

of a much lighter colour, and whiter beneath than the generality of the specimens; but this may arise from the animal having been exposed to the light.

*Mustela xanthogenys* from California.

These animals are known from the black-faced weasel (*M. brasiliensis*) by their pale brown colour, with the head of the same colour or only darker brown.

The first specimen described had only two small white spots on the forehead between the eyes, and some white hairs in front of the ears; but in a specimen lately received the head is darker brown, with a large square pale spot on the forehead between the eyes, a broad white spot on the upper lip under the eyes, and an oblique white streak on the side of the head at the back of the eyes and extending in front of the ears. The throat and the underside of the body a bright reddish yellow. The tail is short; but this may depend on the manner in which it was skinned.

*Mustela affinis*.

There is in the British Museum a large specimen of a weasel from New Granada, of a dark brown colour and rather darker head, which has a white streak on the side of the head in front of the ears, but no white mark on the forehead. It is most probably a distinct species; but its characters want confirmation.

It has been regarded as a large specimen of *M. aureoventris*, but is very different from it. It may be a variety of *M. brasiliensis*.

*On the Encystation of Bucephalus Haimeanus.* By M. A. GIARD.

Von Baer long ago (1826) noticed a singular parasite of *Anodonta*, which he named *Bucephalus polymorphus*. This parasite was subsequently better investigated by Steenstrup and Von Siebold, who assigned it to its true place in the system.

In 1854 M. de Lacaze-Duthiers made known another species of the same genus, *Bucephalus Haimeanus*, which he obtained in the Mediterranean, and which lives as a parasite in the genital glands of the oyster (*Ostrea edulis*) and cockle (*Cardium rusticum*), causing them to be sterile. The *sporocysts* and the *cercarian* form of this Trematode were carefully figured in a fine memoir published in the 'Annales des Sciences Naturelles.'

Claparède has since found this curious Trematode at Saint Vaast-la-Hougue, on the coast of Normandy\*. It was by fishing in the open sea with the towing-net that he procured the *Bucephalus* pretty frequently. The individuals figured by Claparède differ a little from those represented by M. de Lacaze-Duthiers; but this difference, which relates principally to the form of the lamellar appendages,

\* Beobachtungen über Anatomie &c. an der Küste von Normandie, 1863.

did not seem to the Genevese naturalist of sufficient importance to necessitate the establishment of a new species. Notwithstanding his energetic researches, Claparède was no more successful than his predecessor in ascertaining the ulterior destiny of the *Cercaria Haimeana*.

*Bucephalus Haimeanus* also occurs at Etaples and in the neighbourhood of Boulogne-sur-Mer. Guided by certain theoretical notions, the result of investigations of the parasitic Crustacea, I have been more fortunate than my talented predecessors, and I have been able to ascertain the encystation of the *Bucephalus*.

My observation was made upon the garfish (*Belone vulgaris*, Val.). This fish (called the *maquereau d'été* at Boulogne, and *bécassine de mer* at Abbeville) comes commonly into the market at Boulogne during the months of May and June and the beginning of July. The viscera of the fish, especially the liver, the genital glands, and the peritoneum, are frequently filled with little cysts, affecting a cylindrical form, terminated at one extremity by a ball slightly drawn out into a point, like a thermometer in course of construction. By tearing carefully a certain number of these cysts, the *Bucephalus*, not yet transformed, will be found in some of them.

My anatomical researches, interrupted in the month of July, could not be carried so far as I wished. However, I must say that, like Claparède, it is impossible for me to accept the opinion of M. de Lacaze-Duthiers, when he says of the *Bucephalus*, "we observe in it a general cavity which may be regarded as a digestive cavity." The arrangement of the apertures and their physiological offices also appear to me to require being studied afresh.

What does the encysted *Bucephalus* become? Does it arrive at maturity in the body of the garfish, or does it undergo a new migration? In the latter case, which seems most probable, is this migration active or purely passive? This is what we have to discover. Claparède several times found the *Cercaria Haimeana* attached to *Sarsia* or *Oceania*; on one occasion the *Cercaria* had lost its two long appendages, but it was still destitute of reproductive organs. From this Claparède concludes that this fact was accidental, and that the *Medusæ* are only momentary hosts for the *Bucephalus*. I have myself met with an adult Trematode in the coelenteric cavity of *Cydidippe pileus*, which, in the spring, is sometimes thrown up in abundance on the beach at Wimereux; but there is nothing to lead me to suppose that there exists any genetic connexion between this Trematode and *Bucephalus Haimeanus*.

According to Von Siebold, *Bucephalus polymorphus* is converted into *Gasterostomum fimbriatum* in the digestive tube of *Perca fluviatilis* and *P. lucioperca*; it is also found encysted in *Cyprini*. It seems therefore more probable to suppose that the *Bucephalus Haimeanus* encysted in *Belone vulgaris* becomes metamorphosed into a species of the genus *Gasterostomum* in the intestine of some large fish to which the garfish serves as food. Lacépède informs us, in fact, that when the garfish quits the deep water to go and spawn near the shores, it becomes the prey of the sharks and dog-

fish, the large species of *Gadus*, or other voracious and well-armed inhabitants of the sea. Lastly, as a *Bucephalus* has also been met with in the livers of *Paludineæ*, and *Gasterostoma* in the intestines of the pike, the eel, and other fishes, and even of the duck, I cannot help thinking that the freshwater species belonging to this group of Trematodes are more numerous than has hitherto been thought. The differences mentioned above between the marine *Bucephalus* of the ocean and that of the Mediterranean may also perhaps acquire greater value when a complete and comparative study of these animals has been made.—*Comptes Rendus*, August 17, 1874, vol. lxxix. p. 485.

*Note on the Enemies of Diffugia.* By J. LEIDY.

Prof. Leidy remarked that in the relationship of *Diffugia* and *Amœba* we should suppose that the former had been evolved from the latter, and that its stone house would protect it from enemies to which the *Amœba* would be most exposed. The *Diffugia* has many enemies. I have repeatedly observed an *Amœba* with a swallowed *Arcella*, but never with a *Diffugia*. Worms destroy many of the latter, and I have frequently observed them within the intestine of *Nais*, *Pristina*, *Chaetogaster*, and *Æolosoma*. I was surprised to find that *Stentor polymorphus* was also fond of *Diffugia*, and I have frequently observed this animalcule containing them. On one occasion I accidentally fixed a *Stentor* by pressing down the cover of an animalcule-cage on a *Diffugia* which it had swallowed. The *Stentor* contracted and suddenly elongated, and repeated these movements until it had split three fourths the length of its body through, and had torn itself loose from the fastened *Diffugia*. Nor did the *Stentor* suffer from this laceration of its body; for in the course of several hours each half became separated as a distinct individual.—*Proc. Acad. Sci. Philad.* 1874, p. 75.

*On the Colour of the Kittens of the Species of Cats (Felidæ).*

By Dr. J. E. GRAY, F.R.S. &c.

The British Museum received a very young specimen of a jaguar from M. Verreaux in 1860, labelled *Leopardus onca*, Mexico. The body and head are  $8\frac{1}{2}$  inches long, the tail  $4\frac{1}{2}$  inches long. It is of a nearly uniform brown colour, without any indications of darker spots. The head, neck, and front of throat are rather paler than the rest of the body, the hinder part and the feet being rather darker. The upper lip is whitish, with a spot on each side of the front, just under the nostrils. It is somewhat like the young of the hunting leopard (*Gueparda guttata*) in the British Museum, described and figured P. Z. S. 1867, t. xxiv., but very different from it.

The young leopard, or panther (*Leopardus varius*), which was born in the Zoological Gardens, has, like its mother, numerous spots or roses on all parts of the head, body, and limbs; but the tail is



Giard, Alfred. 1874. "On the encystation of Bucephalus Haimeanus." *The Annals and magazine of natural history; zoology, botany, and geology* 14, 375–377. <https://doi.org/10.1080/00222937408680991>.

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