

turesque manner, some of the wildest witcheries of a country that for ages has been known and celebrated as the land of romance. The whole volume, in short, does infinite credit to Mr. Hogg, and we

cannot close without expressing our most earnest wish that he will not be long before he presents us with some more of his attractive and beautiful stories.

G.

ART. 3. MUSEUM OF NATURAL HISTORY.

Discoveries in Natural History, made during a Journey through the Western Region of the United States, by Constantine Samuel Rafinesque, Esq. Addressed to Samuel L. Mitchill, President, and the other Members of the Lyceum of Natural History, in a Letter dated at Louisville, Falls of Ohio, 20th July, 1818.

GENTLEMEN,

I HAVE the pleasure to acquaint you that my discoveries during my journey through the western states, have exceeded my most sanguine expectations, particularly in conchology and ichthyology. I beg leave to hand you a short view of them so far; I am yet in hopes to increase them, and to lay before the Lyceum, on my return, a rich collection of animals, fossils and plants.

1. *Quadrupeds*. I have discovered and described 3 new species: 1. *Musculus leucopus*; 2. *Gerbillus Sylvaticus*; and, 3. *Noctilio mystax*, Raf.

2. *Reptiles*. I have seen already 6 species of turtles, whereof 3 are new: 1. *Testudo bigibbosa*, from the Ohio river; 2. *Testudo chlorops*, a small land turtle from Kentucky; 3. *Trionyx Ohiensis*, or the large soft shell turtle of the Ohio. The *Testudo ferox*, and *T. picta*, are common in the Ohio. I have seen some lizards and snakes which I presume new, among which is a *Lucerta erythrostoma*.

3. *Fishes*. I have pretty nearly explored the ichthyology of the river Ohio, and the following catalogue of its fishes, is complete, with the exception of a very few small nameless species which I have not yet seen. Out of about 32 species, more than 20 are new ones, and I have even discovered a new genus.

Scientific Names.

1. *Perca Salmonea*, Raf.
2. *P—— chrysops*, R.
3. *Scieya grunniens*, R.
4. *S—— caprodes*, R.
5. *Bodianus calliurus*, R.
6. *Sparus cyanellus*, R.
7. *Sp—— nigropunctatus*, R.
8. *Silurus punctatus*, R.
9. *S—— olivaris*, R.
10. *S—— ambloclon*, R.

Vulgar Names.

- Salmon.
 Rock-fish.
 White-Perch.
 Hog-fish.
 Bass.
 Sun-fish.
 Batchelor-fish.
 Mud Cat-fish.
 Yellow Cat-fish.
 Black Cat-fish.

Scientific Names.

11. *Catostomus bubalus*, R.
 12. *C—— erythrus*, R.
 13. *C—— macropterus*, R.
 14. *C—— duquesni*, Lesueur.
 15. *Clupea heterurus*, Raf.
 16. *Cl—— alosoides*, R.
 17. (N. G.) *Glossodon harengoides*, R.
 18. *Gl—— heterurus*, R.
 19. *Hydrargyra dinema*, R.
 20. *H—— notata*, R.
 21. *H—— amblops*, R.
 22. *Lepisoiteus fluviatilis*, Lacep.
 23. *Polyodon folium*, Lacep.
 24. *P—— pristi*, Raf.
 25. *Accipenser platyrhincho*, Raf.
 26. (Supt.) *Silurus pallidus*, White Cat-fish.
- Not seen yet: Pike, Eels, Lamprey, Black-Perch, Yellow-Perch, Red-Perch, &c.

Vulgar Names.

- Buffaloe-fish.
 Red horse.
 Carp.
 Sucker.
 Gizzard.
 Shad.
 Spring-herring.
 Summer-herring.
 Minny.
 Chub.
 White Chub.
 Gar-fish.
 Shovel-fish.
 Spade-fish.
 Sturgeon.
 White Cat-fish.

I shall add the descriptions of some of the most remarkable new species.

N. G. GLOSSODON, R. Body compressed scaly, head without scales, jaws toothless, tongue with large teeth and bony, seven faint rays to the gills, abdominal fins with a large adipose appendage and 7 rays; dorsal fin behind the equilibrium.

1. *Glossodon harengoides*, R. Diameter one-fourth of the length, jaws nearly equal, lateral line straight, tail equal, dorsal fin beginning before the anal, and with 13 rays, anal fin falcated 28 rays.

2. *Glossodon heterurus*, R. Diameter one-fifth of the length, lower jaw longer, lateral line rather bent downwards, tail unequal, lower lobe longer, dorsal fin above the anal, 12 rays, anal fin falcated, 34 rays.

Sp. 1. *Perca Salmonea*, R. Body cylindrical, yellow with brown patches, jaws equal, one spine on the operculum, and one above the pectoral fins, lateral line curved upwards, first dorsal fin with 14 spiny rays, the second with 20 soft rays, anal fin 12, tail forked yellow with brown spots.

Sp. 4. *Sciena caprodes*, Raf. Body cylindrical whitish, with 20 transverse brownish stripes, alternately smaller, a black dot at the base of the tail, tail forked, upper jaw longer, operculum acute, a single spine on it, first dorsal fin 15 spiny rays, second 12 rays, anal fin 12 rays, whereof 2 are spiny.

Sp. 8. *Silurus punctatus*, Raf. Body whitish with gilt shades and many brown unequal dots on the sides, 8 barbs, 4 underneath, 2 lateral long and black, dorsal fin 7 rays, 1 spiny, pectoral fins 6 rays, 1 spiny, anal 27 rays, lateral line a little curved beneath at the base, tail forked unequal, upper lobe longer.

Sp. 9. *Silurus olivaris*, R. Body olivaceous, shaded with brown, 8 whole barbs, 4 beneath, 2 lateral thick brown, dorsal fin with 7 soft rays, pectoral fin 10 soft rays, anal fin 12 rays, tail rounded notched, teeth acute.

Sp. 11. *Catostomus bubalus*, Raf. Body oblong, olivaceous brown, pale beneath, fins blackish, dorsal 28 rays, anal 12 rays, snout thick truncated, lateral line straight, tail whitish bilobate.

Sp. 12. *Catostomus erythurus*, Raf. Body oblong conical, rufous brown above, whitish beneath, scales very large, dorsal fin reddish 12 rays, anal fin yellow 7 rays, snout rounded gibbose, lateral line straight, tail forked and red.

Sp. 15. *Clupea heterurus*, Raf. Diameter one-fifth of total length, entirely silvery, a large brown spot at the base of the lateral line, head obtuse, belly serrate, dorsal fin 15 rays above the abdominal fin, anal fin 40 rays, tail unequal, lower lobe the longest, lateral line straight, scales small.

4. *Conchology or the Shells.* I trust I have discovered likewise the greatest proportion of the shells of the Ohio, having already collected and described over 30 species, the whole of which appear to be new; they consist of 24 bivalve and 8 univalve shells. It is strikingly singular that those shells belong only to 3 genera, that the 24 species of bivalve belong all to a single natural genus; and that those genera are all different from European fluviatile genera, which I have ascertained beyond a doubt by the shells and animals thereof. I shall add the characters of those new genera.

I. POTAMILUS.* Bivalve. Shell equi-valve unequalateral, commonly transverse, rugose transversely, sloping posteriorly, shape variable, margin thickened, two muscular impressions, an epidermis surrounding the margin by a membranaceous brim, connective oblong convex membranaceous. Ligament with two teeth on one side, and a deep furrow on the other, between two carina in the left

shell, while the right shell has two unequal teeth, and two unequal carinas.

Animal with a mantle open and bilobe, branchias as a second interior mantle, body compressed tough, two openings or siphons anterior on each side, not tubular, one foot on each side commonly bilamellose, next to the openings.

1. Sub-genus. Shell transverse, not truncated, thick and without knobs; 1. *Potamilus latissimus*; 2. *P. violacinus*; 3. *P. niger*; 4. *P. fasciolaris*; 5. *P. phaedrus*; 6. *P. ellipticus*; 7. *P. zonalis*; 8. *P. obliquatus*.

2. Sub-genus. Shell transverse, truncated posteriorly, thick and without knobs. 9. *Potam. retusus*; 10. *P. truncatus*; 11. *P. triqueter*.

3. Sub-genus. Shell transverse, thin, not truncated. 12. *P. alatus*; 13. *P. leptodon*; 14. *P. fragilis*; 15. *P. nervosus*; 16. *P. fasciatus*; 17. *P. auratus*.

4. Sub-genus. Shell transverse, thick, not truncated, knobby or warty. 18. *P. gibbosus*; 19. *P. verrucosus*; 20. *P. tubercularis*; 21. *P. nodosus*.

5. Sub-genus. Shell rounded or longitudinal. 22. *P. pusillus*; 23. *P. subrotundus*; 24. *Potamilus obovalis*. Raf.

II. G. PLEUROCERA. Univalve. Shell variable oboval or conical, mouth diagonal crooked, rhomboidal, obtuse and nearly reflexed at the base, acute above the connection, lip and columelle flexuose entire. Animal, with an operculum membranaceous, head separated from the mantle inserted above it, elongated, one tentaculum on each side at its base, subulate acute, eyes lateral exterior at the base of the tentacula. 6 species. 1. *Pl. retusa*; 2. *Pl. saxatilis*; 3. *Pl. fasciata*; 4. *Pl. coneola*; 5. *Pl. angulata*; 6. *Pl. turricula*. Raf.

III. G. AMBLOXIS. Univalve. Shell thick oboval, mouth oval, rounded at the base, obtuse above with a thick appendage of the lip, columelle flexuose, a small rugose umbilic. 2 Species, 1. *A. eburnea*; 2. *A. ventricosa*. Raf.

5. *Fossil remains of Animals.* These are numberless in the valley of the Ohio, and particularly at the falls; but it is very difficult to ascertain what is new among them, however a great proportion appear to me undescribed. I have already seen or collected about 60 different species, among which are about 12 sp. of Tubiporites, 15 sp. of Madriporites, 2 sp. of Turbites, 12 sp. of Terebratulites, 3 sp. of Gryphistes, 3 sp. of Celleperites, 3 sp. of Encrinites, 1 Eurycephalites, and several unknown shells, besides fossil wood and real petrified walnuts.

* If I remember right this genus is also found in the Hudson river, where 3 or 4 species are to be seen, which have been mistaken for *Mya* or *Cardium*.

6. *Botany.* The vegetation of the Western States has some peculiar features—the most striking is its monotony, a few species being spread by millions over large tracts of country, while but few spots rich in a variety of plants, are to be met with. I have collected, however, a rich herbarium both on the Ohio and in crossing the Alleghany mountains. On those mountains I found the following new species. *Uvulana angulata*, *Streptopus undulatus*, *Viola gibbosa*, *V. nephrodes*, *Prunus cuneatus*, *Trillium lirioides*, *Delphidium flexuosum*, *Dentaria parvifolia*, *Agrestis viridis*, &c. I believe I have altogether already 4 new genera and 35 new species of plants, among which are the following. *Staelyr longifolia*, *Podostemon repens*, *Hieracium striatum*, *Plantago compressa*, *Aira compressa*, *Scutellaria parviflora*, *Scutellaria macrophylla*, *Agaricus ellipticus*, *Gratiola cataracta*, *Alyssum gracile*, *Silene miniata*, &c. My new genera are the following:

1. *G. ENDIPLUS.* Calyx 5 parted. Cor. tubular campanulate, 10 angular, 5 fid, a longitudinal oblong bilamellar nectarium under each division. 5 Stamens equal jutting; filaments bearded in the middle. Style long. 2 stigmas. Ovary hairy. Fruit a double capsul, the exterior one monocular bivalve hairy; the interior one bilocular bivalve 4 seeded, seeds one above the other. This genus has much affinity with *Hydrophyllum*, *Phacelia*, and *Decemium*, it contains only 1 sp. *E. bifidus*. Leaves pinnate, pinnules ovate lanceolate entire or divided, glaucous underneath. Flowers purplish blue.

2. *G. TORREYA.* Calyx quadrifid, unequal nearly labiate. Corolla labiate, upper lip concave entire, lower lip trilobe, lobes notched. 4 Stamina didynamous, antheras monocular mucronate beneath, hairy, connected. Stigma bifid. Four naked seeds. The type of it is the *Torreya grandiflora*, which is perhaps the *Lamium hispidulum* of Michaux, but not a *Lamium*.

3. *G. CYANOTRIS.* Perigone 6 parted persistent, membranaceous, petals equal open linear, spatulate. 6 Stamina, filaments filiform smooth, ovary trigone, style filiform, stigma trifid. Capsul trigone, oblong, trilocular, trivalve, trispermous. One species *Cyanotris scilloides*, with a long raceme of blue flowers, bracteas scariose shorter, leaves radical oblong lanceolate. Affinity with *Nolina*.

4. *G. POTARCUS.* A fleshy fluviatile substance, flat, without fibres, with a few

flat cells beneath and inside; covered above with a thick fleshy epidermis. One species found at the falls of the Ohio floating. *Potarcus bicolor*, rounded very flat nearly entire, smooth, dark green above, sienna brown beneath. Next to the genus *Rivularia* of Roth, differing by epidermis only above, &c.

I remain, respectfully, Gentlemen,
Your corresponding member,
C. S. RAFINESQUE.

For the American Monthly Magazine and
Critical Review.

Facts concerning the Engrafting of the Spurs of Cocks upon their Combs. By Samuel L. Mitchill. Read to the Lyceum, June 15, 1818.

Capt. Shaw brought from New-Orleans, in May, 1818, to New-York, a Barn-door-Cock (*Phasianus gallus*,) that was reported to bear upon his head a pair of horns.

I was requested to see the bird, and I availed myself of the opportunity to examine the head, in the most satisfactory manner.

There were two excrescences of a horny nature, about three inches long, and of a curved figure. They inclined to the right and left one each way. They did not grow side and side, but one was in front of the other.

They were not attached to the skull, but were merely rooted in the flesh of the comb. In this, however, they had taken firm root, and had derived abundant nourishment from the blood vessels.

I became satisfied that the horns as they were called, and believed by the owner to be, were the spurs of another cock, that had been amputated and transplanted. In their living and bleeding state it is easy to comprehend how the wounded surfaces may have united by the first intention, and the spurs of one cock grow upon the comb of another, as the teeth of one human being may be associated with the jaw of another.

It is worthy of remark in the present case, that the inoculated or transplanted spurs, had received nourishment and acquired growth, in their new situation. They were longer and stouter than the leg-spurs of the individual cock himself; and indeed of any cock I had ever seen. They were also more crooked, and less pointed. Their form and magnitude had both been changed by their translation from the legs to the comb.

The bird was four years old, and perfectly healthy. His appearance was