Tail much longer than the wing, rounded, but with the four middle rectrices of equal length. Fourth, fifth, and sixth quills longest, the third about equal to the seventh; second not longer than the tenth. Depth of the bill through the base decidedly more than half the length of the gonys, or of the maxilla from the nostril to the tip; gonys less than half the total length of the mandible. Colors plain brown, paler below, without distinct white markings on wings or tail.

Type, *Harporhynchus graysoni* Baird.

In general appearance, the type and only known species of this genus is somewhat intermediate between the species of the genera *Methriopterus* and *Harporhynchus*, having the straighter bill of the former and the uniform brownish coloration of the latter. A close comparison, however, reveals the fact that the species in question is very much more nearly related to the genus *Mimus* than to either of those named above, while at the same time it becomes obvious that it cannot be included in the latter genus, by reason of the very marked distinctive characters pointed out above, in which it differs from every species of *Mimus* with which I have been able to compare it.* The distinctive characters of the two genera may be contrasted as follows:

MIMUS. Depth of bill through base decidedly less than half the length of the maxilla from nostril to tip, and not more than half the length of the gonys; the latter decidedly more than the distance from its base to the malar apex; third, fourth, and fifth quills longest, second longer, equal to or longer than eighth. Tail with more or less of white.

MIMODES. Depth of bill through base decidedly more than half the length of the maxilla from nostril to tip, and also decidedly more than half the length of the gonys; the latter decidedly less than the distance from its base to the malar apex. Fourth, fifth, and sixth quills longest, the second equal to the tenth. Tail without white.

ON A PHOSPHATIC SANDSTONE FROM HAWTHORNE, IN FLORIDA.

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In connection with the work, upon the products of quarries which is being performed under the auspices of the Tenth Census at the National Museum in Washington, analyses have been made of a stone that is

*Including the following: *M. polyglottus* (including its West Indian races), *M. triurus*, *M. gilvus*, *M. saturninus*, *M. calandria*, *M. thenca*, *M. longicaudatus*, *M. "nigriloris,"* *M. hilli*, and *M. melanotis*. I have not seen specimens of *M. dorsalis*, *M. patachonicus*, *M. trifasciatus*, or *M. parvulus*, but these species (except possibly the two latter) appear to be congeneric with those named above. It may prove advisable, however, to separate the three species of the Galapagoes (*M. melanotis*, *M. trifasciatus*, and *M. parvulus*) on account of their very lengthened and slender bill, but I am not prepared to say that this should be done.

quarried in Florida, which has proved to contain ingredients that make it valuable for other than building purposes. To render this information available to those interested in agricultural resources, the analyses that have been made upon this material are now published.

There are very few stone quarries in the State of Florida—in fact almost the only one in actual operation is that at Hawthorne, in Alachua County, which is operated by Mr. C. A. Simmons.

When saturated with its quarry water this stone is quite soft and can be cut with an axe or sawn with much facility, and bricks of any desired shape can be very easily cut from it. The chimneys of the region, and the walls and houses, so far as stone has been used in their construction, are made from blocks that have been taken from this quarry. The material rapidly hardens when exposed to the air and sun, and some structures that were made of it thirty years ago are said to be still in good condition. Cubes 34 inches upon their edges have been extracted, and it is stated that a cube two or three times as large might be obtained. The cubic contents of the excavated space is 800 yards, but the space occupied by the deposit covers a large area and the material is said to be practically inexhaustible. The marl beds which are associated with this rock contain sharks' teeth and bones which mark the Tertiary age of the formation. Professor Smith, who has so recently written upon the geology of Florida, in the American Journal of Science, April, 1881, page 292, states that this bed belongs with the Vicksburg beds which cover so large a portion of the interior of Florida.

This stone possesses properties which evidently render it valuable as a material of construction, especially in the southern latitudes, where frost does not act as a disintegrating agent. It was examined by one of the southern chemists, who stated that it consisted almost entirely of silica and would be good for glass making. The examination of a thin section of this stone, however, indicated that it possesses such a peculiar structure, foreign to a quartz rock, that the necessity of analyses was suggested. These analyses were performed by Dr. A. B. Howe, upon two specimens taken from different portions of the quarry. The first specimen gave the following results:

	I.	II.	Mean.
SiO_2	46.70	46.83	46.765
Al_2O_3	19.53	19.61	19.57
Fe_2O_3	1.79	1.64	1.715
CaO	2.91	2.75	2.83
MgO	.16	.27	.215
P_2O_5	16.12	16.02	16.07
H_2O	14.28	(14.28)	14.28
	101.49	101.40	101.445

The second specimen was like the first, porous, and slightly yellowish in color, but it was softer—a circumstance due to the fact that it had been lately quarried. Its composition was as follows:

	I.	II.	Mean.
SiO_2	50.70	50.76	50.73
Al_2O_3	12.84	12.86	12.85
Fe_2O_3	1.81	1.85	1.83
CaO	12.07	11.96	12.015
MgO	.36	.33	.345
Na_2O	.32	.32	.32
K_2O	.33	.33	.33
P_2O_5	12.97	13.12	13.045
H_2O	8.39	8.39	8.39
CO_2	.86	.86	.86
	100.65	100.78	100.715

The composition of this rock indicates therefore that it might be advantageously employed as a fertilizing material. Although the percentage of phosphoric acid is less than in the best Carolina phosphate, there is no lime to be neutralized by sulphuric acid before liberating the phosphoric acid. I am informed that the extent of the deposit which is represented by these analyses is very large. But the investigation of the value of this material as a fertilizer would of necessity involve further analyses and a more extensive investigation of this aspect of the question than interests us in our consideration of the substance as a building material.

The microscopic structure of this rock indicates that it is composed largely of angular grains of sand which are cemented together by a fibrous material which is probably the phosphate, and by a simple refracting substance which appears to be a mixture of kaolin and hydrous silica. By treating the rock with caustic potash, Dr. Howe dissolved over 7 per cent. of silica from it. The solution used contained 50 per cent. of caustic potash (K O H.); in the first experiment 8.71 per cent. of silica was dissolved, and in the second 7.93 per cent. of silica. This determination is an indication that the hardening of the rock on exposure is due to the presence of this hydrous silica, which might be, in part at least, in a gelatinous condition in the rock, when soaked with its quarry water. Owing to the nature of the components it is not easy to calculate the mineral nature of the phosphate, which is apparently different in the two specimens analyzed. In the first case the acid is apparently combined with alumina and in the second case with lime.

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