

DRAINAGE.

The Montagnes du Trou d'Eau are deficient in surface streams. The underground drainage in the eastern part is described on page 390. In the western part surface drainage is more clearly established, and deep ravines, which are dry during most of the year, drain northward and southward from the crest. Parts of the courses of these ravines are parallel to the strike of the rocks.

CHAÎNE DES MATEUX.

NAME AND EXTENT.

The mountains that extend southeastward from St.-Marc toward the Cul-de-Sac Plain are here called the Chaîne des Mateux, from the name generally given to their central part. As the mountains approach the Cul-de-Sac Plain their trend veers eastward, and beyond this turn the range is called the Montagnes du Trou d'Eau. The Chaîne des Mateux lies between the Artibonite Plain and the St.-Marc Canal. Its length is 75 kilometers and its average width 20 kilometers.

GENERAL FEATURES.

The trend of the mountain mass and of many of the surface features is about N. 50° W., parallel to the structural trend. Limestones are the surface rocks in the interior mountains, and younger limestone and detrital rocks underlie foothills on the flanks of the range. Basaltic volcanic rocks are exposed on the north slope of the mountains near Saut d'Eau.

The hills inclosing St.-Marc Bay, which may be called the Mornes de St.-Marc, and the narrow coastal plain at l'Arcahaie are included in the Chaîne des Mateux, but as they have entirely different features they are described under separate headings.

LAND FEATURES.

CHAÎNE DES MATEUX PROPER.

The Chaîne des Mateux proper has an average altitude of 1,200 to 1,300 meters above sea level. Morne Batiste, the highest summit, rises to an estimated altitude of 1,575 meters above sea level. The chain includes several ranges and many isolated mountains. Rivière Mont Rouis flows almost due westward across the northern part of the chain and divides it into two ranges. The mountains on the north side of Rivière Mont Rouis overlooking the Artibonite Plain are frequently called the Montagnes des Verrettes. The valley of Rivière Mont Rouis is very deep and its slopes are broken by high cliffs. The mountains slope abruptly northeastward to the Artibonite Plain and southwestward to

the sea and the Arcahaie Plain. The northwest end of the chain rises steeply above the Mornes de St.-Marc to an estimated altitude of 1,200 meters above sea level, and the slope is scarred by towering dark cliffs.

The crest of the chain northeast of l'Arcahaie is a mountainous highland that has a range in relief of 200 to 300 meters. The slopes are relatively gentle, and the summits are rounded. This highland, unlike most other areas where limestone is the surface rock, contains no conspicuous cliffs. The profiles of the ridges at the outer edges of the highland are asymmetrical. Short, steep escarpments face inward from the summit of the ridges, and longer, more gentle dip slopes on beds of limestone face outward toward the flanks of the chain. Certain areas in the highland have sink holes arranged along depressions that probably coincide with the courses of underground streams.

A belt of foothills runs parallel to the mountains on both the northeast and the southwest side except along the coast between Mont Rouis and Pointe Trou Forban. The foothills consist of limestone and marl of Miocene age that at one time probably extended over the mountains but have been removed from the mountain crest by erosion. Inward-facing escarpments and outward-facing dip slopes are the most conspicuous features of the foothills.

The southeast end of the Chaîne des Mateux has a greater variety of surface rocks and surface features. Morne Saut d'Eau, the conspicuous ridge northwest of Saut d'Eau, is joined to the main mountains. Rivière Canot plunges over a high falls on the east slope of this ridge. On the southeast slope there is a remarkably level plateau at an altitude of 480 meters above sea level. The small stream that drains the plateau apparently has been diverted for irrigation, as it has no channel. It plunges over the edge of the plateau in a waterfall that is probably 80 meters high. Huge masses of the marl that underlies the plateau break off along the crest of the waterfall. Southwest of Saut d'Eau two rolling, grass-covered savannas, Savane Madame Michel and Savane Madame Michaud, extend southwestward into the mountains. These savannas are underlain by basaltic volcanic rocks.

The interior highland of the Chaîne des Mateux is so slightly dissected, despite its altitude, that it probably has not long been exposed to erosion. The Miocene beds on the flanks of the chain probably extended across the crest of the mountains and have been removed, revealing the underlying limestone.

MORNES DE ST.-MARC.

The name Mornes de St.-Marc is here used for the hills that enclose St.-Marc Bay. They include Morne de l'Anse-à-l'Inde, the hills on the north side of the bay, and its southeastward prolongation, the Mornes des Guêpes. They are composed of the same rocks as the foothills of

the Chaîne des Mateux proper and are essentially the continuation of the foothills around the plunging crest of the main anticline. These rocks are more readily eroded than the rocks that underlie the Chaîne des Mateux proper. Structurally the Mornes de St.-Marc comprise two anticlines that plunge northwestward and are separated by a similarly plunging syncline. The outline of the coast is determined by these three structural features. The promontories on both the north and the south side of the bay, which coincide with the crests of the anticlines, are beveled by several emerged coastal terraces.

The Mornes de St.-Marc are much lower and less rugged than the adjacent slopes of the Chaîne des Mateux proper. Their summits rise to altitudes of 300 to 350 meters above sea level. The entire region is strongly dissected and comprises almost equal areas of hills and lowlands. The hills are capped by coralliferous limestone that overlies the marls in which the valleys are cut. The limestone is much harder than the marl, and wherever the streams reach the marl they establish a grade quickly and rapidly broaden their valleys by undercutting the limestone, which stands up in steep slopes or cliffs bordering the valleys. There are three valleys, or really lowlands, in this region. One of these lowlands has been eroded on the crest of the anticline in the Mornes des Guêpes, north of St.-Marc, and is traversed by the road from St.-Marc to Gonaïves. It is completely surrounded by a rim of limestone, but the stream escapes southwestward through a gorge. Another lowland coincides with the trough of the syncline and extends southeastward from St.-Marc. It is drained by two small streams that flow northwestward into the bay. The third lowland is on the crest of the anticline south of St.-Marc. Its drainage escapes northward and southward through gorges in the encircling limestone hills. The road from Port-au-Prince to St.-Marc follows these gaps. The encircling hills rise from 100 to 200 meters higher than the lowlands.

ARCAHAIE PLAIN.

The Arcahaie Plain is a narrow alluvial coastal plain that has a maximum width of 6 kilometers and a length of almost 28 kilometers. It is separated from the northwest end of the Cul-de-Sac Plain by foothills of the Chaîne des Mateux that extend almost down to the shore line. The plain wedges out to the northwest, where the steep slopes of the mountains reach the sea. Near the shore line the plain is low and barely dissected. The landward part slopes more steeply and is dissected by ravines. The maximum altitude of the plain near the base of the mountains is about 150 meters above sea level. The plain clearly owes its origin to the deposition of sediments on the shallow sublittoral platform that extends northwestward as far as the plain.

DRAINAGE.

In the interior highland of the Chaîne des Mateux proper the streams originate in valleys that run roughly parallel to the strike of the rocks. After flowing parallel to the structural trend they break across the ridges on the outer sides of the highland and plunge down the steep slopes of the mountains in deep V-shaped ravines. The relief on the outer border of the mountains is much greater than in the highland, and the slopes are far more rugged.

The streams on the anticlines of the Mornes de St.-Marc apparently are superimposed on the structure.

SHORE FEATURES.

Between the south edge of the Artibonite Plain and Mont Rouis the shore line is bordered by the Mornes de St.-Marc. This shore line is clearly a shore line of emergence, and steeply sloping emerged coastal terraces are the most conspicuous shore features. St.-Marc Bay is a broad U-shaped indentation coinciding with a northwestward-plunging syncline. Except at the head of the bay, the shore line is bordered by an almost continuous sea cliff, 20 to 30 meters high. This cliff is the seaward face of the lowest terrace. On the south side of the bay the altitude of the outer edge of the lowest terrace is about 35 meters above sea level and that of the second about 100 meters. On Cap St.-Marc there are four well-defined terraces, but the upper two were not examined. The width of the lower terraces increases to a maximum of between 1 and 2 kilometers on Cap St.-Marc. On both the north and the south coast of the cape the width decreases. The terraces on the north side of St.-Marc Bay appear to correspond to those on the south side. Pointe Diable is the western extremity of a small table-land, part of the lowest terrace, isolated by mud flats which may indicate a former channel of Rivière Artibonite.

The head of St.-Marc Bay is bordered by a narrow fringe of alluvium. The hills at the edge of the fringe are not terraced like the hills along the north and the south side of the bay. Southeast of Cap St.-Marc the coastal terraces become lower and narrow. There are no conspicuous terraces southeast of Bois-Neuf, but at Mont Rouis recently emerged coraliferous limestone is found at an altitude of 10 meters above sea level.

From the mouth of Rivière Mont Rouis southeastward almost to Pointe Trou Forban the sea washes the steep untterraced slopes of the Chaîne des Mateux. The shore line is bordered by a narrow fringe of detritus derived from the limestone cliffs. From Pointe Trou Forban southeastward to Boucassin the shore is bordered by the Archaie Plain, which is gradually extending seaward. Foothills of the Chaîne des Mateux extend along the coast from Boucassin southeastward to the northwest extremity of the Cul-de-Sac Plain.

SUBLITTORAL FEATURES.

Between Pointe Diable and Mont Rouis the sublittoral platform is very narrow, like that along other shores of emergence. The 20-fathom line closely parallels the shore line around the indentation of St.-Marc Bay. At the head of the bay it is only 300 meters distant from the shore. Between Mont Rouis and Pointe Trou Forban the platform is even narrower. The steep sublittoral slope conforms to the steep slope of the mountains above the shore line. Off Pointe Trou Forban the 20-fathom line bends southwestward toward the southeast end of Gonave Island along the outer edge of the extensive platform described on page 398.

CUL-DE-SAC PLAIN.

NAME AND EXTENT.

The Cul-de-Sac Plain is perhaps the most striking surface feature of the Republic. When the early settlements were established at Petit-Goave and near the present site of Léogane the huge gulf between the two westward-extending peninsulas of the Republic that has its apex in Port-au-Prince Bay was called the Cul-de-Sac. The name was finally restricted to the plain at the apex of the cul-de-sac. The plain itself is not a cul-de-sac but part of a remarkable depression extending from Port-au-Prince Bay southeastward across the island to Neiba Bay. The part of the depression within the limits of the Dominican Republic is called the Hoya de Enriquillo. This depression contains the two largest lakes in the island, Étang Saumâtre and Lago de Enriquillo, both of which have no outlet.

The plain is rectangular in outline. Its length from the shore of Port-au-Prince Bay southeastward to Etang Saumâtre is about 30 kilometers, and its average width is about 16 kilometers.

GENERAL FEATURES.

The Cul-de-Sac Plain is a deep trough, bounded on the north and south by high mountains. The plain stands at an average altitude of not more than 50 meters above sea level—so low that when seen from a distance, as from Gonave Island, it looks like an arm of the sea. It trends about N. 75° W., parallel to the trend of the inclosing mountains and to the strike of the older rocks.

LAND FEATURES.

OUTLINE AND DOMINANT ELEMENTS.

The outline and principal surface features of the plain are shown on Plate XXXIX (p. 516). The plain has a general northward slope that extends almost to the very base of the mountains on the north side. A