Niebuhr, 1775) is the valid name of the species. RÜPPELL’S (1830: 133) *Holacanthus cærulescens* is not an independent description, but based on *Chaetodon asfur cærulescens* Forsskål in Niebuhr, 1775. – *Chaetodon asfur amarus* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 220) and *Holacanthus haddaja* Cuvier in Cuvier & Valenciennes, 1831 (CUVIER in CUVIER & VALENCIENNES 1831: 175) are new names for *Chaetodon asfur cærulescens* Forsskål in Niebuhr, 1775, and additional junior synonyms of *Pomacanthus maculosus* (Forsskål in Niebuhr, 1775).

#### Terapontidae – Grunters

“*Terapon jarbua* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XII): “57. [SCIÆNA] o) JARBUA; fasciis circinatis. *Djarbua*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 44): “SCIÆNA ... 5) DJABUB. Dentes maxillares unius seriei majores, remoti, a medio decrescentes ...”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 50): “57. SCIÆNA JARBUA; Arab. DJIDDÆ *Djarbua*. SUES *Djabüb* [..., Arabic name] vel *Djabul* vel *Gabub*.”

Type localities: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia); “SUES” (As-Suways/Egypt).

Type material: Lectotype: ZMUC P.43571 (dry skin), as designated by KLAUSEWITZ & NIELSEN (1965: 20; see also

pls. 17–18); paralectotype: ZMUC P.43572 (dry skin) (listed as syntype by MÖLLER 2006). Another FORSSKÅL specimen and possible paralectotype (ZMUC P.43573) is based on *Pelates quadrilineatus* (Bloch, 1790).

Genus name: *Sciaena*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *jarbua*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Djarbua, Djabûb, Djabul, Gabub.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘Djarbua’ as a substitute for a Latin name to be selected, and did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR named *Sciaena jarbua* as a new species; the name is binominal in both the index and text; the name was accompanied by a description, and therefore would be available as *Sciaena jarbua* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Terapon jarbua* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species name was treated as valid since BONNATERRE (1788: 123) and WALBAUM (1792: 318). *Grammistes annularis* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 188) is a new name for *Sciaena jarbua*, and a junior synonym. “(*Sciaena*) *djabub* Forsskål, 1775” {would be (*Sciaena*) *djabub* Fabricius [ex Forsskål], 1775} is another name for this species, out of the version on p. 44 (the name was not mentioned by ESCHMEYER 2007); it is binominal, accompanied by a diagnosis, available, and an unused synonym of “*Sciaena jarbua* Forsskål in Niebuhr, 1775”. I hereby act as the first reviser of this case to select *Sciaena jarbua* as the senior synonym.

#### Pomacentridae – Damsel-fishes

##### Pomacentridae, indet.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “[93. CHÆTODON p) *abu dafur* β) *Jabûd*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 65): “93. [CHÆTODON ABU DAFUR.] b) JAHÛD. [..., Arabic name] an Chæt.? pedalis long. Hamo venatur: caro inutilis.”.

Type locality: – (Red Sea).

Genus name: *Chaetodon*.

Species/subspecies name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *abu dafur jabûd* or *jahûd*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Jahûd.

Remarks: FORSSKÅL used the Arabic name ‘jahud’ as a substitute for a scientific name possibly to be designated for this variety/subspecies *Chaetodon* sp. (with ‘abu dafur’ as another substitute for the species name). FABRICIUS in NIEBUHR (1775a) named *Chaetodon abu dafur Jabûd* in the index and *Chaetodon abu dafur jahûd* in the text. The first version of the subspecies name, *jabud*, is regarded as a spelling error. As the species name consists of two words, it is not considered binominal; therefore a variety described under a non-binominal name is not considered as available as *Chaetodon abu dafur jahud* Fabricius [ex Forsskål] in Niebuhr, 1775 (ICZN, Art. 5). The taxon is unidentified within the family Pomacentridae.

##### “*Abudefduf* Forsskål in Niebuhr, 1775”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 59): “CHÆTODON ... b) ABU-DEFDUF: dentibus maxillaribus unius seriei, filiformibus, contiguis, submobilibus, obtusis: dentibus faucium nullis: annulo subtus circa oculos. P. Br. rad. 5. Spinæ P. A. 2.”.

Type species: *Chaetodon sordidus* Forsskål in Niebuhr, 1775 (original designation).

Remarks: In his draft, FORSSKÅL used the Arabic name ‘Abudefduf’ as a substitute for a scientific name possibly to be designated for this new subgenus of *Chaetodon*. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) named *Abudefduf* as a new subgenus under the name *Chaetodon*, and provided a diagnosis. Though the diagnosis is not very detailed, the genus-group name would be considered as available by indication through assigning the type species, linked with the description of *Chaetodon sordidus*/Abu defdûf (ICZN, Art. 12.2.5), as *Abudefduf* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. The type species was given by ESCHMEYER (2007) as *Abudefduf sordidus* (Forsskål in Niebuhr, 1775), which is inferred from the usage of the vernacular name of that species in the original description, and is definitely the species which was used by FORSSKÅL for the diagnosis.

##### *Abudefduf bengalensis* (Bloch, 1787)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “[93. CHÆTODON p) *abu dafur* γ) *Hanni*.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 65): “93. [CHÆTODON ABU DAFUR.] c) HANNI: rostrum obtusum: dentes rigidi: molares obtusi plurium serierum: fasciæ 5, alternæ latiores: radii D. 3, 4, 5, inermes, longiores.”.

Type locality: – (Red Sea).

Genus name: *Chaetodon*.

Species/subspecies name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *abu dafur hanni*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Hanni*.

Remarks: FORSSKÅL used the Arabic name ‘hanni’ as a substitute for a scientific name possibly to be designated for the species *Chaetodon* sp. (with ‘abu dafur’ as another substitute for the species name). FABRICIUS in NIEBUHR (1775a) named *Chaetodon abu dafur hanni* in both the index and text. As the species name consists of two words, it is not considered binominal; therefore a variety described under a non-binominal name is not considered as available as *Chaetodon abu dafur hanni* Fabricius [ex Forsskål] in Niebuhr, 1775 (ICZN, Art. 5). The species is identical with *Abudefduf bengalensis* (Bloch, 1787), according to DOR (1984: 179).

##### *Abudefduf sordidus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XIII): “87. [CHÆTODON] i) SORDIDUS; fusco-cinereus. *Abu defdûf*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 62–63): “87. CHÆTODON SORDIDUS; fusco-cinereus, ovatus, fasciis transversis obsoletis, quatuor.”.

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.56264 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 24, pl. 34; MÖLLER 2006).

Genus name: *Chaetodon*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *sordidus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu defdûf*.

Remarks: FORSSKÅL intended to describe this species as *Chaetodon sordidus*, and this is how FABRICIUS in NIEBUHR (1775a) named it in both the index and text. The name is binominal in both versions, accompanied by a diagnosis and description, and is therefore available as *Chaetodon sordidus* Forsskål in Niebuhr, 1775. The species was treated as valid as *Chaetodon sordidus* since BONNATERRE (1788: 90) and WALBAUM (1792: 435–436).

*Abudehduf vaigiensis* (Quoy & Gaimard, 1825)

FORSSKÅL in NIEBUHR (1775a: XIII): “86. [CHÆTODON] h) SAXATILIS. *Gargut*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 62): “86. CHÆTODON SAXATILIS: *albidus*; *fasciis transversis quinque nigris*. (LINN.)”.

Locality: – (Red Sea).

Material: ZMUC P.56261–56263 (3 dry skins) (see KLAUSEWITZ & NIELSEN 1965: 24).

Remarks: This is not a new species description, but a redescription of the species *Chaetodon saxatilis* (non Linnaeus, 1758). The species was misidentified; the record is based on *Abudehduf vaigiensis* (Quoy & Gaimard, 1825).

*Dascyllus aruanus* (Linnaeus, 1758)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “93. [CHÆTODON] p) *Abu dafur*”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 65): “93. CHÆTODON [a] ABU DAFUR Arab. est caractere *Aruani* LINN. albus, *fasciis tribus nigris*: spinis Dors. 12. A. 2. *Djiddæ* habitat, rarior, inter corallia. spith. longit.”.

Type locality: “DIJIDÆ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Chaetodon*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *abu dafur*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu dafur*.

Remarks: FORSSKÅL used the Arabic name ‘abu dafur’ as a substitute for a scientific name possibly to be designated for this *Chaetodon* sp., which he possibly considered to be identical with *Chaetodon aruanus* Linnaeus, 1758. FABRICIUS in NIEBUHR (1775a) named *Chaetodon abu dafur* in the text, but also stated that ‘*Abu dafur*’ is the Arabic name. As the species name consists of two words, it is not considered binominal (ICZN, Art. 5), not meant as a species name (indication that it is the Arabic name), and therefore not considered as available as *Chaetodon abu dafur* Fabricius [ex Forsskål] in Niebuhr, 1775. Judging from the colour description and habitat, the species is identical with *Dascyllus aruanus* (Linnaeus, 1758), as already stated by RÜPPELL (1829: 39, *Pomacentrus aruanus*) and GÜNTHER (1862: 12), erroneously listed as *Chaetodon abudafur* by ESCHMEYER (2007).

## Labridae – Wrasses

*Cheilinus abudjubbe* Rüppell [ex Forsskål], 1835

FORSSKÅL in NIEBUHR (1775a: XI): “34. [LABRUS] i) LUNULATUS] β) *lineis radiantibus circa oculos*”.

FORSSKÅL in NIEBUHR (1775a: 37): “34. [LABRUS LUNULATUS] b) *Varietas sine lunula fulva: lineis circa oculos radiantibus, rubris, longis*”.

FORSSKÅL in NIEBUHR (1775a: 44): “(B) *Dentibus [Scarus] Abu djubbe: maxillis continuis, dentatis: denticulis subulatis, remotis*”.

Locality: “DIJIDÆ” (Jeddah, Juddah/Saudi Arabia).

Material: ZMUC P.5847 (holotype of *Cheilinus abudjubbe* Rüppell [ex Forsskål], 1835; paralectotype of *Labrus lunulatus* Forsskål in Niebuhr, 1775).

Genus name: *Labrus*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): *lunulatus* (var. b).

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu djubbe*, *Sænuat abu djubbe*.

Remarks: This variety was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Labrus lunulatus* var. β or var. b; neither of the two gives a variety name. The species was named (*Scarus*) *abu djubbe* in the teeth description on p. 44; however, the species name is not binominal as consisting of two

words, and therefore not available as *Scarus abu djubbe* Fabricius [ex Forsskål], 1775. FORSSKÅL’s description is the basis for RÜPPELL’s (1835: 18) description of *Cheilinus abudjubbe* Rüppell [ex Forsskål], 1835, which is a valid species. The common name ‘abu djubbe’ is obviously attributed to this variety, though FABRICIUS in NIEBUHR (1775a) apparently confused the two varieties and listed ‘abu djubbe’ in the index for *Labrus lunulatus*, but in the text for *Labrus lunulatus* var. b. It is here assumed that the text version is correct.

*Cheilinus lunulatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI): “34. [LABRUS] i) LUNULATUS; *squamis fasciatis. Abu djubbe vel Dik*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 37): “34. LABRUS LUNULATUS; *fusco-virescens, fasciis obscurioribus, squamis singulis fascia ferruginea, capite pectoreque rubro-guttato, lunula operculi pone fulva*”.

Type locality: – (Red Sea).

Type material: Lectotype: ZMUC P.4856 (dry skin) (listed as holotype by ESCHMEYER 2007), designated by KLAUSEWITZ & NIELSEN 1965: 17; see also pl. 7), see also MØLLER (2006).

Genus name: *Labrus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *lunulatus*.

Arabic names (Latinised, FABRICIUS in NIEBUHR): *Abu djubbe?*, *Dik*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Labrus lunulatus*; the name is binominal in both the index and text, is accompanied by a diagnosis and description, and is therefore available as *Labrus lunulatus* Forsskål in Niebuhr, 1775. The species was considered as valid since WALBAUM (1792: 242–243, 246; double entry). FABRICIUS in NIEBUHR (1775a) confused the two varieties when assigning the common name (see above, remarks under *Cheilinus abudjubbe*).

*Cheilio inermis* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XI): “27. [LABRUS] b) INERMIS; *nigro-guttatus. Gbassek*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 34): “27. LABRUS INERMIS; *radii pinnarum spinosis nullis; corpore lineari, oblongo, virente; vitta laterali nigro-guttata*”.

Type locality: “*Mochhæ*” (Al-Mukhā/Yemen).

Type material: Lectotype: ZMUC P.5739, as designated by KLAUSEWITZ & NIELSEN (1965: 16; see also pl. 6); paralectotype: ZMUC P.5740 (dry skin) (MØLLER 2006).

Genus name: *Labrus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *inermis*.

Arabic name (Latinised, FORSSKÅL): *Gbassek*; (FABRICIUS in NIEBUHR): *Gbassek*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Labrus inermis*; the name is binominal both in the index and in the text, and accompanied by a diagnosis and description; it is therefore available as *Labrus inermis* Forsskål in Niebuhr, 1775. The species was considered as valid since WALBAUM (1792: 262). It was subsequently re-named *Cheilio forskalii* Valenciennes in Cuvier & Valenciennes, 1839 (VALENCIENNES in CUVIER & VALENCIENNES 1839: 349), which is a junior synonym. This is one of the last fish species discovered by P. S. FORSSKÅL in May, June or July 1763. *Labrus hassek* Lacepède [ex Forsskål], 1801 (LACEPÈDE 1801: 444, 513, 515–516) is an unneeded new name for *Labrus inermis* Forsskål in Niebuhr, 1775; it is available, but a junior synonym.

*Coris julis* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XI): “21. SPARUS a) NILOTICUS; *recte Labrus julis*”.



FORSSKÅL in NIEBUHR (1775a: 31): “21. SPARUS NILOTICUS ab Hasselquist descriptus (it. Palæst. p. 341) est *Labrus Julis*, Linn. ut character indicat; & nomen Gallicum *Girelle* (Labro Juli proprium). ...”

Type locality: – (Marseille/France; not known from the Nile).

Remarks: *Sparus niloticus* Forsskål [ex Hasselquist] in Niebuhr, 1775 was not mentioned by ESCHMEYER (2007); the name was only described in the HASSELQUIST (1762: 387) version [listed by ESCHMEYER 2007 as not available, as published in a rejected work, see Anonymus (1914, 1956), MELVILLE & SMITH (1987: 330)]. FORSSKÅL’s version was published in synonymy of *Labrus julis* and is therefore not available. The species was not identified in the sense of HASSELQUIST, as HASSELQUIST’s fish was a freshwater species from the Nile. The name was made available under the two names *Labrus niloticus* Walbaum [ex Forsskål & Hasselquist], 1792 (WALBAUM 1792: 258–259) and *Sparus niloticus* Walbaum [ex Forsskål & Hasselquist], 1792 (WALBAUM 1792: 300); they are junior synonyms of *Coris julis* (Linnaeus, 1758).

*Coris julis* (Linnaeus 1758)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “26. LABRUS a) PERDICA; vittis dentatis. Πέρδικα.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 34, part): “26. LABRUS PERDICA; cauda æquali; vertice glabro; dorso recto; vittis utrinque dentatis, albido-flavicantibus.”

Type locality: – (Turkey).

Genus name: *Labrus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *perdica*.

Remarks: In his draft, FORSSKÅL used the Greek name Πέρδικα as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described the new species as *Labrus perdica*; the new name is binominal both in the index and in the text, is accompanied by a diagnosis and description, and would be available (based on the description) as *Labrus perdica* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. The species was considered as valid by WALBAUM (1792: 248). This is a composite species, based in part on *Coris julis* (Linnaeus 1758), and on *Labrus bergylta* Ascanius, 1767 (see below).

*Coris julis* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[LABRUS] *julis*.”

Locality: “Melita” (La Valletta/Malta).

*Labrus bergylta* Ascanius, 1767

FORSSKÅL in NIEBUHR (1775a: 34, part): “26. LABRUS PERDICA; cauda æquali; vertice glabro; dorso recto; vittis utrinque dentatis, albido-flavicantibus.”

Type locality: – (Turkey).

Genus name: *Labrus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *perdica*.

Remarks: The Turkish record of this new species is based in part on *Labrus bergylta* Ascanius, 1767, judging on the Turkish name ‘Keklik balük’ (modern Turkish name ‘Kikla’, according to FRICKE et al. 2007: 93). The species regularly occurs in the Marmara Sea near İstanbul, and was probably collected by FORSSKÅL using the fishing vessel he chartered. This is a composite species, based in part on *Coris julis* (Linnaeus, 1758) (see above).

*Labrus viridis* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “LABRUS *turdus* vulg.”

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[LABRUS] *turdus virid. minor*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: Two varieties of the species *Labrus turdus* Linnaeus, 1758 were recorded from Malta by FORSSKÅL [ex Anonymus] in NIEBUHR (1775a), the ordinary variety of *Labrus turdus*, and a variety named *Labrus turdus virid(is) minor*. The latter, if considered as a variety name, would not be binominal, and as neither was accompanied by a diagnosis, it would not be available. Both names are synonyms of *Labrus viridis* Linnaeus, 1758, which is considered as a valid species.

*Pteragogus flagellifer* (Valenciennes in Cuvier & Valenciennes, 1839)

FORSSKÅL in NIEBUHR (1775a: XI): “28. [LABRUS] c) RAMENTO-SUS; ramentis longis.”

FORSSKÅL in NIEBUHR (1775a: 34–35): “28. LABRUS RAMENTO-SUS; fusco-virescens; ramentis spinarum dorsalium primum, radio duplo longioribus.”

Type locality: “MOCHHÆ” (Al-Mukhā/Yemen).

Genus name: *Labrus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *ramentosus*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Labrus ramentosus*; it is binominal in both the index and text, and accompanied by a diagnosis and description; it is therefore available as *Labrus ramentosus* Forsskål in Niebuhr, 1775, and was treated as such by BONNATERRE (1788: 108), GMELIN (1789: 1293), and BLOCH & SCHNEIDER (1801: 258). Unfortunately, this is a rarely used senior synonym of *Pteragogus flagellifer* (Valenciennes in Cuvier & Valenciennes, 1839). In order to preserve stability of nomenclature (preamble and Art. 23.2 of ICZN), an application to the International Commission on Zoological Nomenclature is needed to suppress the name *Labrus ramentosus*. The name was subsequently misspelled *Lutjanus ramentaceus* by LACEPÈDE (1802: 183, 218), which is not an independent species description, but a spelling error explicitly based on *Labrus ramentosus*.

*Symphodus ocellatus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XI): “33. [LABRUS] h) OCELLATUS; ocello coccineo.”

FORSSKÅL in NIEBUHR (1775a: 37): “33. LABRUS OCELLATUS; virescens; ocello coccineo pone utrumque oculum.”

Type locality: “Smirnae” (İzmir/Turkey).

Genus name: *Labrus*.

Species name (FORSSKÅL): *ocellatus* (*ocellaris*); (FABRICIUS in NIEBUHR): *ocellatus*.

Remarks: This is not an independent new species description, but an incorrect subsequent spelling (ICZN, Art. 33.3) of *Labrus ocellaris* Linnaeus, 1758; the emendation was done either by both FORSSKÅL and FABRICIUS, or just by FABRICIUS in NIEBUHR. The argument that FORSSKÅL or FABRICIUS were not aware of Linnaean names is not valid (see Introduction). The spelling with the prevailing usage (ICZN, Art. 33.2.3.1), however, is *Symphodus ocellatus*. The obligatory name is therefore *Symphodus ocellatus* (Linnaeus, 1758), with the authorship changed to LINNAEUS (1758), and the Linnaean spelling changed to *ocellatus*. FORSSKÅL’s spelling was treated as valid as *Labrus ocellatus* Bonnaterre [ex Forsskål], 1788, and by subsequent authors like WALBAUM (1792: 249–250) and BLOCH & SCHNEIDER (1801: 259) who erroneously treated it as separate from *Labrus ocellaris*. Today, the

species is common in the Aegean Sea near İzmir (FRICKE et al. 2007: 94).

*Symphodus rostratus* (Bloch, 1791)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “30. [LABRUS] e) SCINA; abdomine recto. Ζκίνα.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 36): “30. LABRUS SCINA; cauda integra; corpore virescente, nebulis albis flavisque; fovea inter oculos impressa; & ante foveam sulco impresso.”.

Type locality: “CONSTANTINOPOLI” (İstanbul/Turkey).

Genus name: *Labrus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *scina*.

Remarks: In his draft, FORSSKÅL used ‘scina’ as a substitute for a species name possibly to be designated. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Labrus scina*; the name is binominal in both the index and text, accompanied by a diagnosis and description; it would therefore be available as *Labrus scina* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. According to the description, it is an unused senior synonym of *Labrus rostratus* Bloch, 1791, and needs to be suppressed by an application to the International Commission on Zoological Nomenclature, in accordance with the preamble and Art. 23.2 of ICZN; the species is considered as valid as *Symphodus rostratus* (Bloch, 1791). The species is regularly found in the Bosphorus and the Marmara Sea near İstanbul (FRICKE et al. 2007: 95), and was probably collected by FORSSKÅL when he chartered a fishing vessel.

*Symphodus tinca* (Linnaeus, 1758)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XI): “31. [LABRUS] f) LAPINA; rubro-maculatus. Λαπίνα.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 36): “31. LABRUS LAPINA; cauda integra; pinnis pectoralibus flavis; Ventralibus cæruleis; reliquis violaceis, maculis cæruleis.”.

Type locality: “CONSTANTINOPOLI” (İstanbul/Turkey).

Genus name: *Labrus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *lapina*.

Remarks: In his draft, FORSSKÅL used the Greek name Λαπίνα as a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR (1775a) described the new species as *Labrus lapina*; the new name is binominal both in the index and in the text, is accompanied by a diagnosis and description, and would be available as *Labrus lapina* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. The species was treated as valid by BONNATERRE (1788: 111), GMELIN (1789: 1293), WALBAUM (1792: 253–254) and BLOCH & SCHNEIDER (1801: 260–261). *Labrus lapina* is a junior synonym of *Labrus tinca* Linnaeus, 1758, with the currently used name *Symphodus tinca* (Linnaeus, 1758).

*Symphodus tinca* (Linnaeus 1758)

FORSSKÅL in NIEBUHR (1775a: XV): “25. [LABRUS] b) tineæ. Arab. Châddejr. P. Pect. flavis; V. viridibus. P. A. C. & D. viridibus, maculis violaceis.”.

Locality: – (Alexandria, Al-Iskandarīyah/Egypt, Mediterranean Sea).

Remarks: This is a spelling error for the Linnaean species *Labrus tinca*.

*Thalassoma pavo* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[LABRUS] pavo.”.

Locality: “Melita” (La Valletta/Malta).

*Thalassoma purpureum* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: X): “12. [SCARUS] d) PURPUREUS; psittacus marinus. Durras el bâhr. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 27–28): “12. SCARUS PURPUREUS; obscure-viridis; vittis utrinque tribus purpureis: ventre cæruleo; pinnis dorsi & ani linea purpurea: caudæ medio truncata.”.

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Scarus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *purpureus*.

Arabic name (Latinised, FORSSKÅL): Durra el bâhr; (FABRICIUS in NIEBUHR): Durras el bahr.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Scarus purpureus*. The name is binominal, and accompanied by a diagnosis and description; it is therefore available, and a valid species, with the currently used name *Thalassoma purpureum* (Forsskål in Niebuhr, 1775).

*Thalassoma rueppellii* (Klunzinger, 1871)

FORSSKÅL in NIEBUHR (1775a: X): “11. [SCARUS] c) GALLUS; venenatus. Dik el bâhr.”.

FORSSKÅL in NIEBUHR (1775a: 26–27): “11. SCARUS GALLUS: obscure-viridis, capitis abdominisque lineis violaceis, pinna caudæ bifurca; medio flava. An *Labrus lunaris* Linn.?”.

Type locality: “LOHAJÆ” (Al-Luhayya/Yemen).

Type material: Holotype: ZMUC P.5738 (see KLAUSEWITZ & NIELSEN 1965: 14, pl. 2; MØLLER 2006).

Genus name: *Scarus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *gallus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Dik el bahr.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Scarus gallus*. The name is binominal, and accompanied by a diagnosis and description; it is therefore available as *Scarus gallus* Forsskål in Niebuhr, 1775. It was regarded as a valid species by BLOCH & SCHNEIDER (1801: 245–246), and thought to be a possible synonym of *Labrus lunaris* [currently used name *Thalassoma lunare* (Linnaeus, 1758)] by later authors, but is now the senior synonym of *Thalassoma rueppellii* (Klunzinger, 1871), threatening that frequently used name. The name *Scarus gallus* is here rejected as unused in accordance with the preamble and Art. 23.2 of ICZN. To use the currently used name *Thalassoma rueppellii* (Klunzinger, 1871), an application to the International Commission on Zoological Nomenclature is advisable in order to place *Scarus gallus* on the index.

*Xyrichtys novacula* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[CORYPHÆNA] novacula.”.

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “Il Janfru”.

*Xyrichtys novacula* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[BLENNIUS] pentadactylus.”.

Locality: “Melita” (La Valletta/Malta).

Remarks: This is not an independent species description, but a misidentification of the species *Coryphaena pentadactylus* (non Linnaeus, 1758), erroneously or deliberately placed in the genus *Blennius*. *Coryphaena pentadactylus* would be

valid as *Iniiustus pentadactylus* (Linnaeus, 1758); FORSSKÅL's [ex Anonymus] Maltese record, however, was based on *Xyrichtys novacula* (Linnaeus, 1758).

### Scaridae – Parrotfishes

*Chlorurus sordidus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: X): “18. [SCARUS] k) SORDIDUS; fusco-ferrugineus. Biss.”

FORSSKÅL in NIEBUHR (1775a: 30): “18. SCARUS SORDIDUS, *maxillis rubentibus, corpore fusco ferrugineo, pinnis obscurioribus, cauda surgente pinna aequali.*”

FORSSKÅL locality: – (Red Sea).

Type locality: Off Hurghada, Egypt, Red Sea, 27°17'23"N, 33°48'52"E, 0–20 ft (as defined by neotype).

Type material: Neotype: USNM 202297, as selected by SCHULTZ (1969: 20).

Genus name: *Scarus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *sordidus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Biss.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Scarus sordidus*. The name is binominal both in the index and in the text, and accompanied by a diagnosis and description; it is therefore available, and a valid species, as *Scarus sordidus* Forsskål in Niebuhr, 1775.

“*Hipposcarus harid* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: X): “17. [SCARUS] i) HARID. Cauda basi squamosa. *Harid*. [..., Arabic name]”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 30): “17. SCARUS HARID: *cauda bifurca, media basi squamis septa.*”

FORSSKÅL in NIEBUHR (1775a: 44): “C) *Dentibus [Scarus] Harid: maxillis crenatis, medio fissis.*”

Type locality: – (Red Sea).

Type material: Holotype: ZMUC P.5952 (see KLAUSEWITZ & NIELSEN 1965: 14, pl. 3; MÖLLER 2006).

Genus name: *Scarus*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *harid*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Harid*.

Remarks: This species was described by FABRICIUS [ex FORSSKÅL] in NIEBUHR as *Scarus harid*; FORSSKÅL, however, did not include a scientific species name in his draft, but used the Arabic name ‘harid’ as a substitute for a Latin species name he possibly wanted to define; he left the note ‘cauda basi squamosa’ to select a scientific name later. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. The use of ‘harid’ as the species name was clearly decided and authored by FABRICIUS [ex FORSSKÅL]. The name is binominal both in the index and in the text, and accompanied by a diagnosis and description; it would therefore be available as *Scarus harid* Fabricius [ex Forsskål] in Niebuhr, 1775, a valid species with the actual name *Hipposcarus harid* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN.

*Scarus* Forsskål in Niebuhr, 1775

FORSSKÅL in NIEBUHR (1775a: X): “SCARUS. SCARUS: novum genus Σκάροϋ. CHARACTER GENERICUS: *Dentium loco maxillae ipsae eminentes, margine dentato-crenatae, osseae.*”

FORSSKÅL in NIEBUHR (1775a: 25): “SCARUS novum genus antiquo nomine Σκάροϋ. Character genericus: *Dentium loco maxillae ipsae eminentes, margine dentato-crenatae, osseae.*”

Type species: *Scarus psittacus* Forsskål in Niebuhr, 1775 (subsequently designated by JORDAN & GILBERT 1883: 93).

Remarks: This is marked to be a new genus description, and accompanied by a diagnosis. The diagnosis, however, is not characteristic for one of the modern genera in Scaridae, but only for the family Scaridae itself. Unfortunately, the species listed under the generic name indicate that the genus was also of a composite origin, including species now classified in various families. The first species described under the new genus name is *Scarus siganus*; *rivulatus*, named in the index on p. X *Scarus rivulatus* (new genus: *Siganus*), i.e. *Siganus rivulatus* (see below). The next following species would be *Scarus stellatus*, which is again a siganid fish (*Siganus stellatus*, see below). The third and fourth species are *Scarus gallus* and *S. purpureus* which are based on species of *Thalassoma*, i.e. labrid fishes. The fifth species, *Scarus ghobban*, is the first to be a scarid fish in actual classification. However, *Scarus psittacus* was subsequently designated as the type species by JORDAN & GILBERT (1883: 93). FORSSKÅL in NIEBUHR's (1775) new name and diagnosis, however, refers to the ancient Greek fish Σκάροϋ, which is *Sparisoma cretense*. Therefore, *Sparisoma cretense* would be the originally intended type species, i.e. the ‘*Labrus scarus cretic.*’ listed on p. XIX. Therefore, *Scarus* Forsskål in Niebuhr, 1775 would be the senior synonym of *Sparisoma Swainson*, 1839 (SWAINSON 1839: 172, 227). An opinion of the International Commission on Zoological Nomenclature will be necessary to stabilise the present usage of the name.

*Scarus ferrugineus* Forsskål in Niebuhr, 1775

FORSSKÅL in NIEBUHR (1775a: X): “15. [SCARUS] g) FERRUGINEUS; ore viridi. *Abu meles.*”

FORSSKÅL in NIEBUHR (1775a: 29): “15. SCARUS FERRUGINEUS; *corpore fusco-ferrugineo: maxillis margineque pinnarum exteriori viridibus: cauda aequali.*”

FORSSKÅL locality: – (Red Sea).

Type locality: Dahab, northwest coast of Gulf of Aqaba, Red Sea, 12 m (as defined by neotype).

Type material: Neotype: BPBM 18158, as selected by RANDALL & ORMOND (1978: 245).

Genus name: *Scarus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *ferrugineus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Abu meles*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS as *Scarus ferrugineus*. The name is binominal both in the index and in the text, and accompanied by a diagnosis and description; it is therefore available, and a valid species, as *Scarus ferrugineus* Forsskål in Niebuhr, 1775.

“*Scarus ghobban* Forsskål in Niebuhr, 1775”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: X): “13. [SCARUS] e) GHOBBAN; lituratus. *Ghobban.*”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 28): “13. SCARUS GHOBBAN; *cauda aequali, maxillis albidis; lituris capitibus & pinnarum margine exteriori viridi-caeruleis.*”

Type locality: “DIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Scarus*.

Species name (Forsskål): – (*lituratus*); (FABRICIUS in NIEBUHR): *ghobban*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Ghobban*.

Remarks: This species was described by FABRICIUS [ex FORSSKÅL] in NIEBUHR as *Scarus ghobban*; in his draft, however, FORSSKÅL did not include a scientific species name, but used the Arabic name ‘ghobban’ as a substitute for a Latin species



name possibly to define, and possibly planned to use ‘*lituratus*’ as mentioned in the index, where ‘*lituratus*’ stands in the position where usually FORSSKÅL’s species names are found. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. The use of ‘ghobban’ as the species name was clearly decided and authored by FABRICIUS [ex FORSSKÅL]. The name is binominal both in the index and in the text, and accompanied by a diagnosis and description; it would therefore be available as *Scarus ghobban* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. The species was treated as valid by BONNATERRE (1788: 95) and later authors. The species name was subsequently misspelled as *ghoban* by WALBAUM (1792: 687, *Scarus ghoban*) and KLUNZINGER (1871: 563–564, *Pseudoscarus ghoban*).

*Scarus niger* Forsskål in Niebuhr, 1775

FORSSKÅL in NIEBUHR (1775a: X): “14. [SCARUS] f) NIGER. *Chadri*.”

FORSSKÅL in NIEBUHR (1775a: 28–29): “14. SCARUS NIGER: *ovato-oblongus, nigro-fuscus: labiis rubris: maxillis lituris capitis pinnarumque, exceptis pectoralibus; margine exteriori viridi-cæruleis*.”

Type locality: – (Red Sea).

Type material: Holotype: ZMUC P.5951 (see KLAUSEWITZ & NIELSEN 1965: 14, pl. 3; MØLLER 2006).

Genus name: *Scarus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *niger*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Chagri.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Scarus niger*. The name is binominal both in the index and in the text, and accompanied by a diagnosis and description; it is therefore available, and a valid species, as *Scarus niger* Forsskål in Niebuhr, 1775. *Scarus chadri* Lacepède [ex Forsskål], 1802 (LACEPÈDE 1802: 2, 12) is an unneeded new name for *Scarus niger* Forsskål in Niebuhr, 1775; it is available, but a junior synonym.

*Scarus psittacus* Forsskål in Niebuhr, 1775

FORSSKÅL in NIEBUHR (1775a: X): “16. [SCARUS] h) PSITTACUS; viridi-flavus. *Durras el barr*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 29): “16. SCARUS PSITTACUS: *virescens, lineis flavicantibus, pinnarum margine, vitta abdominali, characteribus capitis cæruleis*.”

FORSSKÅL locality: “DJIDDĀ” (Jeddah, Juddah/Saudi Arabia).

Type locality: Sharm-el-Sheikh, Sinai, Egypt, Red Sea (as defined by neotype).

Type material: Neotype: USNM 201805, as selected by SCHULTZ (1969: 7); RANDALL & ORMOND (1978) disagreed and selected a new BPBM neotype, which is not valid, unless the International Commission on Zoological Nomenclature suppresses the old neotype.

Genus name: *Scarus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *psittacus*.

Arabic name (Latinised, FORSSKÅL): Durrát el barr; (FABRICIUS in NIEBUHR): Durras el barr.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Scarus psittacus*. The name is binominal both in the index and in the text, and accompanied by a diagnosis and description; it is therefore available, and a valid species, as *Scarus psittacus* Forsskål in Niebuhr, 1775. This species was re-named *Pseudoscarus forskalii* Klunzinger [ex Forsskål], 1871 (KLUNZINGER 1871: 566–567).

*Sparisoma cretense* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[LABRUS] *scarus cretic*.”

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[LABRUS] *scarus varius*.” Local Maltese name: “Il Bricchese”.

Locality: “Melita” (La Valletta/Malta).

Remarks: It is unclear if ‘*cretic*.’ and ‘*varius*’ are meant as two subspecies or varieties of the species *Labrus scarus* Linnaeus, 1758, or not. If so, they would be names only (nomina nuda), as *Labrus scarus creticus* Forsskål [ex Anonymus] in Niebuhr, 1775 and *Labrus scarus varius* Forsskål [ex Anonymus] in Niebuhr, 1775; none of them would be available as neither was accompanied by a diagnosis nor an indication. Both would be synonyms of the species *Sparisoma cretense* (Linnaeus, 1758).

A m m o d y t i d a e – Sand lances

*Gymnammodytes cicereus* (Rafinesque-Schmaltz, 1810)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “AMMODYTES *tobianus*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This record of the species *Ammodytes tobianus* (non Linnaeus, 1758) is obviously based on the only Mediterranean species of ammodytid fish, *Gymnammodytes cicereus*.

T r a c h i n i d a e – Weeverfishes

*Trachinus* sp.

FORSSKÅL in NIEBUHR (1775a: XIV): “4. TRACHINUS. *Δρακάιννα*. Acutissime pungit.”

Localities: – (İstanbul/Turkey and/or İzmir/Turkey).

Remarks: Here, only the genus name is given without diagnosis. The only information is that the fish is stinging severely, but this is true for any species of the genus. The record cannot be assigned to species level. In the area, four species of trachinids are found (FRICKE et al. 2007: 95–96): *Echiichthys vipera* (Cuvier, 1829); *Trachinus araneus* Cuvier [ex Risso] in Cuvier & Valenciennes, 1829; *Trachinus draco* Linnaeus, 1758; *Trachinus radiatus* Cuvier, 1829.

*Trachinus* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “TRACHINUS *draco*.”

Locality: “Melita” (La Valletta/Malta). Local name: “Il Majuro ta rocca”.

Remarks: Again, this record is based on a name only, and cannot be assigned to species level; it could have been based on either Mediterranean species of trachinid fish (see above).

U r a n o s c o p i d a e – Stargazers

*Uranoscopus scaber* Linnaeus 1758

FORSSKÅL in NIEBUHR (1775a: XIV): “3. URANOSCOPUS *scaber*. Turc. *Kurba*. Constantinop. *Βάζραχος*. Smirnae *Βέφορ* vel *Άχνος*.”

Localities: “Constantinop.” (İstanbul/Turkey); “Smirna” (İzmir/Turkey).

Remarks: This is undoubtedly the Linnaean species *Uranoscopus scaber*. The modern Turkish name is ‘Kurbağa balığı’ (FRICKE et al. 2007: 96).

## Blenniidae – Combtooth blennies

*Coryphoblennius galerita* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[BLENNIUS] *galerita*.”

Locality: “Melita” (La Valletta/Malta).

*Coryphoblennius galerita* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[BLENNIUS] *galea*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is a name only, listed as *Blennius galea* Forsskål in Niebuhr, 1775. This is not an independent species description, but a spelling error for *Blennius galerita* Linnaeus, 1758, and thus a double entry of that species.

*Salaria* Bath [ex Forsskål], 1977

FORSSKÅL in NIEBUHR (1775a: X): “3. GADUS vel novum genus SALARIA. Σαλαρία.”

FORSSKÅL in NIEBUHR (1775a: XIV, part): “(5). *Gadum Σαλαρία*, solent Græci infantibus offere pro medicamine masticatorio, dum saliva nimis definit.” (In wrong line after diagnosis of *Gadus mediterraneus*).

FORSSKÅL in NIEBUHR (1775a: 22–23): “3. GADUS an BLENNIUS? An potius novus, nomine SALARIÆ: dorso monopterygio, cirrhis nullis.”

Localities: “ALEXANDRIA & in Archipelago.” (Alexandria, Al-Iskandarīyah/Egypt, Mediterranean Sea; islands in the Aegean Sea/Greece).

Remarks: FORSSKÅL was uncertain according to his notes whether this was a *Gadus* sp. or a new genus, *Salaria*, defining it as having a single dorsal fin and without barbels, and adding a short description. *Gadus salaria* Walbaum [ex Forsskål], 1792 (WALBAUM 1792: 143) (here, ‘*salaria*’ is taken as a species name) is based on FORSSKÅL’s description and would be the first available species name assignment, therefore providing a potential type species for FORSSKÅL’s genus. *Gadus salaria* is a senior, but unused, synonym of *Salaria basilisca* (Valenciennes in Cuvier & Valenciennes, 1836), according to BATH (1977: 208); JORDAN & EVERMANN (1898: 2377) already quoted *Blennius basiliscus* as the type species. For availability according to Art. 11.5 of ICZN, a name must be used as valid for a taxon when proposed, unless it was first published as a junior synonym and subsequently made available under the provisions of Art. 11.6.1. In this case, the name is not clearly defined as a valid name, as both FORSSKÅL and FABRICIUS in NIEBUHR were uncertain whether this was a *Gadus* or a new genus *Salaria*. The name *Salaria* Forsskål in Niebuhr, 1775 is therefore not available as a generic name. GÜNTHER (1861: 220) was the first to list FORSSKÅL’s species on pp. XIV and 22 as ‘?’ in the synonymy of *Blennius basiliscus*, but without mentioning the genus name *Salaria* which he apparently did not consider as valid. JORDAN & EVERMANN (1898: 2377) were the first to take *Salaria* as generic name, in the synonymy of *Blennius*, and referred to *Blennius basiliscus* as the type species without further comments, probably on the basis of GÜNTHER (1861); they were therefore the first to assign a species name to the genus *Salaria*. As this name was assigned in synonymy, the name is not considered valid either. According to Art. 11.6.1 of ICZN, a name published in synonymy is only available if used as a valid name before 1961. This is not the case for *Salaria*, so neither the quotation by JORDAN & EVERMANN (1917: 33) nor by any other of the subsequent authors mentioning the generic name in the synonymy of *Blennius* can be considered as valid. The first available version of the generic name *Salaria* is that of BATH (1977: 208); BATH [ex FORSSKÅL] is

therefore the author of the genus, with the name *Salaria* Bath [ex Forsskål], 1977; BATH gives *Blennius salaria* (erroneously with an authorship of ‘Valenciennes in Cuvier & Valenciennes, 1836’) as the type species, which is a junior synonym of *Blennius basiliscus*. Therefore, *Gadus salaria* Walbaum [ex Forsskål], 1792 is the type species of *Salaria*. – However, this complicates the matter, as *Salaria* Bath [ex Forsskål], 1977 is a junior synonym of *Ichthyocoris* Bonaparte, 1840. The valid name for the genus would therefore be *Ichthyocoris*. In accordance with Art. 23.2 of ICZN, the unused generic name *Ichthyocoris* Bonaparte, 1840 would threaten nomenclatural stability and is here rejected; a petition to the International Commission on Zoological Nomenclature to suppress the name *Ichthyocoris* will be needed to continue the usage of the name *Salaria* as the valid name for the genus.

?*Salaria pavo* (Risso, 1810)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[BLENNIUS] *alauda*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is a name only (nomen nudum), which is neither accompanied by a diagnosis nor an indication, and therefore not available as *Blennius alauda* Forsskål [ex Anonymus] in Niebuhr, 1775. Judging from the Italian name ‘*alauda*’, this record may have been based on *Salaria pavo* (Risso, 1810).

*Salaris fasciatus* (Bloch, 1786)

FORSSKÅL in NIEBUHR (1775a: X): “4. BLENNIUS GATTORUGINE; torvus. *Koschar ed djin*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 23): “4. BLENNIUS GATTORUGINE: *dorsi pinna unica cum pinna caudæ connata; capite obtusissimo, cirrhis tribus supra utrumque oculum, et utrinque senis in postico vertice*.”

Locality: – (Red Sea).

Material: ZMUC P. 75421 (1) (syntype of *Salaris quadripennis* Cuvier, 1816) (see KLAUSEWITZ & NIELSEN 1965: 13; MØLLER 2006).

Remarks: This is not an independent new species description, as assumed by KLAUSEWITZ & NIELSEN (1965: 13), but a misidentification of *Blennius gattorugine* (non Linnaeus, 1758). A specimen is still extant, and was identified as *Salaris fasciatus* (Bloch, 1786) by KLAUSEWITZ & NIELSEN (1965: 13). *Salaris quadripennis* Cuvier [ex Forsskål], 1816 (CUVIER 1816: 251) was described on the basis of FORSSKÅL’s *Blennius gattorugine* (non Linnaeus, 1758); it is a junior synonym of *Blennius fasciatus* Bloch, 1786, which is valid with the currently used name *Salaris fasciatus* (Bloch, 1786). The *Salaris quadripennis* of RÜPPELL (1830: 112–113) is not an independent species description as indicated by ESCHMEYER (2007), but was explicitly based on the *Salaris quadripennis* of CUVIER.

## Callionymidae – Dragonets

?*Callionymus pusillus* Delaroche, 1809

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[COTTUS] *dracunculus*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is not an independent species description, but the record is based on *Callionymus dracunculus* Linnaeus, 1758; it was placed either deliberately or erroneously in the genus *Cottus*. The name *Callionymus dracunculus* was suppressed for the purpose of priority but not homonymy, and the name was placed on the Official Index (Opinion 1658: Anonymus 1991). The record was most probably based on *Callionymus*

*pusillus* Delaroché, 1809, the only callionymid fish species that may be frequently found on shallow sand bottoms in Malta.

### Gobiidae – Gobies

#### Gobiidae, indet.

FORSSKÅL in NIEBUHR (1775a: XIV): “9. [GOBIUS] b) *aphya*.

Κοβίδια. Turc. *Kaja baluk*. Arab. *Bukrusch*. ...”.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[GOBIUS] *aphya*”.

Localities: “Constantinopoli” (İstanbul/Turkey); probably also Alexandria (Alexandria, Al-Iskandarīyah/Egypt, Mediterranean Sea); “Melita” (La Valletta/Malta).

Remarks: This is the species *Gobius aphyia* Linnaeus, 1758, which was originally described from River Nile/Egypt. The species account on p. 9 is accompanied by a short diagnosis, but cannot be assigned to a species within the family Gobiidae. The Turkish name ‘Kayabalığı’ refers to various species of larger gobies (FRICKE et al. 2007).

#### Gobiidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[SCORPÆNA] *scorpius*”.

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “Il Mazzun”.

Remarks: This is not an independent species description, but again based on *Cottus scorpius* (non Linnaeus, 1758). This is an erroneous double entry of one species under two different genus names, and accompanied by two different local names (see above). According to the Maltese name, this was a misidentification as the actual vernacular Maltese name ‘Mazzun’ (Anonymus 2007b) refers to various species of Gobiidae.

#### *Cryptocentrus arabicus* (Gmelin [ex Forsskål], 1789)

FORSSKÅL in NIEBUHR (1775a: X): “5. GOBIUS. a) ANGUILLARIS; minimus”.

FORSSKÅL in NIEBUHR (1775a: 23–24): “5. GOBIUS. ANGUILLARIS: *cute mollissima, squamis adnatis: pinnis dorsi primis, radiis 5; posterioribus eminentibus, filiformibus*”.

Locality: “Djiddæ” (Jeddah, Juddah/Saudi Arabia).

Remarks: This is a misidentification of the species *Gobius anguillaris* (non Linnaeus, 1758), not an independent species description. The species was subsequently described as *Gobius arabicus* Gmelin [ex Forsskål], 1789 (GMELIN 1789: 1198), a species currently accepted as valid which is now named *Cryptocentrus arabicus* (Gmelin [ex Forsskål], 1789). This species, however, was previously available as *Gobius djiddensis* Bonnaterre [ex Forsskål], 1788 (BONNATERRE 1788: 64). As the latter is an unused name, it is here rejected; a petition to the International Commission on Zoological Nomenclature will be needed to suppress it and conserve *Gobius arabicus* Gmelin [ex Forsskål], 1789.

#### *Gobius niger* Linnaeus, 1758

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “GOBIUS *niger*”.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[GOBIUS] *jozo*”.

Locality: “Melita” (La Valletta/Malta).

#### *Gobius paganellus* Linnaeus 1758

FORSSKÅL in NIEBUHR (1775a: XIV): “8. GOBIUS a) *paganellus*. Τοβίός”.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[GOBIUS] *paganellus*”.

Localities: – (Turkey); “Melita” (La Valletta/Malta).

Remarks: The Turkish record is based on the Linnaean species *Gobius paganellus*, which is regularly found in shallow water, both around Istanbul and Izmir. The Maltese record is a name only, and the identification cannot be verified.

#### *Yongeichthys nebulosus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: X): “6. [GOBIUS] b) NEBULOSUS, pinnæ d. radio prolongato. *Hout ed djinn*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 24): “6. GOBIUS NEBULOSUS: *squamis asperis, fusco-nebulosis: pinnæ dorsalis primæ radio secundo filo longo nigro*”.

Type locality: “Djiddæ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Gobius*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *nebulosus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Hout ed djinn*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Gobius nebulosus*; the description was accompanied by a diagnosis and description; the name is available as *Gobius nebulosus* Forsskål in Niebuhr, 1775. It was treated as valid since BONNATERRE (1788: 64–65) and WALBAUM (1792: 199–200).

### Ephippidae – Spadefishes

#### *Platax orbicularis* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XII): “79. CHÆTODON a) ORBICULARIS; dorso ascendente. *Kanaf*”.

FORSSKÅL in NIEBUHR (1775a: 59): “79. CHÆTODON ORBICULARIS; *cinereo-fuscus; subrotundus; spinis dorsalibus nullis*. Arab. major *Kanaf*: parvus *Dakar*”.

Type locality: “Djiddæ” (Jeddah, Juddah/Saudi Arabia).

Type material: Holotype: ZMUC P.5168 (dry skin) (see KLAUSEWITZ & NIELSEN 1965: 23, pl. 30; MÖLLER 2006).

Genus name: *Chaetodon*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *orbicularis*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Kanaf* (larger), *Dakar* (small).

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Chaetodon orbicularis*; the name is binominal in both text and index, is accompanied by a diagnosis and description, and therefore available as *Chaetodon orbicularis* Forsskål in Niebuhr, 1775. The species is valid, with the currently used name *Platax orbicularis* (Forsskål in Niebuhr, 1775).

#### *Platax teira* (Forsskål in Niebuhr, 1775)”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “82. [CHÆTODON] d) TEIRA; pinna dors. corpore duplo longiore. *Teyra*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 60–61): “82. CHÆTODON TEIRA; *corpore rhombeo, fuscescente; fascia transversa duplici obscuriori: pinnis ventralibus, ani & caudæ falcatis, corpore longioribus*”.

FORSSKÅL [ex BAURENFEIND] in NIEBUHR (1776: 7): “CHÆTODON Teira. Pag. 60, n. 82. (TAB. XXII)”.

Type locality: “LOHAJÆ” (Al-Luhayya/Yemen).

Genus name: *Chaetodon*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *teira*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Dáakar* (large), *Teyra* (small).

Remarks: In his draft, FORSSKÅL used the Arabic name ‘teira’ as



a substitute for a Latin name possibly to be selected. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Chaetodon teira*; the name is binominal in both text and index, is accompanied by a diagnosis and description, and therefore would be available as *Chaetodon teira* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. The species was considered as valid since WALBAUM (1792: 417–418). FORSSKÅL [ex BAURENFEIND] in NIEBUHR (1776: pl. 22) illustrated a young specimen of this species. *Chaetodon daakar* Bonnaterre [ex Forsskål], 1788 (BONNATERRE 1788: 81, pl. 95, fig. 389) was described as an unneeded replacement name of “*Chaetodon teira* Forsskål in Niebuhr, 1775”; it is a junior synonym.

### Siganidae – Rabbitfishes

“*Siganus* Forsskål in Niebuhr, 1775”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: X): “nov. genus SIGANUS” (named under listing of *Scarus rivulatus*).

Type species: *Siganus rivulatus* Forsskål & Niebuhr in Niebuhr, 1775.

Remarks: The species named by FORSSKÅL in his draft *Scarus siganus* was renamed by FABRICIUS in NIEBUHR as a new genus, *Siganus*, attributed to the first species listed under the new genus name *Scarus*. The new genus was not accompanied by a diagnosis, and is only available by the type species designation by FABRICIUS in NIEBUHR. Though the name *Siganus* was published in synonymy of *Scarus*, it would be considered to be available as *Siganus* Fabricius [ex Forsskål] in Niebuhr, 1775, according to ICZN, Art. 15.1 and 11.9.3.4, the authorship pending a decision of ICZN.

“*Siganus rivulatus* Forsskål in Niebuhr, 1775”

FORSSKÅL & NIEBUHR in NIEBUHR (1775a: X): “9. [SCARUS] a) RIVULATUS: *Djezavi* vel *Sigiân*. [..., Arabic name] nov. genus: SIGANUS.”

FABRICIUS [ex FORSSKÅL & NIEBUHR] in NIEBUHR (1775a: 25–26): “9. SCARUS SIGANUS; RIVULATUS; *maxillis continuis, complanatis, margine serrato-denticulatis: denticulis approximatis, filiformibus; a medio labio paulatim decrescentibus*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 44): “A) *Sc*. [*Scarus*] *dentibus Sidjan*; *maxillis continuis: denticulis approximatis, filiformibus*.”

Type localities: “*Lohajæ*” (Al-Luhayya/Yemen); “*Basræ*” (Al-Basrah/Iraq, 30°30'N 47°47'E).

Type material: Lectotype: ZMUC P.6689 (dry skin) (either from Al-Luhayyah, collected by FORSSKÅL but returned by NIEBUHR, or collected by NIEBUHR at Al-Basrah), as designated by KLAUSEWITZ & NIELSEN (1965: 13–14, pl. 2); paralectotype: ZMUC P.6690 (dry skin) (MØLLER 2006).

Genus name: *Siganus* (or *Scarus*?).

Species name (FORSSKÅL): *siganus*; (FABRICIUS in NIEBUHR): *rivulatus*.

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Djezavi*, *Sidjan*, *Sigian*.

Remarks: This species was obviously intended to be named *Scarus rivulatus* by FORSSKÅL in his draft, as a member of the genus *Siganus*. It was FABRICIUS in NIEBUHR who apparently thought that this may represent another new genus, and added the name *Siganus* new genus, which was named for the Arabic name *Sidjan* or *Sigian*. It is not clear whether the remark on p. 26 was added by FABRICIUS in NIEBUHR or FORSS-

KÅL, neither whether the specimen ZMUC P.6689 was collected by NIEBUHR or FORSSKÅL, though it was evidently sent to Copenhagen by NIEBUHR, not FORSSKÅL. NIEBUHR at least added the remark on the Al-Basrah locality (FORSSKÅL never visited Al-Basrah/Iraq), which was accompanied by part of the description. It is therefore evident that the authorship of the name must be attributed (at least in part) to NIEBUHR. The name was used in two different versions, *Scarus rivulatus* (n. gen. *Siganus*) on p. X, and *Scarus siganus; rivulatus* on p. 25. The second version is accompanied by a diagnosis and description, while the first version is a mere listing. Though the second version is not binominal and therefore not available, giving two alternative names for the species (ICZN, Art. 5), both versions are considered to be linked together by the species code ‘9’, and the name is available by indication (ICZN, Art. 12.2.2) through the first version, (*Scarus*) *Siganus rivulatus*. As the name was intended to belong to the new genus *Siganus*, though listed under *Scarus*, it would be quoted without parentheses as *Siganus rivulatus* Forsskål & Niebuhr in Niebuhr, 1775, the authorship pending a decision of ICZN. This species was later named *Scarus siganus* Bonnaterre [ex Forsskål], 1788, and *Amphacanthus sigan* Klunzinger [ex Forsskål], 1871 (KLUNZINGER 1871: 502), which are junior synonyms. The *Amphacanthus siganus* of RÜPPELL (1829: 44, pl. 11, fig. 1) is not an independent species description, but based on the *Scarus siganus* of BONNATERRE (ex FORSSKÅL). – “*Scarus sidjan* Forsskål in Niebuhr, 1775” {would be *Scarus sidjan* Fabricius [ex Forsskål] in Niebuhr, 1775} is another name for this species, out of the version on p. 44 ‘*Scarus dentibus Sidjan*’, meaning ‘teeth of *Scarus sidjan*’; it is binominal, accompanied by a diagnosis, available, and an unused synonym of *Siganus rivulatus* Forsskål & Niebuhr in Niebuhr, 1775. I hereby act as the first reviser of this case to select *Scarus rivulatus* as the senior synonym. The *Scarus sidjan* of LACEPÈDE (1802: 1, 6) is not an independent species description, but based on “*Scarus sidjan* Forsskål in Niebuhr, 1775”.

*Siganus stellatus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: X): “10. [SCARUS] b) STELLATUS. *Ghæjtban*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 26): “10. SCARUS STELLATUS; *ovalis; fasciis annulis cæruleo-pallidis, subhexagonis, undique contiguus*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Scarus*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *stellatus*.

Arabic name (Latinised, FORSSKÅL): *Ghæjtban*; (FABRICIUS in NIEBUHR): *Ghajtban*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Scarus stellatus*. It is identical in both versions, binominal, accompanied by a diagnosis and description, and thus available as *Scarus stellatus* Forsskål in Niebuhr, 1775, which was treated as valid since BONNATERRE (1788: 94) and WALBAUM (1792: 691). *Amphacanthus nuchalis* Valenciennes in Cuvier & Valenciennes [ex Forsskål], 1835 (VALENCIENNES in CUVIER & VALENCIENNES 1835: 140) is an unneeded new name for *Scarus stellatus* Forsskål; it is available, and a junior synonym.

### Acanthuridae – Surgeonfishes

*Acanthurus* Forsskål in Niebuhr, 1775

FORSSKÅL in NIEBUHR (1775a: 59): “[CHÆTODON] c) ACANTHURUS: *dentibus unius seriei, rigidis, acutis, contiguus, vel simplicibus vel lobatis*. Cauda in utroque latere aculeo uno vel

pluribus; exserto & rigido; vel mobili & recondendo. Diversum prorsus a Chaetodonte Genus; aliquando propriam constituens familiam.”

Type species: *Teuthis hepatus* Linné, 1766 (subsequent designation; see below).

Remarks: The name *Acanthurus* was used by both FORSSKÅL and FABRICIUS in NIEBUHR (1775a) as a new subgenus name, providing a diagnosis, and FORSSKÅL even stated that it is different enough from *Chaetodon* to be in future separated on the family level. The genus-group name is here considered as available as *Acanthurus* Forsskål in Niebuhr, 1775. The diagnosis includes characters of *Acanthurus* and *Naso*. The type species was subsequently designated by DESMAREST (1874: 246) as *Teuthis hepatus* Linné, 1766 [now *Paracanthurus hepatus* (Linné, 1766)]. This, however, causes problems, as *Acanthurus* Forsskål in Niebuhr, 1775 would be the senior synonym of *Paracanthurus* Bleeker, 1863. The next available genus-group name for *Acanthurus* of current usage would be *Harpurus* Forster, 1788 [FORSTER 1788: 84–85; type species: *Harpurus fasciatus* Forster in Bloch & Schneider, 1801 by monotypy, which is a synonym of *Acanthurus triostegus* (Linnaeus, 1758)]. A petition to the International Commission on Zoological Nomenclature will be needed to stabilise the current usage of the names *Acanthurus* and *Paracanthurus*.

*Acanthurus gahhm* (Gmelin [ex Forsskål], 1789)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “[90. CHÆTODON m) NIGRO-FUSCUS] β) *Gahhm*.”

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 64): “90. [CHÆTODON NIGROFUSCUS] b) GAHHM Arab. ægre ab hoc distinguatur; nisi colore undique *nigro*: basi P. C. violacea: ...”.

Type locality: – (Red Sea).

Genus name: *Chaetodon*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): *nigrofuscus* (var. b).

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Gahhm.

Remarks: This was intended as an unnamed variation of *Chaetodon nigrofuscus* by both FORSSKÅL and FABRICIUS in NIEBUHR; the name ‘Gahhm’ in the index on p. XIII and in the text on p. 64 clearly indicated to be the Arabic name, not the scientific name. Therefore, the name (and spelling) *Chaetodon gahhm* is not available out of NIEBUHR’s (1775a) publication. The first available usage with the spelling *Chaetodon gahm* is by GMELIN [ex FORSSKÅL], 1789 (GMELIN 1789: 1268–1269); the name is therefore available as *Chaetodon gahm* Gmelin [ex Forsskål], 1789. A previous author, BONNATERRE (1788: 83), just named the species ‘Le Gahhm’ without presenting a scientific name. It is a valid species, the spelling of the name, however, has to be changed to ‘*gahhm*’ due to prevailing subsequent usage (ICZN, Art. 33.2.3.1), with the currently used name *Acanthurus gahhm* (Gmelin [ex Forsskål], 1789).

*Acanthurus nigrofuscus* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XIII): “90. [CHÆTODON] m) NIGRO-FUSCUS. *Tæga*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 64): “90. CHÆTODON NIGROFUSCUS; *cauda utrinque spine recumbente*.”

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Chaetodon*.

Species name (FORSSKÅL): *nigro-fuscus*; (FABRICIUS in NIEBUHR): *nigrofuscus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Tæga.

Remarks: This species was described by both FORSSKÅL and

FABRICIUS in NIEBUHR as *Chaetodon nigrofuscus* (version on p. 64; in the index as *Chaetodon nigro-fuscus*), and was distinguished in the remarks from *Chaetodon nigricans* Linnaeus, 1758 as having an undivided caudal fin. It is binominal in both versions, accompanied by a diagnosis and description, and thus available as *Chaetodon nigrofuscus* Forsskål in Niebuhr, 1775. The species was treated as valid since WALBAUM (1792: 438).

*Acanthurus sohal* (Gmelin [ex Forsskål], 1789)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “89. [CHÆTODON] l) SOHAL; *fossula vulneriformi*. *Sohal*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 63–64): “89. CHÆTODON SOHAL; *cauda utrinque carina ossea, in fossula rubra*.”

Type locality: – (Red Sea); – “Aliis” (Red Sea).

Type material: Lectotype: ZMUC P.6749 (dry skin); paralectotype: ZMUC P.6750 (dry skin) (MØLLER 2006). Lectotype designation by KLAUSEWITZ & NIELSEN (1965: 24; see also pl. 34).

Genus name: *Chaetodon*.

Species name (FORSSKÅL): – (or *Chaetodon lineatus* [Linnaeus, 1758]?); (FABRICIUS in NIEBUHR): *sohal* (or *Chaetodon lineatus* [Linnaeus, 1758]?).

Arabic names (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Sohal, Sahal, Schausch.

Remarks: FORSSKÅL used the Arabic name ‘sohal’ as a substitute for a Latin name possibly to be designated, but was not sure if this species was a synonym of *Chaetodon lineatus* Linnaeus, 1758. FABRICIUS in NIEBUHR (1775a) described it as *Chaetodon sohal*, but again stated that this may be *Chaetodon lineatus*. Most understandably, FORSSKÅL had planned to solve the case later, but never did, nor did FABRICIUS in NIEBUHR (1775a). As neither FORSSKÅL nor FABRICIUS in NIEBUHR (1775a) clearly decided how to name the species, the name is not available. The first available usage of the name is *Chaetodon sohar* of Gmelin [ex Forsskål], 1789 (GMELIN 1789: 1268). The species was treated as valid since WALBAUM (1792: 441–442); the spelling of the name, however, has to be changed to ‘*sohal*’ due to prevailing subsequent usage (ICZN, Art. 33.2.3.1). The species has the currently used name *Acanthurus sohal* (Gmelin [ex Forsskål], 1789). The species was subsequently described by BLOCH & SCHNEIDER (1801: 216) as *Acanthurus carinatus*, besides another species account on *Acanthurus sohal* (see BLOCH & SCHNEIDER 1801: 215); *Acanthurus carinatus* is a junior synonym of *Acanthurus sohal* (Gmelin [ex Forsskål], 1789).

*Naso unicornis* (Forsskål in Niebuhr, 1775)

FORSSKÅL in NIEBUHR (1775a: XIII): “88. [CHÆTODON] k) UNICORNIS; *fronte cornuta*. *Abu garn*. [..., Arabic name]”.

FORSSKÅL in NIEBUHR (1775a: 63): “88. CHÆTODON UNICORNIS *fronte cornuta; cauda carinis utrinque duabus, elatis*.”

FORSSKÅL [ex BAURENFEIND] in NIEBUHR (1776: 7): “CHÆTODON unicornis. Pag. 63, n. 88. (TAB. XXIII)”.

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Type material: Lectotype designated by FRICKE (1999: 549) as the specimen illustrated by FORSSKÅL [ex BAURENFEIND] in NIEBUHR (1776: pl. 23).

Genus name: *Chaetodon*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *unicornis*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Abu garn.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Chaetodon unicornis*. It is binominal in both versions, accompanied by a diagnosis and descrip-

tion, and thus available as *Chaetodon unicornis* Forsskål in Niebuhr, 1775. The species was treated as valid since BONNATERRE (1788: 82) and WALBAUM (1792: 440). It was illustrated by FORSSKÅL [ex BAURENFEIND] in NIEBUHR (1776: pl. 23). *Monoceros biaculeatus* Bloch & Schneider [ex Forsskål], 1801 (BLOCH & SCHNEIDER 1801: 180–181) was subsequently described as a new name for FORSSKÅL's *Chaetodon unicornis*, and is a junior synonym. – *Naso fronticornis* Lacepède [ex Commerson, Forsskål], 1801 (LACEPÈDE 1801: 105, 106–110, pl. 7, fig. 2) is an unneeded replacement name for *Chaetodon unicornis* Forsskål in Niebuhr, 1775, based in part on FORSSKÅL's species and in part on the '*Naseus fronticornis fuscus*' in a manuscript description by COMMERSON (1767–1771); it is a junior synonym.

### Sphyrænidae – Barracudas

*Sphyraena barracuda* (Edwards in Catesby, 1771)

FORSSKÅL in NIEBUHR (1775a: XVI): “37. ESOX *sphyræna*. Arab. *Mughsil* vel *Agam*, vel *Gædd*. [..., Arabic name] Squamis magnis; corpore long. 3 uln.”.

Locality: – (Red Sea).

Material: ZMUC P.71369 (1 dry skin) (see KLAUSEWITZ & NIELSEN 1965: 25).

Remarks: This record is based on the species *Esox sphyræna* (non Linnaeus, 1758); that species is restricted to the Atlantic Ocean including Mediterranean Sea, and does not occur in the Red Sea. FORSSKÅL's specimen was identified by KLAUSEWITZ & NIELSEN (1965: 25) as *Sphyræna picuda* Bloch & Schneider, 1801, which is a junior synonym of *Sphyræna barracuda* (Edwards in Catesby, 1771).

*Sphyræna jello* Cuvier in Cuvier & Valenciennes, 1829

FORSSKÅL in NIEBUHR (1775a: XVI): “[37. ESOX *sphyræna*] β) *Minor*, squamis parvis. Arab. *Djadd*.”.

Type locality: – (Red Sea).

Genus name: *Esox*.

Species/subspecies name (FORSSKÅL): (β); (FABRICIUS in NIEBUHR): *sphyræna minor*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Djadd*.

Remarks: In his draft, FORSSKÅL treated this species as an unidentified variety of *Esox sphyræna*, described as ‘minor, squamis parvi’ with the Arabic name ‘Djadd’. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR, however, used the ‘minor’ as the name for the variety. The name is accompanied by a very brief diagnosis, but recognisable, and therefore would be available as *Esox sphyræna minor* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. Unfortunately, this in an unused senior synonym of *Sphyræna jello* Cuvier in Cuvier & Valenciennes, 1829. The name *Esox sphyræna minor* is rejected here, in accordance with Art. 23.2 and the preamble of ICZN; an application to the International Commission on Zoological Nomenclature will be necessary to retain the name *Sphyræna jello*, which is considered as a valid species.

### Trichiuridae – Cutlassfishes

*Trichiurus lepturus* (Linnaeus, 1758)

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XIII): “106. CLUPEA a) HAUMELA; polita. *Haumela*.”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 72): “106. CLUPEA HAUMELA; lanceolata, nuda; pinnis V & A. nullis; dorsali per totum dorsum extensa: cauda lineari apterygia.”.

Type locality: “MOCHHÆ” (Al-Mukhā/Yemen).

Genus name: *Clupea*.

Species name (FORSSKÅL): – (*polita*); (FABRICIUS in NIEBUHR): *haumela*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Haumela*.

Remarks: In his draft, FORSSKÅL used the Arabic name ‘haumela’ as a substitute for a scientific name possibly to be designated. He did not decide if this was an undescribed species at all. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS in NIEBUHR described the species as *Clupea haumela* in both the index and text. The use of ‘haumela’ as the species name was clearly decided and authored by FABRICIUS [ex FORSSKÅL]. The name is binominal both in the index and in the text, and accompanied by a diagnosis and description; it would therefore be available as *Clupea haumela* Fabricius [ex Forsskål] in Niebuhr, 1775, the authorship pending a decision of ICZN. However, it is a junior synonym of *Trichiurus lepturus* (Linnaeus, 1758). The species was subsequently misspelled as *Trichiurus hamrela* by BLOCH and SCHNEIDER (1801: 518; correction to *haumela* on p. 584); this is not an independent species description.

### Scomberidae – Mackerels and tunas

?*Katsuwonus pelamis* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XVI): “30. SCOMBER d) *thynnus*?. Arab. *Kænad*. In *Mari rubro*. Pinnis spuriis superne & inferne 10; radiis P. D. primæ 16. Longitudo 1 uln.”.

Locality: “In *Mari rubro*” (Red Sea).

Remarks: This is a misidentification of the species *Scomber thynnus* (non Linnaeus, 1758); it is most probably based on *Katsuwonus pelamis* (Linnaeus, 1758).

*Sarda sarda* (Bloch, 1793)

FORSSKÅL in NIEBUHR (1775a: XVI): “27. SCOMBER a) *pelamis*. Παλαμίδα. Turc. *Palamit*. lineæ 4. nigræ corporis laterales non manifestæ.”.

Locality: “Turc.” (Turkey).

Actual Turkish name: Palamut (FRICKE et al. 2007: 110).

Remarks: This is a misidentification of the species *Scomber pelamis* (non Linnaeus, 1758); according to the Turkish name, the record is based on *Sarda sarda* (Bloch, 1793), a species which is a migrant regularly found in shallow water, both around İstanbul and İzmir, and which was more common in the past.

*Scomber* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): “[SCOMBER] *scomber*.”.

Locality: “Melita” (La Valletta/Malta).

Remarks: This record of *Scomber scomber* could have been either based on *Scomber colias* Gmelin, 1789, or on *Scomber scomber* Linnaeus, 1758.

*Scomber colias* Gmelin, 1789

FORSSKÅL in NIEBUHR (1775a: XVI): “28. [SCOMBER] b) *scomber*. Κολιός. Turc. *Kolios-balük*.”.

Locality: “Turc.” (Turkey).

Actual Turkish name: Kolyoz (FRICKE et al. 2007: 110).

Remarks: This is a misidentification of the species *Scomber*



*scombrus* (non Linnaeus, 1758); according to the Turkish name, the record is based on *Scomber colias* Gmelin, 1789, a species which is regularly found in shallow water, both around İstanbul and İzmir; the Turkish name of *Scomber scombrus* would be 'Uskumru' (FRICKE et al. 2007: 110).

?*Thunnus* sp.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "SCOMBER *thynnus*."

Locality: "Melita" (La Valletta/Malta). Local name: "Itton".

Remarks: This record from Malta was based on a name only, and cannot be assigned to species level; it may have been based on either *Euthynnus alletteratus* (Rafinesque-Schmaltz, 1810), *Orcynopsis unicolor* (Geoffroy Saint-Hilaire, 1817), *Thunnus alalunga* (Bonnaterre, 1788), or *Thunnus thynnus* (Linnaeus, 1758).

Xiphidae – Swordfishes

*Xiphias gladius* Linnaeus, 1758

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "XIPHIAS *gladius*."

Locality: "Melita" (La Valletta/Malta). Local name: "Il Piscis Spat".

Remarks: The actual vernacular Maltese name of this species is "Pixxispad" (Anonymus 2007b).

Centrolophidae – Medusafishes

*Centrolophus niger* (Gmelin, 1789)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "[CORYPHÆNA] *pompilus*."

Locality: "Melita" (La Valletta/Malta). Local name: "I Stellara".

Remarks: This record is based on the species *Coryphaena pompilus* Linnaeus, 1758, which is an unused senior synonym of *Centrolophus niger* (Gmelin, 1789); in order to retain the latter name, an application to the International Commission on Zoological Nomenclature will be needed.

Caproidae – Boarfishes

*Capros aper* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): "ZEUS *aper*."

Locality: "Melita" (La Valletta/Malta).

Pleuronectiformes – Flatfishes

Pleuronectiformes, incertae sedis

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "PLEURONECTES *limanda*."

Locality: "Melita" (La Valletta/Malta).

Remarks: This is a misidentification of *Pleuronectes limanda* (non Linnaeus, 1758); the latter species is *Limanda limanda* (Linnaeus, 1758), and restricted to the northeastern Atlantic, not occurring south of the Bay of Biscay. FORSSKÅL's Maltese record is unplaceable within the Pleuronectiformes; it may have been based on *Arnoglossus* sp. (family Bothidae).

Pleuronectiformes, incertae sedis

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "[PLEURONECTES] *hippoglossus*."

Locality: "Melita" (La Valletta/Malta).

Remarks: This is a misidentification of *Pleuronectes hippoglossus* (non Linnaeus, 1758); the latter species is *Hippoglossus hippoglossus* (Linnaeus, 1758), and restricted to the North Atlantic, not occurring south of the Bay of Biscay. FORSSKÅL's Maltese record is unplaceable within the Pleuronectiformes; it may have been based on *Bothus podas* (family Bothidae).

Citharidae – Largescale flounders

*Citharus linguatula* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "[PLEURONECTES] *linguatula*."

Locality: "Melita" (La Valletta/Malta). Local name: "Il Linguada".

Remarks: This species may have been confused with *Arnoglossus imperialis* (Rafinesque-Schmaltz, 1810) or another flatfish species, which have the actual vernacular Maltese name "Lingwata" (Anonymus 2007b).

Scophthalmidae – Turbots

*Psetta maxima* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "[PLEURONECTES] *psetta*."

Locality: "Melita" (La Valletta/Malta).

Remarks: This is a name only (nomen nudum), listed as *Pleuronectes psetta* Forskål [ex Anonymus] in Niebuhr, 1775; neither accompanied by a diagnosis nor an indication, and therefore not available; the record was based on *Psetta maxima* (Linnaeus, 1758).

*Scophthalmus rhombus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XIX): "[PLEURONECTES] *rhombus*."

Locality: "Melita" (La Valletta/Malta).

Pleuronectidae – Righteye flounders

*Platichthys luscus* (Pallas, 1814)

FORSSKÅL in NIEBUHR (1775a: XV): "12. [PLEURONECTES] b) *papillosus*. Πίσσι. Turc. *Pissi balük*. Non facile papillosus; nam radii D. 65. pro 58. V. 6. 7. pro 5. 6. A. 49. pro. 42."

Locality: – (İstanbul/Turkey, or İzmir/Turkey).

Remarks: This is a misidentification of the species *Pleuronectes papillosus* (non Linnaeus, 1758), which is restricted to the West Atlantic, with the currently used name *Syacium papillosum* (Linnaeus, 1758). FORSSKÅL's Turkish record is based on *Platichthys luscus* (Pallas, 1814), which has the actual Turkish name 'Derepisi balığı' (FRICKE et al. 2007: 114). The species is common both around İstanbul and İzmir.

Soleidae – Soles

*Solea solea* (Linnaeus 1758)

FORSSKÅL in NIEBUHR (1775a: XV): "11. PLEURONECTES a) *solea*. Γλόσσα. Turc. *Dil baluk*. ..."

Localities: – (İstanbul/Turkey, or İzmir/Turkey); – (Alexandria, Al-Iskandarīyah/Egypt, Mediterranean Sea).

Remarks: This is the Linnaean species *Pleuronectes solea*, which is regularly found in shallow water, both around İstanbul and İzmir.

## Balistidae – Triggerfishes

*Balistapus undulatus* (Park, 1797)

FORSSKÅL in NIEBUHR (1775a: XVII): “[47. BALISTES (*aculeatus*) b) *minor*, duplici ordine aculeorum; corpore lineis flavis, obliquis.”

Type locality: – (Red Sea) (erroneously listed as ‘Izmir and/or Istanbul, Turkey’ by ESCHMEYER 2007).

Genus name: *Balistes*.

Species/subspecies name (FORSSKÅL, FABRICIUS in NIEBUHR): *aculeatus minor*.

Remarks: FORSSKÅL described this new variety/subspecies of *Balistes aculeatus* (non Linnaeus, 1758), under the name *Balistes aculeatus minor*; the name was accompanied by a brief diagnosis which is nevertheless characteristic for the species, and the name is available as *Balistes aculeatus minor* Forsskål in Niebuhr, 1775. The name is based on the species which is currently named *Balistapus undulatus* (Park, 1797); *Balistes undulatus* Park, 1797 is a junior synonym of *Balistes aculeatus minor* Forsskål in Niebuhr, 1775. The latter name is here is here rejected according to the preamble and Art. 23.2 of ICZN. In order to preserve stability of nomenclature, and retain the frequently used name *Balistapus undulatus* (Park, 1797), a petition to the International Commission on Zoological Nomenclature is advisable to suppress the name *Balistes aculeatus minor* Forsskål in Niebuhr, 1775.

*Balistes capriscus* Gmelin, 1789

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[CHÆTODON] *vetula*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: The name ‘*vetula*’ was erroneously listed under the name *Chaetodon paru*, but actually belongs to the genus name *Balistes* one line above. This is a misidentification of the Linnaean species *Balistes vetula*; the Maltese record is based on *Balistes capriscus* Linnaeus, 1758.

*?Canthidermis macrolepis* (Boulenger, 1888)

FORSSKÅL in NIEBUHR (1775a: XVII): “46. BALISTES a) *aculeatus*; *major*: Arab. *Schaaram* [..., Arabic name] Quinque seriebus aculeorum in cauda. Piscis insipidus & foetidus.”

Locality: – (Red Sea).

Remarks: This is a misidentification of the species *Balistes aculeatus* Linnaeus, 1758 [now named *Rhinecanthus aculeatus* (Linnaeus, 1758)], but is a new variety ‘*Balistes aculeatus major*’ (see *Balistapus undulatus*, above, for the other variety, *Balistes aculeatus minor*). The name, however, is not available as *Balistes aculeatus major* Forsskål in Niebuhr, 1775, as the diagnosis is insufficient. Judging from the five series of spines on the caudal peduncle and the large size, the record may have been based on *Canthidermis macrolepis* (Boulenger, 1888).

*“Rhinecanthus assasi* (Forsskål in Niebuhr, 1775)”

FORSSKÅL in NIEBUHR (1775a: XIV): “112. BALISTES VERRUCOSUS. *Azzazi*. [..., Arabic name]”.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: 75): “112. BALISTES ASSASI. DESCR. Parvus: fuscus: ventre albo: *anus niger*, *anulo fulvo*. ...”.

Type locality: “DJIDDÆ” (Jeddah, Juddah/Saudi Arabia).

Genus name: *Balistes*.

Species name (FORSSKÅL): *verrucosus*; (FABRICIUS in NIEBUHR): *assasi*.

Arabic names (Latinised, FORSSKÅL): *Azzazi*; (FABRICIUS in NIEBUHR): *Djemel*, *Azzazi*.

Remarks: In his draft, FORSSKÅL misidentified this species

*Balistes verrucosus* (non Linnaeus, 1758) in the index, with ‘*Azzazi*’ as the Arabic name, but in the text he used the Arabic name ‘*azzazi*’ or ‘*assasi*’ as a substitute for a Latin species name possibly to define, in the case the species from Jeddah turned later out to be undescribed. We cannot be certain if the data source for this description was by FORSSKÅL or NIEBUHR or both; the description was compiled by FABRICIUS. FABRICIUS [ex FORSSKÅL] in NIEBUHR described the species in the text as *Balistes assasi*. The use of ‘*assasi*’ as the species name was clearly decided and authored by FABRICIUS [ex FORSSKÅL]. The name is binominal in the text, and accompanied by a description; it would therefore be available as *Balistes assasi* Fabricius [ex Forsskål] in Niebuhr, 1775, with the actual name *Rhinecanthus assasi* (Fabricius [ex Forsskål] in Niebuhr, 1775), the authorship pending a decision of ICZN. The species was considered as valid since WALBAUM (1792: 465).

## Ostraciidae – Boxfishes

*Ostracion cubicus* Linnaeus, 1758

FORSSKÅL in NIEBUHR (1775a: XVII): “48. OSTRACION *cubicus*. Arab. *Abu sendük* [..., Arabic name] Sapidissimus. Solent piscatores ventrem resecare & carnem eximere.”

Locality: – (Red Sea).

*Tetrosomus gibbosus* (Linnaeus, 1758)

FORSSKÅL in NIEBUHR (1775a: XIV): “113. OSTRACION TURRITUS; dorso gibbo. *Djemel*.”

FORSSKÅL in NIEBUHR (1775a: 75–76): “113. OSTRACION TURRITUS; *superciliis dorsoque spinis solitariis; abdomine spinis utrinque quatuor*.”

Type locality: “MOCHHÆ” (Al-Mukhā/Yemen).

Genus name: *Ostracion*.

Species name (FORSSKÅL, FABRICIUS in NIEBUHR): *turritus*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): *Djémel*.

Remarks: This species was described by both FORSSKÅL and FABRICIUS in NIEBUHR as *Ostracion turritus*. The name is binominal, accompanied by a diagnosis and description, and is available as *Ostracion turritus* Forsskål in Niebuhr, 1775; it was treated as valid by BONNATERRE (1788: 22) and WALBAUM (1792: 476–477). *Ostracion turritus* is a junior synonym of *Ostracion gibbosus* Linnaeus, 1758, with the currently used name *Tetrosomus gibbosus* (Linnaeus, 1758).

*?Tetrosomus gibbosus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “OSTRACION *gibbosus*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: The species *Tetrosomus gibbosus* (Linnaeus, 1758) was assumed to have immigrated through the Suez Canal into the southeastern Mediterranean. If FORSSKÅL [ex Anonymus] in NIEBUHR’s (1775a) record is correct (and there is no species known in the Mediterranean with which it could be confused), this would mean that the species may have been present in the Mediterranean even before the opening of Suez Canal in 1869.

## Tetraodontidae – Puffers

## Tetraodontidae, indet.

FABRICIUS [ex FORSSKÅL] in NIEBUHR (1775a: XVII): “51. [TETRAODON] c) *Abu-Kobhla*. Arab. [..., Arabic name]”.

Type locality: – (Red Sea).

Genus name: *Tetraodon*.

Species name (FORSSKÅL): –; (FABRICIUS in NIEBUHR): *abu-kobhla*.

Arabic name (Latinised, FORSSKÅL, FABRICIUS in NIEBUHR): Abu kobbhla.

Remarks: FORSSKÅL used the Arabic name ‘Abu Kobbhla’ as a substitute for a species which he could not identify; he did not intend to use it as a scientific species name. FABRICIUS [ex FORSSKÅL] in NIEBUHR named the species in the index as *Tetraodon abukobhla* (original spelling of species name ‘abukobhla’). The name is binominal in the index, but neither accompanied by a diagnosis or a description; it is therefore not available as *Tetraodon abukobhla* Fabricius [ex Forsskål] in Niebuhr, 1775. It is unplaceable within the family Tetraodontidae. ESCHMEYER (2007) erroneously listed the name as ‘*Tetraodon abukobhla*’.

Tetraodontidae, indet.

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[OSTRACION] *capite testudineo*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is not an independent species description with the name *Ostracion capite testudineo* (which would not be available anyway as the name ‘*Ostracion capite testudineo*’ is not binominal, with ‘*capite testudineo*’ being a species name in two words), but is based on the Linnaean species *Tetraodon testudineus*; the species was either deliberately or erroneously placed in the genus *Ostracion*. This was a misidentification; *Sphoeroides testudineus* (Linnaeus, 1758) does not occur in the Mediterranean Sea. The listing is without a diagnosis or indication, and cannot be assigned to genus or species level at present.

*Arothron diadematus* (Rüppell, 1829)

FORSSKÅL in NIEBUHR (1775a: XVII): “50. [TETRAODON] b) HISPIDUS? Arab. *Edjlis*. [..., Arabic name] Lohajæ. Totus fuscus, areolis contiguus, papillisque albis. ...”

Locality: “Lohajæ” (Al-Luhayya/Yemen).

Material: No FORSSKÅL material extant.

Remarks: This is not an independent species description, but a questionable reference to and a misidentification of the species *Tetraodon hispidus* (non Linnaeus, 1758), a species which is now named *Arothron hispidus* (Linnaeus, 1758). FORSSKÅL’s record of the species is based on *Arothron diadematus* (Rüppell, 1829). FORSSKÅL’s *Tetraodon hispidus* was also listed in the synonymy and partly forms the basis of *Tetraodon sordidus* Rüppell, 1829 (RÜPPELL 1829: 64), which is a composite species and now treated as a junior synonym of *Arothron immaculatus* (Bloch & Schneider, 1801) (ESCHMEYER 2007).

*Arothron perspicillaris* (Rüppell, 1829)

FORSSKÅL in NIEBUHR (1775a: XVII): “49. TETRAODON a) OCELLATUS? Arab. *Drimme* vel *Kavvat*. Lineæ flavæ circa pinnas Pect. Corpus supra fuscum, maculis cæruleo-albidis. ...”

Locality: – (Red Sea).

Material: ZMUC P.89123 (see KLAUSEWITZ & NIELSEN 1965: 26, pl. 38).

Remarks: This is not an independent species description, but a questionable reference to and a misidentification of the species *Tetraodon ocellatus* (non Linnaeus, 1758), a species which is now named *Takifugu ocellatus* (Linnaeus), and is restricted to East Asia. FORSSKÅL’s record of the species is based on *Arothron perspicillaris* (Rüppell, 1829) according to KLAUSEWITZ & NIELSEN (1965: 26). This species is often treated as a valid subspecies of *Arothron hispidus* (Linnaeus, 1758).

*Lagocephalus lagocephalus* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[OSTRACION] *lagocephalus*.”

Locality: “Melita” (La Valletta/Malta).

Remarks: This is not an independent species description with the name *Ostracion lagocephalus*, but is based on the Linnaean species *Tetraodon lagocephalus*; the species was either deliberately or erroneously placed in the genus *Ostracion*. The species is valid, and the currently used name is *Lagocephalus lagocephalus* (Linnaeus, 1758).

*Tetraodon lineatus* Linnaeus, 1758

FORSSKÅL in NIEBUHR (1775a: XIV): “114. TETRAODON, *lineatus*. Fahaka.”

FORSSKÅL in NIEBUHR (1775a: 76): “114. TETRAODON LINEATUS. Arab. *Fahaka*.”

Locality: “E Nilo” (Nile/Egypt).

Remarks: This is a record of the Linnaean species *Tetraodon lineatus*, which is regularly found in River Nile. This species was subsequently named *Tetrodon physa* Geoffroy Saint-Hilaire, 1809 (GEOFFROY SAINT-HILAIRE 1809: 19–37, pl. 1, fig. 1, pl. 2), which is a junior synonym of *Tetraodon lineatus*.

#### Diodontidae – Porcupinefishes

*Diodon hystrix* Linnaeus, 1758

FORSSKÅL in NIEBUHR (1775a: XVII): “52. DIODON *hystrix*. Arab. *Schokia* [..., Arabic name] vel *Abu mechajat*. Maculatus; in ventre duæ venæ venenatæ.”

Locality: – (Red Sea).

*Diodon hystrix* Linnaeus, 1758

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[OSTRACION] *hystrix*.”

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “Il Rizza”.

Remarks: This is not an independent species description with the name *Ostracion hystrix*, but is based on the Linnaean species *Diodon hystrix*; the species was either deliberately or erroneously placed in the genus *Ostracion*. The species is valid, and the currently used name is *Diodon hystrix* Linnaeus, 1758.

#### Molidæ – Molas

*Mola mola* (Linnaeus, 1758)

FORSSKÅL [ex Anonymus] in NIEBUHR (1775a: XVIII): “[OSTRACION] *mola*.”

Locality: “Melita” (La Valletta/Malta). Local Maltese name: “I Kamar”.

Remarks: This is not an independent species description with the name *Ostracion mola*, but is based on the Linnaean species *Tetraodon mola*; the species was either deliberately or erroneously placed in the genus *Ostracion*. The species is valid, and the currently used name is *Mola mola* (Linnaeus, 1758).

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Valid taxa are printed in **bold face**. ‘ä’ and ‘æ’ are listed as ‘ae’, ‘ö’ as ‘oe’, and ‘ü’ as ‘ue’.

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