

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

low north-south divide in the eastern part diverts a part of the drainage eastward into Étang Saumâtre and a larger part westward toward the sea. A shallow depression near the middle of the northern part of the plain contains a small fresh-water lake called Trou Caïman, which is said to overflow occasionally during floods down Ravine Boucan Brou to the sea. During years of abnormally low rainfall Trou Caïman is smaller than it appears on Plate XXXIX. A much larger depression at the eastern extremity of the plain contains the brackish-water lake called Étang Saumâtre. Its level is higher during years of heavy rainfall than it was during the winter of 1919-20, which was preceded by several years of low rainfall. In 1900 the surface of Étang Saumâtre was 20 meters above sea level, according to levels run from Port-au-Prince.¹ At the same time the similar but larger and saltier lake in the Dominican Republic, Lago de Enriquillo, was 34 meters below sea level.² Along the north side of Étang Saumâtre high mountains rise abruptly from the edge of the water. Along the south side, west of Fond-Parisien, a ridge separates the lake from the mountains, but near the Dominican border the mountains extend down to the lake.

The surface of the plain consists of alluvium washed down from the inclosing mountains. As the only through-flowing surface streams that carry water to the margin of the plain emerge from the mountains on its south side, more alluvium has been deposited on that side, and this fact accounts for the northward slope of the plain. This slope is greatest near the southern border of the plain and decreases northward. The northern half of the plain is very flat and but little dissected, but along the southern margin of the plain ravines attain a depth of several meters. Grande Rivière du Cul-de-Sac near Bassin Général is entrenched to a depth of almost 10 meters. This dissection along the southern side of the plain is hardly more than sufficient to accommodate flood waters. Foothills composed of strongly folded detrital rocks of Miocene age and younger imperfectly consolidated gravels extend into the plain from the mountains along the south side. Fort National is situated on one of these foothill ridges, which partly incloses Port-au-Prince. The dwelling houses of the Haytian-American Sugar Co. are built on the northern end of this ridge.

About 4 kilometers southeast of Croix-des-Bouquets, near Peyrard, a low northwestward-trending ridge rises 10 or 20 meters above the surrounding plain. It is composed of cemented gravels and probably is a remnant of older alluvial deposits that were laid down along a former channel of Rivière Blanche and has since been isolated by erosion. Ridges of a similar appearance as seen from the plain flank the present channel of Rivière Blanche near the southern margin of the plain.

¹ Tippenhauer, L. G., *Beiträge zur Geologie Haitis*, V: Petermanns Mitt., Band 47, p. 170, 1901.

² Tippenhauer, L. G., *idem*, p. 169.

Foothills composed of coralliferous limestone of Quaternary age extend along parts of the southern and northern margins of the eastern part of the plain. This limestone was deposited when the entire trough was a strait separating the island of Haiti into two major parts. Just north of Trou Caïman the limestone forms irregular, narrow benches that extend to altitudes of 50 or 75 meters above the surface of the lake. Similar limestone underlies the prominent ridge that projects northward into the Étang Saumâtre between Gantier and Fond-Parisien. Along the trail between these two villages the ridge attains an altitude of 125 meters above sea level, and it is higher near the lake. The north-westward-extending ridge south of Sources Despuzeaux, which was not examined, probably is composed of the same limestone.

Other features of the plain that are significant with regard to the supply of water are described on page 515.

The surface features of the Cul-de-Sac Plain are due almost entirely to Quaternary alluviation. The depressions occupied by Étang Saumâtre and Trou Caïman are most likely due to the same cause, although their formation probably began during the time when the sea covered the site of the plain, before the period of subaerial alluviation. The sediments deposited in the sea at that time by streams corresponding more or less closely to the present streams were unevenly distributed on the sea bottom, and the areas that received the smallest amount of sediments became basins that remained as lakes when the sea withdrew. The semiarid climate that characterizes the plain would preserve rather than destroy these depressions because the quantity of surface water is not sufficient to support through-flowing streams and permit the establishment of an unbroken drainage system.

SHORE FEATURES.

Alluviation has largely determined the form of the shore features of the plain. Mud flats and mangrove swamps extend along the entire shore line. Barren saline flats back from the coast are occasionally flooded by sea water. Small mangrove islets lie off the shore.

SUBLITTORAL FEATURES.

The peculiar features of the Cul-de-Sac Plain are not confined to its subaerial part. The soundings recorded on chart No. 2656 of the Hydrographic Office of the United States Navy reveal a submerged part of the plain that is remarkably similar to the subaerial part. (See Pl. XXXI.) The submerged part of the plain bends northwestward parallel to the trend of the Chaîne des Mateux and the lower Artibonite Valley. It extends as far as a line drawn from the southeastern end of Gonave Island to Pointe Trou Forban. Its length is 45 kilometers and its maximum width is 32 kilometers. It comprises a flat plain and an

inclosed basin having relations to each other like those of the Cul-de-Sac Plain to the basin of Étang Saumâtre. The plain is part of the sublittoral platform that borders the coast of other parts of the Republic. The maximum depth of water on the flat part of the platform is 20 fathoms (37 meters), but the mean depth is about 17 fathoms (31 meters). Tongues on which the maximum depth is 10 fathoms (18 meters) extend southeastward and northeastward from the southeastern end of Gonave Island along the outer edge of the platform. Smaller ridges encircled by the 10-fathom contour rise above the surface of the platform. The small, low islands called Les Arcadins rise above the surface of the water on one of these ridges. The platform is widest between the northern coast of the Lèogane Plain and the southeastern coast of Gonave Island and off the coast of the Arcahaie Plain. The outline of the platform is very irregular in the harbor of Port-au-Prince, where numerous cays and shoals rise above the surface of the water or lie awash. The outer edge of the platform slopes steeply into deep water. The length of the basin inclosed by the platform from a point south of Les Arcadins to the harbor of Port-au-Prince, is 35 kilometers, and its width is 17.5 kilometers. The maximum depth of water recorded in the basin is 85 fathoms (155 meters).

An emergence of 25 fathoms (46 meters) would unite Gonave Island with the mainland and add an extensive area to the Cul-de-Sac Plain. This area would contain a lake larger than Étang Saumâtre that would resemble the lakes in the subaerial part of the plain.

The platform probably owes its origin to base-leveling at a time when the land stood higher. The basin may have been outlined even at that time, and it may have been accentuated by unequal sedimentation during the Quaternary submergence, although it is difficult to account for rapid sedimentation across the northwest end of the platform. Inequalities on the platform have been and still are being planed off by wave erosion subsequent to the emergence that is known to have affected the subaerial part of the plain.

MASSIF DE LA SELLE.

NAME AND EXTENT.

The name Massif de la Selle, which is derived from Mont La Selle, its highest peak, is used here for the mountainous area in the southeastern part of the Republic. Geographers have used the name Montagne de la Selle for the range of which Mont La Selle is a part, but no name has heretofore been given to the entire mountainous complex.

The Massif de la Selle is the northwestward prolongation of the Sierra de Bahoruco of the Dominican Republic. The western boundary of the massif is not well defined, but between Jacmel and Grand-Goave the mountains are low, and as the geologic history of the more mountainous