

THE
NATURAL HISTORY
OF
PLINY.

TRANSLATED,
WITH COPIOUS NOTES AND ILLUSTRATIONS

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2 WEEKS JUNE

NATURAL HISTORY OF PLINY.

BOOK XXXII.¹

REMEDIES DERIVED FROM AQUATIC ANIMALS.

CHAP. 1. (1.)—THE POWER OF NATURE AS MANIFESTED IN ANTI-PATHIES. THE ECHENEÏS: TWO REMEDIES.

FOLLOWING the proper order of things, we have now arrived at the culminating point of the wonders manifested to us by the operations of Nature. And even at the very outset, we find spontaneously presented to us an incomparable illustration of her mysterious powers: so much so, in fact, that beyond it we feel ourselves bound to forbear extending our enquiries, there being nothing to be found either equal or analogous to an element in which Nature quite triumphs over herself, and that, too, in such numberless ways. For what is there more unruly than the sea, with its winds, its tornadoes, and its tempests? And yet in what department of her works has Nature been more seconded by the ingenuity of man, than in this, by his inventions of sails and of oars? In addition to this, we are struck with the ineffable might displayed by the Ocean's tides,

¹ It is in the last six Books of Pliny, and those only, we regret to say, that we are enabled to avail ourselves of the new readings of the Bamberg MS., which has been so admirably collated by M. Ian. In a vast number of passages previously looked upon as hopelessly corrupt, or else not at all suspected of being in a mutilated state, this MS. supplies words and clauses, the existence of which in the original was hitherto unknown; indeed by its aid the indefatigable Sillig has been enabled, if we may be allowed the term, almost to *rewrite* the last six Books of Pliny. From a perusal of these new readings, as Dr. Smith has justly remarked, we have reason to infer "that the text of the earlier Books is still in a very defective state, and that much of the obscurity of Pliny may be traced to this cause."

as they constantly ebb and flow, and so regulate the currents of the sea as though they were the waters of one vast river.

And yet all these forces, though acting in unison, and impelling in the same direction, a single fish, and that of a very diminutive size—the fish known as the “echeneis”²—possesses the power of counteracting. Winds may blow and storms may rage, and yet the echeneis controls their fury, restrains their mighty force, and bids ships stand still in their career; a result which no cables, no anchors, from their ponderousness quite incapable of being weighed, could ever have produced! A fish bridles the impetuous violence of the deep, and subdues the frantic rage of the universe—and all this by no effort of its own, no act of resistance on its part, no act at all, in fact, but that of adhering to the bark! Trifling as this object would appear, it suffices to counteract all these forces combined, and to forbid the ship to pass onward in its way! Fleets, armed for war, pile up towers and bulwarks on their decks, in order that, upon the deep even, men may fight from behind ramparts as it were. But alas for human vanity!—when their prows, beaked as they are with brass and with iron,³ and armed for the onset, can thus be arrested and rivetted to the spot by a little fish, no more than some half foot in length!

At the battle of Actium, it is said, a fish of this kind stopped the prætorian ship⁴ of Antonius in its course, at the moment that he was hastening from ship to ship to encourage and exhort his men, and so compelled him to leave it and go on board another. Hence it was, that the fleet of Cæsar gained the advantage⁵ in the onset, and charged with a redoubled impetuosity. In our own time, too, one of these fish arrested the ship of the Emperor⁶ Caius in its course, when he was returning from Astura to Antium:⁷ and thus, as the result proved, did an insignificant fish give presage of great events; for no sooner had the emperor returned to Rome than he was pierced by the weapons of his own soldiers. Nor did this sudden stoppage of the ship

² The Echeneis remora of Linnæus. See B. ix. c. 41.

³ He alludes to the “rostra,” or metal beaks, with which the prows of the ships of war were furnished.

⁴ An absurd tradition, no doubt, invented, probably, to palliate the disgrace of his defeat.

⁵ From the delay caused by the stoppage of the prætorian ship.

⁶ Caligula.

⁷ For Astura and Antium, see B. iii. c. 9.

long remain a mystery, the cause being perceived upon finding that, out of the whole fleet, the emperor's five-banked galley was the only one that was making no way. The moment this was discovered, some of the sailors plunged into the sea, and, on making search about the ship's sides, they found an echeneïs adhering to the rudder. Upon its being shown to the emperor, he strongly expressed his indignation that such an obstacle as this should have impeded his progress, and have rendered powerless the hearty endeavours of some four hundred men. One thing, too, it is well known, more particularly surprised⁸ him, how it was possible that the fish, while adhering to the ship, should arrest its progress, and yet should have no such power when brought on board.

According to the persons who examined it on that occasion, and who have seen it since, the echeneïs bears a strong resemblance to a large slug.⁹ The various opinions entertained respecting it we have already¹⁰ noticed, when speaking of it in the Natural History of Fishes. There is no doubt, too, that all fish of this kind are possessed of a similar power; witness, for example, the well-known instance of the shells¹¹ which are still preserved and consecrated in the Temple of Venus at Cnidos, and which, we are bound to believe, once gave such striking evidence of the possession of similar properties. Some of our own authors have given this fish the Latin name of "mora."¹² It is a singular thing, but among the Greeks we find writers who state that, worn as an amulet, the echeneïs has the property,¹³ as already mentioned, of preventing miscarriage, and of reducing procidence of the uterus, and so permitting the fœtus to reach maturity; while others, again, assert that, if it is preserved in salt and worn as an amulet, it will facilitate parturition; a fact to which it is indebted for

⁸ And well it might surprise him. If there was any foundation at all for the story, there can be little doubt that a trick was played for the purpose of imposing upon Caligula's superstitious credulity, and that the rowers as well as the diving sailors were privy to it.

⁹ "Limax." A singular comparison, apparently.

¹⁰ In B. ix. c. 41.

¹¹ See B. ix. c. 41, where he is speaking of a murex, a fish which bears no such affinity to the remora as to warrant our author's expression, "Idem valere omnia ea genera."

¹² Properly meaning "delay." "Remora" is another reading, and perhaps a better one, as the word is found in Plautus.

¹³ In B. ix. c. 41.

another name which it bears, "odinolytes."¹⁴ Be all this as it may, considering this most remarkable fact of a ship being thus stopped in its course, who can entertain a doubt as to the possibility of any manifestation of her power by Nature, or as to the effectual operation of the remedies which she has centred in her spontaneous productions?

CHAP. 2.—THE TORPEDO : NINE REMEDIES.

And then, besides, even if we had not this illustration by the agency of the echemeis, would it not have been quite sufficient only to cite the instance of the torpedo,¹⁵ another inhabitant also of the sea, as a manifestation of the mighty powers of Nature? From a considerable distance even, and if only touched with the end of a spear or staff, this fish has the property of benumbing even the most vigorous arm, and of rivetting the feet of the runner, however swift he may be in the race. If, upon considering this fresh illustration, we find ourselves compelled to admit that there is in existence a certain power which, by the very exhalations¹⁶ and, as it were, emanations therefrom, is enabled to affect the members of the human body,¹⁷ what are we not to hope for from the remedial influences which Nature has centred in all animated beings?

CHAP. 3.—THE SEA HARE : FIVE REMEDIES.

No less wonderful, too, are the particulars which we find stated relative to the sea-hare.¹⁸ Taken with the food or drink, it is a poison to some persons; while to others, again, the very sight of it is venomous.¹⁹ Indeed, if a woman in a

¹⁴ From *λύειν τὰς ὀδύνας*, "to release from the pains of childbirth."

¹⁵ See B. ix. c. 67.

¹⁶ Ajasson remarks that it was owing probably to this opinion that it was formerly the belief, that by holding the breath a person could render himself proof against the shock of the torpedo; a precaution recommended by Kæmpfer, in his "Amenitates Exoticæ," p. 514. Ed. 1712.

¹⁷ "Quâdam aurâ sui corporis adficiat membra" seems a preferable reading to "Quâdam aurâ corporis sui adficiat membra," as given by the Bamberg MS., and adopted by Sillig.

¹⁸ See B. ix. c. 72, and the Note.

¹⁹ A fabulous story, Ajasson remarks, but one that was commonly believed in the 16th and 17th centuries. Gessner, however, a conscientious enquirer into the mysteries of Nature, asserts (*de Aquatilibus*, p. 563) that, to his own knowledge, the sight of this fish was productive of the symptoms here mentioned. Beckmann reckons the *Aplysia depilans* (with which

state of pregnancy so much as looks upon one of these fishes, she is immediately seized with nausea and vomiting—a proof that the injury has reached the stomach—and abortion is the ultimate result. The proper preservative against these baneful effects is the male fish, which is kept dried for the purpose in salt, and worn in a bracelet upon the arm. And yet this same fish, while in the sea, is not injurious, by its contact even. The only animal that eats it without fatal consequences, is the mullet;²⁰ the sole perceptible result being that its flesh is rendered more tender thereby, but deteriorated in flavour, and consequently not so highly esteemed.

Persons when poisoned²¹ by the sea-hare smell strongly of the fish—the first sign, indeed, by which the fact of their having been so poisoned is detected. Death also ensues at the end of as many days as the fish has lived: hence it is that, as Licinius Macer informs us, this is one of those poisons which have no definite time for their operation. In India,²² we are assured, the sea-hare is never taken alive; and, we are told that, in those parts of the world, man, in his turn, acts as a poison upon the fish, which dies instantly in the sea, if it is only touched with the human finger. There, like the rest of the animals, it attains a much larger size than it does with us.

CHAP. 4.—MARVELS OF THE RED SEA.

Juba, in those books descriptive of Arabia, which he has dedicated to Caius Cæsar, the son of Augustus, informs us that there are mussels²³ on those coasts, the shells of which are capable of holding three semisextarii; and that, on one occasion, a whale,²⁴ six hundred feet in length and three hundred and sixty feet broad,²⁵ made its way up a river of Arabia,

the Sea-hare of the ancients is identified) in the number of the animal poisons, and remarks that (as we find stated by Cælius Rhodiginus, B. xxvi. c. 30) the Emperor Titus was dispatched by the agency of this poison, administered to him by the direction of his brother Domitian. *Hist. Inv.* vol. I. p. 51. *Bohn's Ed.*

²⁰ Athenæus says, B. viii., that the Scarus pursues it and devours it.

²¹ "Quibus impactus est." A curious expression; if indeed it is the correct reading.

²² See B. ix. c. 72.

²⁴ "Cetos."

²³ Mituli. See B. ix. c. 74.

²⁵ Ajasson remarks, in confutation of this story, that there are few rivers in Arabia of such a breadth.

the blubber of which was bought up by the merchants there. He tells us, too, that in those parts they anoint their camels with the grease of all kinds of fish, for the purpose of keeping off the gad-flies²⁶ by the smell.

CHAP. 5. (2.)—THE INSTINCTS OF FISHES.

The statements which Ovid has made as to the instincts of fish, in the work²⁷ of his known as the "Halieuticon,"²⁸ appear to me truly marvellous. The scarus,²⁹ for instance, when enclosed in the wicker kype, makes no effort to escape with its head, nor does it attempt to thrust its muzzle between the oziers; but turning its tail towards them, it enlarges the orifices with repeated blows therefrom, and so makes its escape backwards. Should,³⁰ too, another scarus, from without, chance to see it thus struggling within the kype, it will take the tail of the other in its mouth, and so aid it in its efforts to escape. The lupus,³¹ again, when surrounded with the net, furrows³² the sand with its tail, and so conceals itself, until the net has passed over it. The muraena,³³ trusting in the slippery smoothness³⁴ of its rounded back, boldly faces the meshes of the net, and by repeatedly wriggling its body, makes its escape. The polyp³⁵ makes for the hooks, and, without swallowing the bait, clasps it with its feelers; nor does it quit its hold until it has eaten off the bait, or perceives itself being drawn out of the water by the rod.

The mullet,³⁶ too, is aware³⁷ that within the bait there is a hook concealed, and is on its guard against the ambush; still however, so great is its voracity, that it beats the hook with its tail, and strikes away from it the bait. The lupus,³⁸ again,

²⁶ See B. xi. c. 34.

²⁷ Of this work, begun by Ovid during his banishment in Pontus, and probably never completed, only a fragment of one hundred and thirty-two lines has come down to us. Pliny again makes reference to it, in the last Chapter of the present Book.

²⁸ Or "Treatise on Fishes."

²⁹ See B. ix. c. 69, and B. xi. c. 61.

³⁰ Quoted from the Halieuticon.

³¹ The wolf fish. The *Perca labrax* of Linnæus. See B. ix. cc. 24, 28, 74, 79, and B. x. c. 89.

³² From the Halieuticon of Ovid.

³³ See B. ix. cc. 14, 35, 39, 48, 74, 79, 81.

³⁴ From the Halieuticon.

³⁵ From the Halieuticon.

³⁶ See B. ix. cc. 21, 26, 67.

³⁷ From the Halieuticon.

³⁸ From the Halieuticon. See Note 31 above, if indeed the same fish is meant. See also B. xxxi. c. 44, and the Note.

shows less foresight and address, but repentance at its imprudence arms it with mighty strength; for, when caught by the hook, it flounders from side to side, and so widens the wound, till at last the insidious hook falls from its mouth. The *muræna*³⁹ not only swallows the hook, but catches at the line with its teeth, and so gnaws it asunder. The *anthias*,⁴⁰ Ovid says, the moment it finds itself caught by the hook, turns its body with its back downwards, upon which there is a sharp knife-like fin, and so cuts the line asunder.

According to Licinius Macer, the *muræna* is of the female sex only, and is impregnated by serpents, as already⁴² mentioned; and hence it is that the fishermen, to entice it from its retreat, and catch it, make a hissing noise in imitation of the hissing of a serpent. He states, also, that by frequently beating the water it is made to grow fat, that a blow with a stout stick will not kill it, but that a touch with a stalk of fennel-giant⁴³ is instantly fatal. That in the case of this animal, the life is centred in the tail, there can be no doubt, as also that it dies immediately on that part of the body being struck; while, on the other hand, there is considerable difficulty in killing it with a blow upon the head. Persons who have come in contact with the razor-fish⁴⁴ smell of iron,⁴⁵ The hardest of all fishes, beyond a doubt, is that known as the "orbis:"⁴⁶ it is spherical, destitute⁴⁶ of scales, and all head.⁴⁷

³⁹ From the Halieuticon.

⁴⁰ See B. ix. c. 85.

⁴² In B. ix. c. 39. Aristotle, however, as there stated, was not of the same opinion.

⁴³ See B. xx. c. 98.

⁴⁴ "Novacula piscis." Pliny is the only ancient author that mentions this fish. There are numerous varieties of it, among which the best known are the *Coryphæna novacula* of Linnæus, the Rason of the Mediterranean, highly esteemed as an article of food, and the *Coryphæna pentadactyle* of Bloch, identical with the *Hemiptéronote à cinq taches*, of Lacépède.

⁴⁵ An absurdity, owing, no doubt, to its name.

⁴⁶ Or "globe-fish." The *Mola*, *orbis marinus*, or sun-fish of modern Natural History, the *Lune de mer*, or *poisson-lune* of the French. Though the skin is harsh and tough, there is no firmness in its flesh, which is of a gluey consistency.

⁴⁶ In reality it *has* scales, but they are almost imperceptible, from their minuteness.

⁴⁷ Or rather, as Dalechamps observes, "all belly."

CHAP. 6. — MARVELLOUS PROPERTIES BELONGING TO CERTAIN FISHES.

Trebius Niger informs us that whenever the loligo⁴⁸ is seen darting above the surface of the water, it portends a change of weather: that the xiphias,⁴⁹ or, in other words, the sword-fish, has a sharp-pointed muzzle, with which it is able to pierce the sides of a ship and send it to the bottom: instances of which have been known near a place in Mauritania, known as Cotte, not far from the river Lixus.⁵⁰ He says, too, that the loligo sometimes darts above the surface, in such vast numbers, as to sink the ships upon which they fall.

CHAP. 7.—PLACES WHERE FISH EAT FROM THE HAND.

At many of the country-seats belonging to the Emperor the fish eat⁵¹ from the hand: but the stories of this nature, told with such admiration by the ancients, bear reference to lakes formed by Nature, and not to fish-preserves; that at Elorus, a fortified place in Sicily, for instance, not far from Syracuse. In the fountain, too, of Jupiter, at Labranda,⁵² there are eels which eat from the hand, and wear ear-rings,⁵³ it is said. The same, too, at Chios, near the Old Men's Temple⁵⁴ there; and at the Fountain of Chabura in Mesopotamia, already mentioned.⁵⁵

CHAP. 8.—PLACES WHERE FISH RECOGNIZE THE HUMAN VOICE. ORACULAR RESPONSES GIVEN BY FISH.

At Myra, too, in Lycia, the fish in the Fountain of Apollo,

⁴⁸ See B. ix. cc. 44, 45, and B. xviii. c. 87.

⁴⁹ See B. ix. cc. 1, 21 and c. 53 of the present Book. There are two varieties of it, the *Xiphias gladius* of Bloch and Lacépède, and the *Xiphias machæra* of Shaw.

⁵⁰ See B. v. c. 1.

⁵¹ Martial, B. iv. Ep. 30, speaks of this being the case at the fish-ponds of Baiæ, where the Emperor's fish were in the habit of making their appearance when called by name.

⁵² A village of Caria, celebrated for its sanctuary of Zeus Stratios. Ælian, *Hist. Anim.* B. xii. c. 30, says that there was a spring of clear water, within the sanctuary, which contained fish with golden necklaces and rings.

⁵³ "Inaures." He probably means ornaments suspended from the gills, a thing which, in the case of eels, might be done.

⁵⁴ "Senum delubrum." Ælian speaks of tame fish in the Old Men's Harbour (*λιμήν*) at Chios.

⁵⁵ In B. xxxi. c. 22.

known as Surium, appear and give oracular presages, when thrice summoned by the sound of a flute. If they seize the flesh thrown to them with avidity, it is a good omen for the person who consults them; but if, on the other hand, they flap at it with their tails, it is considered an evil presage. At Hierapolis⁵⁶ in Syria, the fish in the Lake of Venus there obey the voice of the officers of the temple: bedecked with ornaments of gold, they come at their call, fawn upon them while they are scratched, and open their mouths so wide as to admit of the insertion of the hands.

Off the Rock of Hercules, in the territory of Stabiæ⁵⁷ in Campania, the melanuri⁵⁸ seize with avidity bread that is thrown to them in the sea, but they will never approach any bait in which there is a hook concealed.

CHAP. 9. — PLACES WHERE BITTER FISH ARE FOUND, SALT, OR SWEET.

Nor is it by any means the least surprising fact, that off the island of Pele,⁵⁹ the town of Clazomenæ,⁶⁰ the rock⁶¹ [of Scylla] in Sicily, and in the vicinity of Leptis in Africa,⁶² Eubœa, and Dyrrhachium,⁶³ the fish are bitter. In the neighbourhood of Cephallenia, Ampelos, Paros, and the rocks of Delos, the fish are so salt by nature that they might easily be taken to have been pickled in brine. In the harbour, again, of the last-mentioned island, the fish are sweet: differences, all of them, resulting, no doubt, from the diversity⁶⁴ of their food.

Apion says that the largest among the fishes is the sea-pig,⁶⁵ known to the Lacedæmonians as the "orthagoriscos;"

⁵⁶ The seat of the worship of the half-fish goddess Addirga, Atergatis, Astarte, or Derceto. See B. v. c. 19. The original names of Hierapolis (the Holy City) were Bambyce and Mabog.

⁵⁷ See B. iii. c. 9.

⁵⁸ A Greek name signifying "black-tails." See c. 53 of this Book. Holland translates it "the black-tailed ruffe" or "sea-bream."

⁵⁹ See B. v. c. 38.

⁶⁰ See B. v. c. 31, and B. xxxi. c. 43.

⁶¹ See B. iii. c. 14.

⁶² See B. v. cc. 3, 4.

⁶³ See B. iii. cc. 16, 26.

⁶⁴ Ajasson thinks that this may possibly be true to some small extent.

⁶⁵ Identical with the fish called "orbis," already mentioned in c. 5 of this Book. Ajasson remarks that though these fish have been known to weigh as much as three hundred pounds, there are many others which grow to a larger size, the sturgeon, and the silurus, for instance.

he states also that it grunts⁶⁶ like a hog when taken. These accidental varieties in the natural flavour of fish—a thing that is still more surprising—may, in some cases, be owing to the nature of the locality; an apposite illustration of which is, the well-known fact that, at Beneventum⁶⁷ in Italy, salted provisions of all kinds require⁶⁸ to be salted over again.

CHAP. 10.—WHEN SEA-FISH WERE FIRST EATEN BY THE PEOPLE OF ROME. THE ORDINANCE OF KING NUMA AS TO FISH.

Cassius Hemina informs us that sea-fish have been in use at Rome from the time of its foundation. I will give his own words, however, upon the subject:—“Numa ordained that fish without⁶⁹ scales should not be served up at the Festivals of the Gods; a piece of frugality, the intention of which was, that the banquets, both public and private, as well as the repasts laid before the couches⁷⁰ of the gods, might be provided at a smaller expense than formerly: it being also his wish to preclude the risk that the caterers for the sacred banquets would spare no expense in buying provisions, and so forestall the market.”

CHAP. 11.—CORAL: FORTY-THREE REMEDIES AND OBSERVATIONS.

In the same degree that people in our part of the world set a value upon the pearls of India—a subject on which we have already spoken⁷¹ on the appropriate occasion at sufficient length—do the people of India prize coral: it being the prevailing taste in each nation respectively that constitutes the value of things. Coral is produced in the Red Sea also,

⁶⁶ Ajasson thinks that this notion may possibly have been derived from the name, which not improbably was given to it from the spongy and oleaginous nature of the flesh.

⁶⁷ See B. iii. c. 16.

⁶⁸ Owing, perhaps, to the moisture of the atmosphere.

⁶⁹ We learn from Festus, that he prohibited the use also of the *scarus*, a fish *with* scales.

⁷⁰ “Ad pulvinaria.” Literally, “At the cushions;” in reference to the practice of placing the statues of the gods upon pillows at the *Lectisternia*, which were sacrifices in the nature of feasts, at which images of the gods were placed reclining on couches, with tables and food before them, as if they were really partaking of the things offered in sacrifice. Livy, B. v. c. 13. gives an account of a *Lectisternium* celebrated with great pomp, which he asserts to have been the first instance of the practice.

⁷¹ In B. ix. c. 54.

but of a more swarthy hue than ours. It is to be found also in the Persian Gulf, where it is known by the name of "iace." But the most highly-esteemed of all, is that produced in the vicinity of the islands called Stœchades,⁷² in the Gallic Gulf, and near the Æolian Islands and the town of Drepana in the Sea of Sicily. Coral is to be found growing, too, at Gravisçæ, and off the coast of Neapolis in Campania: as also at Erythræ, where it is intensely red, but soft, and consequently little valued.

Its form is that of a shrub,⁷³ and its colour green: its berries are white and soft while under water, but the moment they are removed from it, they become hard and red, resembling the berries of cultivated cornel in size and appearance. They say that, while alive, if it is only touched by a person, it will immediately become as hard as stone; and hence it is that the greatest pains are taken to prevent this, by tearing it up from the bottom with nets, or else cutting it short with a sharp-edged instrument of iron: from which last circumstance it is generally supposed to have received its name of "curalium."⁷⁴ The reddest coral and the most branchy is held in the highest esteem; but, at the same time, it must not be rough or hard like stone; nor yet, on the other hand, should it be full of holes or hollow.

The berries of coral are no less esteemed by the men in India than are the pearls of that country by the females among us: their soothsayers, too, and diviners look upon coral as an amulet endowed with sacred properties,⁷⁵ and a sure preservative against all dangers: hence it is that they equally value it as an ornament and as an object of devotion. Before it was known in what estimation coral was held by the people of India, the Gauls were in the habit of adorning their swords,

⁷² See B. iii. c. 11.

⁷³ Theophrastus reckons coral among the precious stones, and the Pseudo-Orpheus among the minerals. Pliny would seem to be at a loss whether to consider it as an animal or a vegetable. In reality it is the production of marine organized bodies of an arborescent habit, known as *Corallina*, with jointed stems, supported on a kind of root divided into branches, which are likewise jointed.

⁷⁴ Because *κεῖρεται*, it is "cut short" in the sea, a far-fetched derivation, apparently.

⁷⁵ Solinus informs us that Zoroaster attributed certain mysterious properties to coral.

shields, and helmets with it; but at the present day, owing to the value set upon it as an article of exportation, it has become so extremely rare, that it is seldom to be seen even in the regions that produce it. Branches of coral, hung at the neck of infants,⁷⁶ are thought to act as a preservative against danger. Calcined, pulverized, and taken in water, coral gives relief to patients suffering from griping pains in the bowels, affections of the bladder, and urinary calculi. Similarly taken in wine, or, if there are symptoms of fever, in water, it acts as a soporific. It resists the action of fire a considerable time before it is calcined.

There is also a statement made that if this medicament is frequently taken internally, the spleen will be gradually consumed. Powdered coral, too, is an excellent remedy for patients who bring up or spit blood. Calcined coral is used as an ingredient in compositions for the eyes, being productive of certain astringent and cooling effects: it makes flesh, also, in the cavities left by ulcers, and effaces scars upon the skin.

CHAP. 12.—THE ANTIPATHIES AND SYMPATHIES WHICH EXIST BETWEEN CERTAIN OBJECTS. THE HATREDS MANIFESTED BY CERTAIN AQUATIC ANIMALS. THE PASTINACA: EIGHT REMEDIES. THE GALEOS: FIFTEEN REMEDIES. THE SUR-MULLET: FIFTEEN REMEDIES.

In reference to that repugnance which exists between certain things, known to the Greeks as "antipathia," there is nothing more venomous⁷⁷ than the pastinaca, a sea-fish which kills trees even with its sting, as already⁷⁸ stated. And yet, poisonous as it is, the galeos⁷⁹ pursues it; a fish which,

⁷⁶ A practice still retained, though the original intention of it has been lost sight of. As to the form of the coral now used by infants, see Note 85 to B. xxviii. c. 7.

⁷⁷ In reality, the Pastinaca or Sting-ray is *not* venomous; but the wounds inflicted by the sting in its tail are highly dangerous, from their tendency to gangrene.

⁷⁸ In B. ix. c. 72. As Ajasson remarks, it is quite possible that the sting of the Pastinaca might penetrate to the heart of a young tree, and so kill it; but that is no proof of its being poisonous. See also B. ix. cc. 40, 67.

⁷⁹ Or Mustela, the sea-weasel, mentioned in B. ix. c. 29, and in c. 37 of the present Book. See also Note 12 to B. ix. c. 29. Ajasson is of opinion that under the names of "Galeos" and "Mustela," the ancients confounded the *Squalus galeus* and the *Squalus mustelus* of Linnæus.

though it attacks other marine animals as well, manifests an enmity to the *pastinaca* in particular, just as on dry land the weasel does to serpents; with such avidity does it go in pursuit of what is poisonous even! Persons stung by the *pastinaca* find a remedy in the flesh of the galeos, as also in that of the sur-mullet and the vegetable production known as laser.⁸⁰

CHAP. 13. (3).—AMPHIBIOUS ANIMALS. CASTOREUM: SIXTY-SIX REMEDIES AND OBSERVATIONS.

The might of Nature, too, is equally conspicuous in the animals which live upon dry land as well;⁸¹ the beaver, for instance, more generally known as “castor,” and the testes⁸² of which are called in medicine “castorea.” Sextius, a most careful enquirer into the nature and history of medicinal substances, assures us that it is not the truth that this animal, when on the point of being taken, bites off its testes: he informs us, also, that these substances are small, tightly knit, and attached to the back-bone, and that it is impossible to remove them without taking the animal’s life. We learn from him that there is a mode of adulterating them by substituting the kidneys of the beaver, which are of considerable size, whereas the genuine testes are found to be extremely diminutive: in addition to which, he says that they must not be taken to be bladders, as they are two in number, a provision not to be found in any animal. Within these pouches,⁸³ he says, there is a liquid found, which is preserved by being put in salt; the genuine castoreum being easily known from the false, by the fact of its being contained in two pouches, attached by a single ligament. The genuine article, he says, is sometimes fraudulently sophisticated by the admixture of gum and blood, or else hammoniacum:⁸⁴ as the pouches, in fact, ought to be of

⁸⁰ See B. xix. c. 15, and B. xxii. c. 49.

⁸¹ As water, and are consequently amphibious.

⁸² The Castoreum of the ancients, the “castor” of our *Materia Medica*, is *not* in reality produced from the testes of the beaver, as was supposed by the ancients, but from two oval pouches situate near the anus of the animal of either sex. There are four of these pouches in all, two containing a species of fat, and two larger ones including in their membranous cells a viscous fetid substance, which forms the castor of medicine. It is considered to be an antispasmodic.

⁸³ “Folliculos.” A very appropriate term, as Ajasson remarks.

⁸⁴ See B. xii. c. 49, and B. xxxiv. c. 14.

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