

NOTES ON THE SYNONYMY OF THE TORPEDINIDÆ
OR NARCOBATIDÆ.

By THEODORE GILL, LL. D.

SEVERAL genera of the family Torpedinidæ have for many years been known under names which are of later date than those under which they were first made known. The typical genus of the family, too, has for almost a century enjoyed a name (partly a heritage from the ancients) which by right belongs to another very distant genus of true fishes. To demonstrate these facts is the object of the present communication.

I.

For more than twenty years I have been aware of a use of the word *Torpedo* which would necessitate some violent changes if the rules of nomenclature were strictly followed. But as most ichthyologists until lately have been unwilling to follow such rules, if they interfered with their preconceived ideas, I have reserved the information in question in order to avoid inflicting too severe a shock, and have hoped that some other might have discovered the facts. No one has yet announced the discovery, however, and as there are now many ichthyologists who are amenable to rules and are willing to accept evidence, I have deemed a historical exposition of certain facts timely and no longer premature.

In 1775 Forskal's "Descriptiones Animalium, Avium, Amphibiorum, Piscium, Insectorum, Vermium," etc., was published, and in it is a description of what is called *Raja torpedo*. The so-called *Raja* was distinguished by "pinna dorsali adiposa, corpore nigro maculato, cirrhis oris sex." and was described at length. The description is applicable to the "electric catfish" of the Nile. In a note, the species is referred to a distinct genus in the following terms, and with the distinctions of typography here used:

Obs. 1.¹ An cum *Mormyro*, genere potest sociari; vel inter Torpedines posteriores Rondeletii locum invenire: aut potius novum constituere genus? Certe determinatur Torpedinis CHARACTER GENERICUS: *Piscis branchiostegus: apertura linearis, obliqua supra pinnas pectorales: corpore nudo: pinnis ventralibus, seu abdominalibus: dentibus numerosissimis, densis, subulatis.*

¹The second note ("Obs. 2") refers to the habits, electrical properties, use, etc., of the species.

Every requisite for generic nomenclature is here fulfilled. A name is given, a real diagnosis is supplied, and a typical species described. Of course a great mistake was made in identification, but the description and not the identification is the cardinal point in the determination of the question at issue. The perversion of the name *Torpedo* from the rays so long familiar under that designation is very regrettable and at variance with ancient usage; but even the ancient use of *Torpedo* for the rays was secondary, the primary use being for the quality of numbness or torpidity, and the electric catfish is as much the embodiment of numbness as the electric ray. Besides, we have been too much used to wanton perversions of old names to be much shocked by any new manifestation. Witness the perversion of the name *Trochilus* (originally used for a snipe) to the exclusively American humming birds, and of *Amia* (originally given to a tunny) to the equally American ganoids. For such unscientific perversions we have to blame Linnæus and his followers, and so distorted were their views of the fitness of things that they even took a certain pride in misusing such names, and were very particular in rejecting what they were pleased to call barbarous and nonclassical terms. Remonstrances against such perversions were not wanting to Linnæus, even very early in his career;¹ but he was deaf to all, and scientific nomenclature has consequently been cursed with a load of names revived in a very different sense from their primitive use. At worst, one more such misused term will be *Torpedo*, but its misuse will be less repulsive than that of many others, because its primary meaning will not be in disaccord with the fish.

The facts in question are thus exhibited in the synonymy:

Genus TORPEDO.

=*Torpedo*, FORSKÅL, Desc. Anim., etc., p. 16, 1775.

=*Malapterurus*, LACÉPÈDE, Hist. Nat. Poiss., V, p. 90, 1802.

=*Anacanthus*, MINDING, Lehrb. Nat. Fische, p. 117, 1832.

Raja sp., FORSKÅL.

Silurus sp., GMELIN et al.

The family to which it belongs should consequently be called TORPEDINIDÆ.

II.

If the propriety of the retention of the name *Torpedo* in place of *Malapterurus* is conceded, it necessarily follows that another name must be used for the genus of electric rays. *Narceion* is the oldest term, having been given by Klein in 1742, and was adopted in 1861 by Gill and later by Bleeker, but having been given before the establishment of the binomial system of nomenclature is now considered ineligible.

¹Dillenius, in an early letter to Linnæus, remarked: "I do not object to Greek words, especially in compound names; but I think the names of the ancients ought not rashly and promiscuously to be transferred to our new genera, or those of the New World." There was much more sound advice in the letter, which Linnæus unfortunately did not profit by.

The next in order of proposition is *Narcobatus*, introduced by De Blainville in 1816, and this should accordingly be adopted.

III.

In 1862, in a note on the classification of the "Torpedinoidæ" or "Narcacientoidæ," I proposed a new generic name for the Torpedininae, or "Narcacientinae" without dentiform processes round the spiracles, in the following terms:

Spiracles with dentated borders..... *Narcacion*.
Spiracles with smooth borders (*Torpedo occidentalis* St.) *Tetronarce*.

Tetronarce should of course have been *Tetranarce*, the name alluding to the four-sided form. *Tetronarce* was purely a printer's blunder.

In 1886 Dr. G. Fritsch, in a communication on the systematic arrangement of the species of *Torpedo*,¹ proposed the same subdivision as the preceding, calling the *Narcacion* of Gill *Fimbriatorpedo*, and the *Tetranarce* of Gill *Gymnotorpedo*.

IV.

In 1826 Dr. J. J. Kaup² proposed a new genus named *Narke* for the *Raja capensis* of Gmelin, which he defined in the following terms:

Narke. *Raja* Gmel. *Torpedo* Schneid. Kennz. der Gattung. Scheibe des Körpers rund. Rücken gewölbt. Spritzlöcher, die kurzen Röhren hinter den Augen. Schwanz fleischig, kurz, mit einer Rückenflosse.

Diese Gattung ist nahe mit *Torpedo* verwandt, von welcher sie der gewölbte Rücken und der Mangel der einen Schwanzrückenflosse unterscheidet. Eine Art. *Raja Gronoviana*, Lacép. *Raja capensis*, Gmel.

As the generic name *Narke* was published more than a decade before *Astrape* and was well defined, the former name (not having been previously used) must be revived.

V.

The genera of Narcobatids were segregated by me in 1862 into three subfamilies. These are well distinguished by skeletal and visceral characters, as well as external ones, and are here retained. *Discopyge* may represent a fourth subfamily distinguished by the united ventrals. The essential synonyms of the respective subfamilies and genera are also given.

Family NARCOBATIDÆ.

Torpedines, HENLE, Über Narcine, p. 29, 1834.

Torpedines, MÜLLER, Mag. Nat. Hist., n. s., II, p. 90, 1838.

Torpedines, MÜLLER and HENLE, Syst. Beschreib. Plagiostomen, p. 126, 1841.

Torpedinida, OWEN, Lect. Comp. Anat. Vertbr. An., I, p. 51, 1846.

Torpedinida, ADAMS, Man. Nat. Hist., p. 87, 1851.

Torpedinida, RICHARDSON, Encycl. Brit., 8. ed., XII, p. 328, 1856.

¹ Arch. Anat. Phys., 365.

² "Beiträge zur Amphibiologie und Ichthyologie" (Isis, 1826, col. 87-90).

- Torpedinoidei*, BLEEKER, Enum. Sp. Piscinum Archipel. Indico, p. xiii, 1859.
Torpedinoida, GILL, Cat. Fishes E. Coast N. America, p. 61, 1860.
Torpedinoide or *Narceciontoida*, GILL, Annals Lye. Nat. Hist. New York, VIII, p. 386, 1861.
Torpedines, DUMÉRIEL, Hist. Nat. Poiss., I, p. 503, 1865.
Torpedinida, GÜNTHER, Cat. Fishes Brit. Mus., VIII, pp. 434, 448, 1870.
Torpedines, FITZINGER, Sitzungsber. k. Akad. der Wissensch., Wien, LXVII, 1. Abth., p. 57, 1873.

Subfamily NARCOBATINÆ.

- > *Torpedinini*, BONAPARTE, Nuovi Annali delle Sci. Nat., II, p. 130, 1838; IV, p. 183, 1840.
 > *Torpedina*, SWAINSON, Nat. Hist. and Class. Fishes, etc., II, pp. 192, 321, 1839.
 > *Torpedinina*, GRAY, List. Fish. Brit. Mus., I, p. 99, 1851.
 = *Torpedinina*, GILL, Cat. Fishes E. Coast N. America, p. 63, 1861.
 = *Narceciontina*, GILL, Annals Lye. Nat. Hist. New York, VIII, p. 387, 1861.

Genus NARCOBATUS.

- > *Narcecion*, KLEIN, Historiæ Piscinum Promovendæ missus tertius de Piscibus per branchias occultas spirantibus, p. 31, 1742.
 > *Torpedo*, DUMÉRIEL, Zoologie Analytique, p. 102, 1806.
 > *Narcecion*, BLAINVILLE, Journal de Physique, etc., LXXXIII, p. 263, 1816; Bull. Soc. Philom., 1816, p. 121.
 > *Torpedo*, MÜLLER and HENLE, Syst. Beschreib. der Plagiostomen, p. 126, 1844.
 > *Narcecion*, GILL, Proc. Acad. Nat. Sci. Phila., 1861, App. (Cat. Fishes E. Coast N. America), p. 63, 1861.
 = *Narcecion*, GILL, Annals Lye. Nat. Hist. New York, VIII, p. 386, 1861.
 > *Torpedo*, GÜNTHER, Cat. Fishes Brit. Mus., VIII, p. 448, 1870.
 = *Fimbriatorpedo*, FRITSCH, Archiv. Anat. Phys., p. 365, 1886.

Genus TETRANARCE.

- = *Tetronarce*, GILL, Annals Lye. Nat. Hist. New York, VII, p. 386, 1861.
 = *Gymnotorpedo*, FRITSCH, Archiv. Anat. Phys., 365, 1886.
Torpedo sp., AUCT.
Narcecion sp., GIRARD.
Narcecion sp., GILL.

Subfamily NARCININÆ.

- = *Narcinina*, GILL, Ann. Lye. Nat. Hist. New York, VIII, p. 387, 1861.

Genus NARCINE.

- = *Narcine*, HENLE, Über Narcine, p. 31, 1834.
 > *Syrraxis* (JOURDAN), BONAPARTE, Fauna Ital. sub *Torpedo narce*.
 = *Narcine*, MÜLLER and HENLE, Archiv. Naturgesch. 1837, I, p. 400; Syst. Beschreib. Plagiostomen, p. 129, 1841.
 > *Narcine*, GILL, Ann. Lye. Nat. Hist. New York, VIII, p. 387, 1861.
 > *Cyclonarce*, GILL, Ann. Lye. Nat. Hist. New York, VIII, p. 387, 1861.
 > *Gonionarce*, GILL, Ann. Lye. Nat. Hist. New York, VIII, p. 387, 1861.

Genus NARKE.

=*Narke*, KAUP, Isis, XVIII, p. 88, 1826.

=*Astrape*, MÜLLER and HENLE, Archiv Naturgesch., 1837, I, p. 400. (" *T. capensis* und *T. dipterygia* aut." named only.)

Genus TEMERA.

=*Temera*, GRAY, Zool. Miscel., p. 7, 1831.

Subfamily DISCOPYGINÆ.

Genus DISCOPYGE.

=*Discopyge*, TSCHUDI, Unters. Fauna Peruana, Ich., p. 32, 1845.

Subfamily HYPNINÆ

=*Hypnina*, GILL, Ann. Lyc. Nat. Hist. New York, VIII, p. 386, 1861.

Genus HYPNOS.

=*Hypnos*, A. DUMÉRII, Rev. et Mag. Zool. (2), IV, p. 277, 1852.