

No. 2. One of these half-bred ducks mated with a grey drake (*A. superciliosa*), and one duck was reared, which in colour and size was almost identical with *A. superciliosa*, but had the speculum green, margined with white, and a slight touch of white on some of the secondary feathers of wing. Could fly strongly.

No. 3. This duck, when mated with a grey drake (*A. superciliosa*), produced a brood in type and colour like *A. superciliosa*, some of which have reverted to a wild state. For several seasons the first brood have been all dark-coloured, and the second brood always includes pure white, or albinos, and white with markings of dark pencillings and rufous; speculum, green; dark-coloured bill and legs; curled tail-feathers wanting.

No. 4. A drake, bred *inter se*, might be described as in foundation colour like *A. superciliosa*; slightly tinged on head with green; light colour on cheeks, dark mark through eyes; breast, rufous; speculum, green; tail, and tail coverts, inclining to black, edged with brown; two small curled feathers in tail.

No. 5. This season, in a brood of six, reared by a hybrid duck, which might be easily mistaken for a coloured call duck, which was mated to *A. superciliosa*. The ducks were slightly larger than *A. superciliosa*; foundation colour and markings similar, having a washed-out look; sides of breast forward of thigh, white grey, same as lower part of breast of *A. boschus*. Bill, some blackish green; legs the same. Others, bill yellow, chequered with black; legs, yellowish black; speculum, green, outer edge black, margined with white band above and below. The drake was identical in general appearance to *Anas boschus*: green head, white ring on front of neck, one curled tail-feather only. Colour of speculum, green, margined with white. Can fly, but are thoroughly domestic. As in the mallard, the bright colouring changes with the seasons.

The hybrids lay twice in the season, but few young are reared owing to want of convenient water; and numbers are destroyed by dogs, cats, hawks, and rats. The latter are very destructive.

---

ART. XXIX.—*Note on a large Sun-Fish (Orthogoriscus mola, L.), recently captured at Napier, Hawke's Bay.*

By A. HAMILTON, of Petane.

[Read before the Hawke's Bay Philosophical Society, 8th June, 1885.]

A FINE Sun-Fish (*Orthogoriscus mola, L.*) was recently thrown on shore, close to the Port of Napier, in a dying condition; I was fortunate enough to see it soon afterwards, and took measurements and sketches of all the important features. I also

took steps to secure the skin for stuffing, and, in the course of removing the skin, the men who did the work cut the greater part of the body to pieces, and they brought me some very curious teeth which they obtained a considerable distance down the throat, and, as far as I can learn, immediately between the branchial openings. The teeth were about one inch in length, the upper portion slightly curved, longitudinally striated, and gradually diminishing in diameter from the base to a sharp point. There were three rows of these teeth on each side of the pharynx, and the numbers may be expressed thus: 7, 9, 6, and 8, 9, 6. Three of these teeth are clearly accidental, one on the first row of the one side, and two on the first row of the other side, thus leaving the formula 6, 9, 6 and 6, 9, 6. The teeth are immovably fixed in solid cartilage, and when fresh there was between each row a thick fleshy gum or pad, which nearly covered the teeth.

Pharyngeal teeth are not uncommon in fishes, but I have not been able to find any mention of them in the Sun-Fish or other *Gymnodonts*. Another observation may, perhaps, be interesting. When I examined this fish on the beach, the surface of both jaws was covered with a kind of enamel, and felt perfectly smooth to the touch. When I received the skin, and had leisure to examine it closely, I found that rough handling, owing to the huge size and weight, had caused the enamel to scale off, and had left the jaws, which were now rough, presenting a surface resembling the shagreen of the dermal papillæ; but at the back edge of both upper and lower jaws were the original teeth of the fish, in size and shape much resembling grains of rice. These, I find from books, are serviceable in the earlier life of the fish, but when it attains a large size, these are absorbed (or are said to be). They seem, however, to be simply left behind by the growth of a broad horizontal layer of calcified tissue, which is covered on the top with a thin coat of enamel.

The great size of this specimen, 8 feet  $1\frac{1}{2}$  inches in length, and 5 feet 6 inches in depth, not including the dorsal and anal fins, would probably indicate an advanced age. The bony osselets, which are said to carry a spine in young specimens, were present, but their presence could not be detected in the living state. They were about the size of a duck egg.

POSTSCRIPT.—A specimen of the Spinous Shark (*Echinorhinus spinosus*) has been captured in Hawke's Bay this month (September, 1885); it has been previously recorded in New Zealand waters by Prof. Parker, "Trans. N. Z. Inst.," vol. xvi., p. 280.

---