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By

Florentin J-M.R Maurrasse
Florida International University
Miami, Fl. 33199

Butterlin (1954, 1960) assigned an Oligo-Miocene age to the La Crête Formation on the basis of the occurrence of the following benthonic foraminiferal taxa: Amphistegina sp. aff. A. Lessoni, Gypsina pilaris, Miogypsina antillea, Lepidocyclina canellei, and Madreporaria such as Heliastrea canalis, Placoenia tampaensis var silecensis, and Siderastrea conferta.

I studied numerous samples from outcrops of this lithofacies on the road Gonaives - Gros Mornes and found that they consistently yielded planktonic foraminiferal fauna indicative of the Early Miocene Globorotalia kugleri Zone and younger. Thus this formation may in fact be of Miocene age only.

Facies of the La Crete Formation are found in the Northwestern Peninsula of Haiti.

NEOGENE

ARTIBONITE GROUP

Woodring (1922, p.6) introduced the term Artibonite Group to include most of the Formations of the Plateau Central previously studied by Jones (1918), and to which he added the Madame Joie Formation. In the present summary I include all the Neogene Formations of the Plateau Central, which are also found in the Artibonite basin areas, under the heading of Artibonite Group. (Figure 11).

ARC FORMATION: Kirk, 1940, in Van den Bold, 1974, p.536. Arc is an acronym for Atlantic Refining Company.

Type locality: Not designated by original author. Van den Bold (1974, 1981) used a lithologic sequence along the Agoiadome River in northeastern Plateau Central as the type section (Figure 12). His choice is based on earlier work of ARCO geologists.

The Arc Formation consist of a lower part of basal conglomerate and bedded limestone with shale partings; a middle part of sandy marl with flaggy limestone layers (only partly exposed in the Agoiadome section); and an upper part of coralline limestone, conglomerate and interbedded marl (Van den Bold, 1974, 1981) (Figure 11). According to Van den Bold 1974, the lower part of the formation probably overlies the Bassin Zim limestones, which are in turn reported to unconformably overlie medial Eocene limestones (Butterlin, 1960). The upper part of the Arc Formation is overlain by the Las Cahobas Formation (see following paragraphs). The total thickness of the formation, excluding the Bassin Zim limestones, is approximately 1300 meters: lower part approximately 200 meters; medial part 800 meters; upper part 300 meters (Van den Bold, 1981). The thickness of the Bassin Zim limestones is undetermined.

Assuming the Bassin Zim limestones are incorporated in the Arc Formation, its lower limit thus lies within the Oligocene, because Butterlin (1960) reported the presence of Lepidocyclina giraudi, Lepidocyclina yurnagunensis, and Lepidocyclina undosa in these limestones. The Arc Formation proper, as reported by Van den Bold (1981), lies within the early Miocene Zones N5 and N6 (Catapsydrax dissimilis and Catapsydrax stainforthi Zones respectively).

Van den Bold (1981) suggested a deep water environment of deposition for the lower part of the formation, based on Ostracod assemblages. Similarly, he also suggested shallowing toward the upper part and indicated the presence of deeper water intercalations in the middle part of the sequence. Obviously the environment of deposition of middle part of the formation remained deep and was intermittently invaded by shallower-water turbidites.

The Arc Formation, including the Bassin Zim limestones, crops out essentially along the northeastern edge of Plateau Central in Haiti.

MADAME JOIE FORMATION: Woodring, 1922, p. 6, 7. Named after the village of Madame Joie on the southern edge of Plateau Central (Figure 12).

Type locality: Morne Madame Joie, an isolated foothill ridge about 1 kilometer south of the village of Madame Joie.

At the type locality and elsewhere along the southwestern edge of Plateau Central, the formation is made up of a lower part, which consists of buish gray silstone, and an upper part of interbedded light yellowish tan coralliferous limestones, yellowish brown marly silstones, light yellow marls, and calcareous sandstones. (Figure 11) Total thickness at the type section is 60 meters (Woodring et al., 1924, p. 163).

The lower 30 meters of buish gray siltone described by Woodring et al., (op. cit) contains Pteropods of the genera Cavolina and Stylodictia, and Pelecypods of the genera Bathyarca and Limopsis, indicative of a relatively deep and clear water for the environment of deposition of this lithofacies (Woodring, 1922). The coralliferous limestones in the upper part of the sequence are characterized by the presence of large heads of Orbicella canalis and Orbicella altissima (Woodring et al., 1924).

The initial assignment of Early Miocene age has been corroborated by most subsequent workers (Hunerman 1972; Van den Bold, 1974, 1981) and my own study of samples referable to this formation along the southern edge of Plateau Central. As I have found in these samples, the presence of Globigerinoides trilobus, Gs. immaturus in the bluish gray marl would limit the base of the formation to about middle Early Miocene (Globigerinoides trilobus Zone). Nevertheless, the possibility of a latest Oligocene age for the base of the formation may not be totally ruled out, as I have also found planktonic foraminifera such as Globorotaloides suteri, Globorotalia opima and Glogorotalia aff. kugleri in a blue marl of the Madame Joie type of lithofacies southwest of Hinche (Figure 12) along the lower valley of Riviere

Abrio. Butterlin (1954, p.428) also suggested an upper Oligocene age for the Madame Joie Formation on the basis of the presence of Amphisorus americanus.

The Madame Joie Formation crops out along the southern edges of Plateau Central and in the southeastern areas of the Artibonite valley and the Mirebalais Basin. Its total thickness, as determined from drilling results, may exceed 700 meters.

THOMONDE FORMATION: Jones, 1918, p.736. Named after the village of Thomonde, in southeastern Plateau Central (Figure 12).

Type locality: Subsequently designated by Woodring et al., 1924, as being " in the vicinity of Thomonde".

The Thomonde Formation (Thomonde beds of Jones, 1918), consists almost entirely of fine grained sediments, chiefly bluish, soft shale (Jones, 1918, p.736). Woodring (1922), further added that near the top it includes a few thin beds of conglomerates. He also described the Thomonde Formation along the northeast side of Plateau Central to consist principally of nonmarine conglomerates and coarse sandstones, and considered the Maissade beds of Jones (1918, p.739) which consist of silstone, clay, carbonaceous clay, and lignite to form the upper part of the Thomonde Formation. Woodring et al. (1924, p.165) further pointed out that, at the type locality, the siltstone is similar to silstone in the lower part of the Madame Joie Formation (cf. preceding paragraph).

Woodring (1922) described the base of the Thomonde Formation to conformably overlie the Madame Joie Formation, and also indicated that it apparently overlaps the latter completely along the northeast edge of Plateau Central. Nonetheless, because these rocks assigned then to the Madame Joie Formation have been considered in the preceding discussions as the bassin Zim limestones, part of the Arc Formation, the Thomonde Formation instead overlaps the Arc Formation in the northeastern areas of Plateau Central (Figure 11).

The upper part of the Thomonde Formation intergrades with the Las Cahobas Formation (see succeeding paragraphs), from which it is often difficult to defferentiate.

The total estimated thickness of the Thomonde Formation is between 600 and 700 meters as determined by geologists of the Atlantic Refining Company (Van den Bold, 1981), but at the designated type locality it is only about 400 meters thick (Woodring, 1922).

In recent studies the age of the Thomonde Formation has been determined to be predominately Middle Miocene in the Plateau Central (Hunerman, 1972; Van den Bold, 1974). It is thus a little younger than the Early Miocene age assigned by previous workers. Similar, but not totally equivalent, facies which occur in the Saint Marc area have also been labelled the Thomonde Formation. In this area the rocks are Late Miocene to earliest Pliocene, as I have determined from samples collected at Bois Neuf (south of Saint Marc) and

near the Arco drilling site (north of Saint Marc). The youngest samples include a diversified planktonic foraminiferal assemblage with Globorotalia margaritae, Globigerinoides extremus, Gs. obliquus, Globigerina pachyderma, and Globorotalia pseudomiocenica.

The Thomonde Formation crops out over a wide area in North Central Haiti, notably along the southern edges of Plateau Central, the Artibonite Valley, and the northeastern foothills of the mountains of Matheux, and near Saint Marc.

LAS CAHOBAS FORMATION: (Las Cahobes beds) Jones, 1918, p. 737; emended, Woodring, 1922, p 6, 9. Named after the village of Las Cahobas in southeastern Plateau Central (Figure 12).

Type locality: Subsequent designation, Woodring et al., 1924, as being "north of Las Cahobas".

The Las Cahobas Formation consists of coarser and more consolidated rocks than the detrital facies of the Thomonde Formation. (Figure 11). In general "it may be described as an alternating series of conglomerates, which are quite hard, with pebbles usually smaller than a robin's egg; sandy shales; some beds of coarse unconsolidated sands; thin beds of very hard sandstone with characteristically weather out to flat rounded knobs; some limy beds, and at some places coral limestones" Jones, 1918.

Also characteristic of the series are several beds composed mostly of Ostrea cahobasensis.

The coarser detrital facies distinct from the Thomonde facies, are particularly well developed along the western and southern edges of the basin. "As these rocks are harder than the Thomonde rocks they form ridges with steep mountain-facing cuestas. Such a ridge formed by the basal rocks of the Las Cahobas Formation is a striking feature along the southern edge of the plain" (Woodring et al., 1924). At the type locality, north of Las Cahobas, there is a coralliferous limestone at the base of the formation containing among other biogenic remains heads of Orbicella imperatoris, Orbicella cavernosa, branches of Stylophora monticulosa, and Pocillopora cressoramosa. This limestone is also part of the rimrock mentioned above. According to Woodring (1922), along the northeastern sides of Plateau Central the Las Cahobas Formation is indistinguishable from the Thomonde Formation, as both consist principally of coarse detrital sediments and are included in the thick wedge of delta and flood plain deposits that taper southwestward. Although there are no coralliferous limestones at the base of the Las Cahobas Formation in these predominately clastic facies, the conglomerates include some molluscan shells indicative of a marine environment of deposition.

As pointed out earlier, the lower boundary of the Las Cahobas Formation is often elusive and intergrades with the Thomonde Formation. The upper part of the Las Cahobas Formation is unconformably overlain by the Hinche Formation

(Jones, 1918). Its maximum thickness is estimated to be as much as 1400 to 1850 meters (Arco drilling results).

The age of the lithofacies attributable to the Las Cahobas Formation in the Plateau Central may range from late Early Miocene, to possibly Early Pliocene. The greatest problem in assigning an age to clastic deposits of this sort is the lack of fossils. This explains the considerable discrepancy in age usually assigned to this formation, as reported in the relevant literature. As it appears, with the information available to date, the Las Cahobas Formation intergrades with most other formations in Plateau Central. The shallow deltaic to fan, and flood plain types of facies, which characterize this formation, may in fact include the whole Neogene series in this basin. Also, it seems that the bulk of the Las Cahobas facies developed mostly within the Middle and Late Miocene times. The Las Cahobas Formation could be perhaps best identified with the presence of oyster beds containing Ostrea Cahobasensis and Ostrea bolus, as reported by previous authors. The gastropod Orthaulax aguadillensis was initially believed to be a good marker to differentiate the Thomonde Formation where it was supposed to occur exclusively (Woodring, 1922; Woodring et al., 1924), but Butterlin (1954) pointed out that the above named gastropod can also be found associated with, or intercalated with, typical fauna assigned to the Las Cahobas Formation. Furthermore, the oldest beds of the formation are also reported to overlie the Arc Formation(Van den Bold, 1974), which may in fact be equivalent to those of the Thomonde Formation, as previously discussed.

According to Van den Bold (1981) the youngest beds of this formation in the Plateau Central area are found along the southeastern edges, and are reported to include an Ostracod fauna with Radimella confragosa and Cyprideis salebrosa, which may indicate an age as young as Late Pliocene. He also mentioned the presence of Globorotalia margaritae, which would confirm the Pliocene age.

In the Saint Marc area, the Pliocene series were assigned to the Las Cahobas Formation, while the older rocks were attributed to the Thomonde Formation. The age of these rocks were discussed in the preceding paragraph. It should be further emphasized that these facies are not the exact analogs of those found in the Plateau Central area. The different outcrops north and south of Saint Marc have yielded planktonic foraminiferal assemblages indicative of ages ranging from the early Late Miocene Globorotalia menardii Zone, north of Bois Neuf (6 kilometers south of Saint Marc), to the late Pliocene Globorotalia tosaensis Zone, near the top of Morne Rousseau, about 5 kilometers south of Saint Marc. These facies near Saint Marc will be kept with these formations until further studies.

The Las Cahobas Formation proper is the most widely spread lithofacies in the Plateau Central area of North Central Haiti.

MAISSADE FORMATION: (Maissade beds) Jones, 1918, p.739.
Named after the town of Maissade in Plateau Central (Figure 12).

Type locality: Not designated specifically, but Jones (1918) cited areas north and west of Maissade along the Riviere Canot and its several tributaries, notably Riviere Fond Gras, Rio Piedre, and Rio Blanco (Riviere Blanche), where the Maissade beds are well exposed.

The Maissade Formation "consists of shales, marls and some sandstones, and is characterized by lignitic beds" (Figure 11), 1918. From the details of the section described along Rio Blanco by Jones (1918), the Maissade Formation includes a lower 9 meters or so of fossiliferous blue clay with molluscs (Turitella, Arca, Ostrea), and an upper part which consists of about 12 meters of interbedded black carbonaceous shales, hard shaly sandstones, lignites, lignitic gray clays, gray sandy shales, gray argillaceous marls, and blue clays. Most layers are characteristically rich in shallow-marine to lagoonal gastropod shells.

Woodring (1922) and Woodring et al., (1924), made a more detailed study of the lignite bearing series cropping out in the areas of southern Plateau Central around Maissade and southwest of Hinche. They concluded that "the lignite bearing rocks consist of a remarkable alternation of beds containing a marine fauna, mixed marine and brackish-water faunas, and a brackish water fauna. The brackish water fauna which is found immediately above or below the bed of lignite, consist principally of the molluscan genera Potamides, Hemisinus, Hydrobia, Nerita, Scapharca, and Mytylopsis. The marine molluscan fauna is confined to the lower part of the lignite bearing rocks. These marine molluscs are characteristic of the middle faunal Zone of the Thomonde Formation at its type locality, thus clearly showing that the Maissade beds represent a coastal-swamp facies of the middle and upper parts of the Thomonde Formation".

Although the lignite-bearing series were assigned to the Thomonde Formation, Woodring et al., 1924, p. 201, also pointed out the uncertainty concerning the real stratigraphic position of these beds. They reported that the marine beds of the "Maissade tongue" comprise molluscan fauna which are instead very similar to the molluscs found in the Las Cahobas Formation.

Most subsequent workers either included the Maisade facies in the Las Cahobas Formation or did not mention it at all. Van den Bold,(1974) reported that the "Maissade Formation was not mapped as such by geologists of Atlantic Refining Co. However, in their reports they often indicated "Beds with Maissade facies" (lignites and brackish-water faunas). Samples wih this type of fauna are present irregularly over the whole region and, except for the Maissade area, these beds cannot be mapped as a continuous unit" (p.537).

I may conclude from my own study of the area that both Woodring et al., (1924) and geologists of the Atlantic Refining Company made accurate observations concerning the dilemma of the exact position and viability of these beds as a separate lithologic entity. In fact, whereas lignitic beds occur intercalated in lithofacies attributable to the Las Cahobas Formation in the Maissade area, southeast of this area they appear in lithofacies referrable to both the Cahobas and the Thomonde Formation. Thus, the real

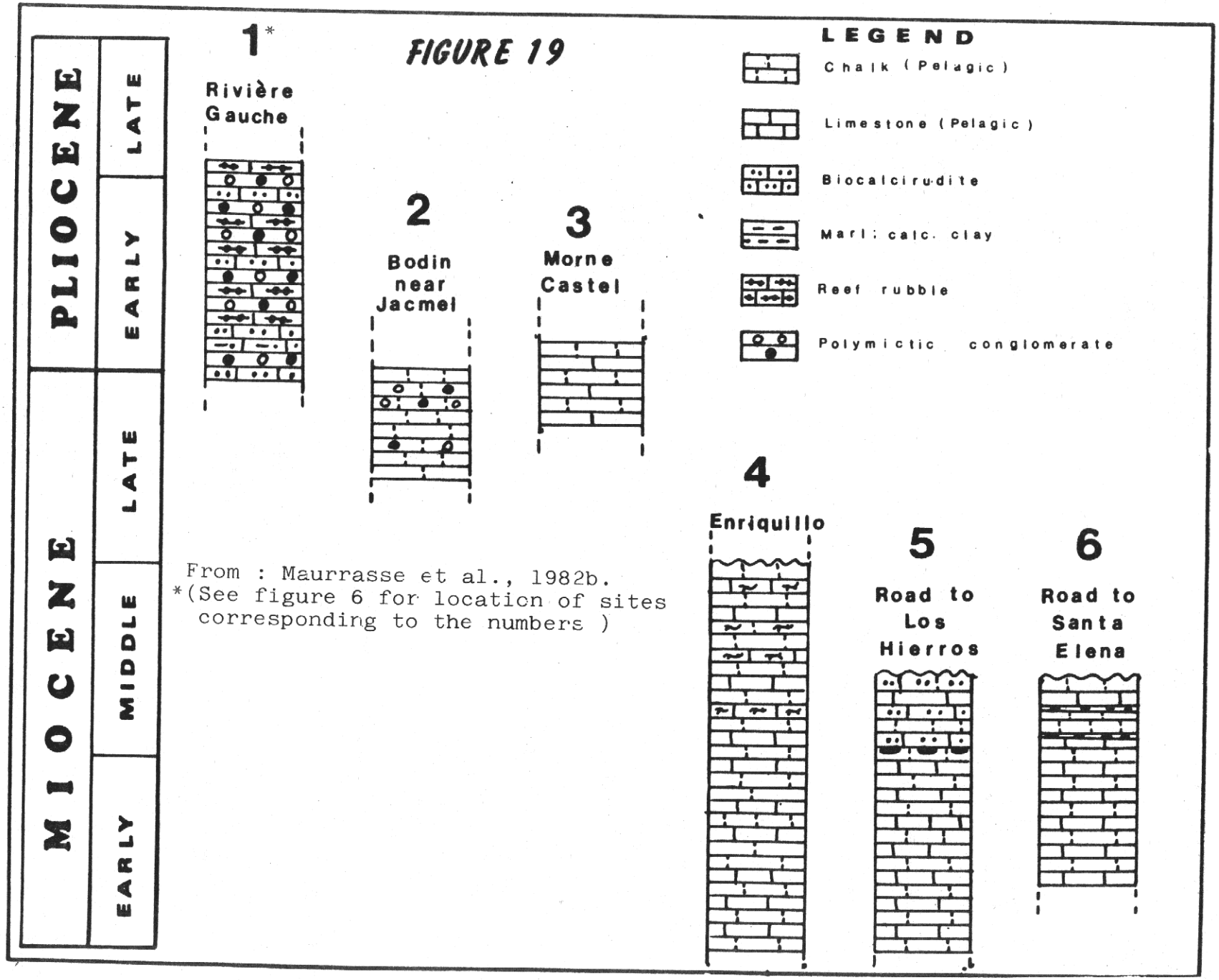


FIGURE 19

From : Maurrasse et al., 1982b.
*(See figure 6 for location of sites corresponding to the numbers)

problem lies in the fact that the lignite bearing beds are lateral facies which are time transgressive within the Central Plateau series (Figure 11). It is indeed difficult to map such a facies, because it is not at all continuous at any given outcrop. This is due to the fact that contrary to previous assumptions the lignitic beds did not develop over a swamp, but were rather carried sporadically by flood stages of the paleorivers of the area, probably from the old islands formed by the Montagnes Noires to the south and the Massif du Nord to the north. These lignitic beds are allochtonous deposits of plant debris which accumulated in marine channels and irregularities of very shallow estuarine environments. Thus their distribution in time and space within the Miocene series is as unpredictable as their composition. Their occurrence is known mainly within the Maissade area (Figure 12), where they are most typical and well developed, and along the southwestern edge of the Plateau Central basin.

HINCHE FORMATION: (Hinche beds) Jones, 1918, p.348. Named after the city of Hinche in the middle area of Plateau Central(Figure 12).

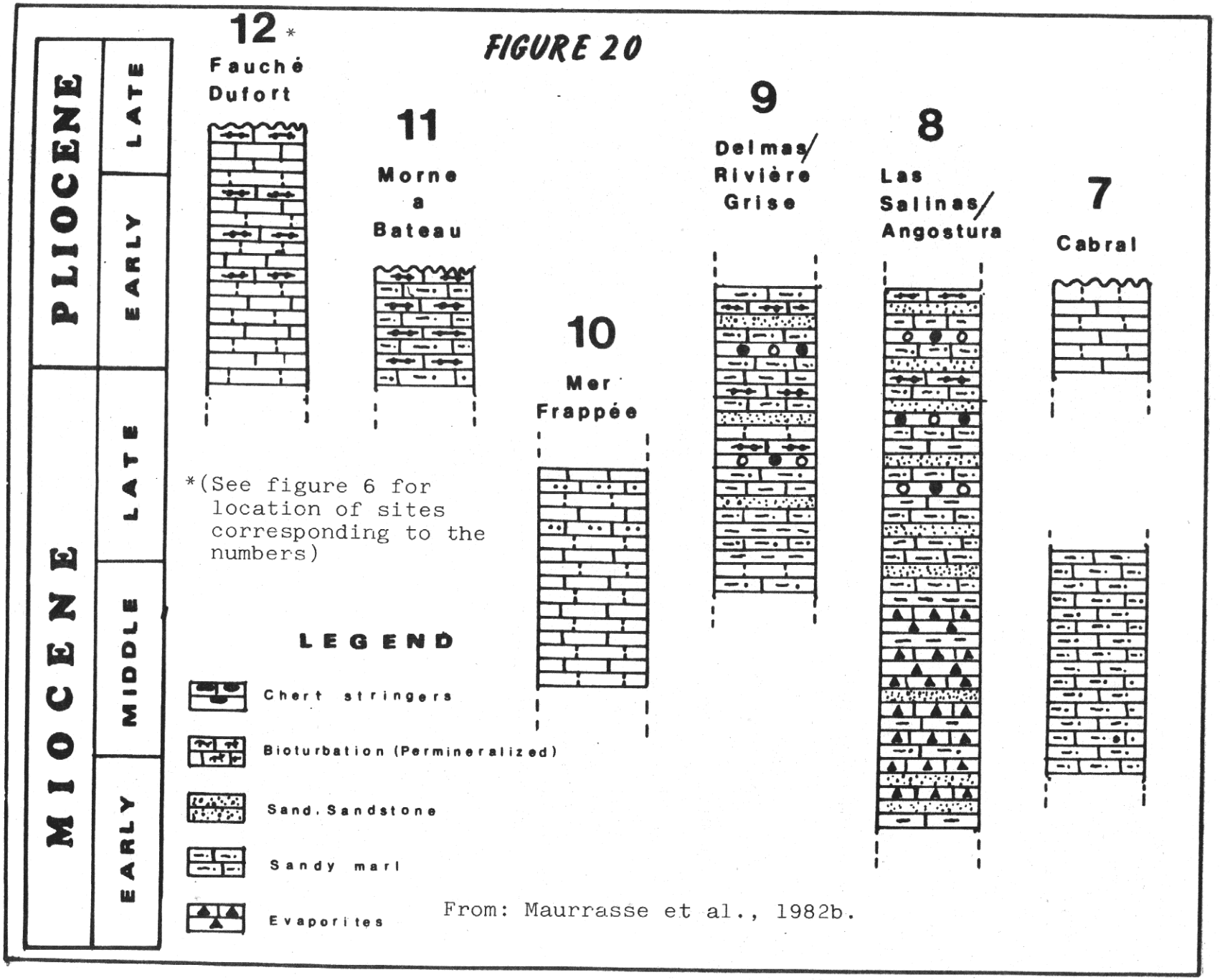
Type locality: Not designated.

The Hinche Formation consists of a series of polygenic gravels and cross-bedded sands with occasional silts and clays. The predominance of limestone pebbles in this formation may be a criterion to separate this series from the Las Cahobas detrital lithofacies from which it can be difficult to differentiate. Although fossils are practically absent in these deposits, Jones (1918) reported the presence of fragments of petrified wood or even whole trunks of trees in the Hinche Formation. Both, its upper and lower limits are quite vague as it may intergrade with the Las Cahobas facies and more recent pebble deposits (Figure 11).

Its thickness varies from areas to areas in the Plateau Central, Woodring (1922) estimated its thickness to be about 25 meters, while Butterlin (1954) reported thicknesses up to 100 meters, based on drilling results of the Atlantic Refining Company.

These detrital deposits are widespread in the Plateau Central region where they are better developed in the southern areas. Jones (1918) inferred that the region, after uplift and folding, drained to the southeast toward the San Juan Valley and Azua Plain (Figure 2). The facies of the Hinche Formation would have been deposited over erosional surfaces which were flooded under a lake when the drainage system was cut off. He further suggested that the floor of the lake is represented by the uppermost Hinche beds, which remained practically intact in the northern part of the present Plateau Central, but are largely eroded in the soutern part.

RIVIERE GRISE FORMATION: Butterlin, 1950, p.56. Named after Riviere Grise, also known as Riviere du Cul-de-Sac, which flows in the Cul-de-Sac Plain (Figures 8,12).



From: Maurrasse et al., 1982b.

Type locality: Subsequent designation, Butterlin, 1954. Trail Bassin General, Morne Jacquot. Habitation Cadet, Goujon, on a south facing slope, south of Habitation Cadet, at an altitude of 500 meters (Butterlin, 1960, p.46).

The Riviere Grise Formation consists of alternating layers of polygenic conglomerates with basaltic, limestone and chert pebbles, brown or yellow sandstones, brown limestones, marls and gray or bluish claystones, generally in thin beds (Figure 11). The upper part of the series is generally richer in clastic components than its lower part. The various levels of the formation contain abundant marine biogenic remains, particularly benthic foraminifera, notably Sorites americanus; madreporaria, gastropods, pteropods, pelecypods and scaphodods. A bed rich in Ostrea haitensis also occurs in the series on the road from Fond Parisian to Fond Verrettes, and at an altitude of about 400 meters.

Originally Butterlin (1950; 1954) considered these series to be Oligo-Miocene, but subsequently (1960) indicated that they may be Miocene, possibly lower Miocene, based on the presence of the benthic foraminifera Sorites americanus. The samples I analyzed from these series have so far yielded a planktonic foraminiferal fauna indicative of a late Middle Miocene age or younger (Figures 20 and 11).

Butterlin (1950; 1954; 1960) suggested a total thickness of at least 1000 meters for the Riviere Grise Formation. He also reported outcrops of this formation in most of the northern foothills of the La Selle Mountain along the southern edge of the Cul-de-Sac Plain, namely along the valleys of Riviere Grise, Riviere Blanche (Figure 6), and at the confluence of Riviere Grise and La Voulte. He further noted that rocks of similar facies are found in the valley of Riviere Grande Anse, near Jérémie, in low hills in the Plaine des Cayes, in the depression which is associated with the Trans-Xaragua fault system transecting the Southern Peninsula diagonally (Figure 3).

MORNE DELMAS FORMATION: Butterlin, 1950, P.56. Named after Morne Delmas, in Port-au-Prince (Figure 12, 21).

Type locality: Subsequent designation, Butterlin, 1954, p 65. Trail of Ruelle Nazon (presently Avenue Martin Luther King) 500 meters south of Morne Delmas (Figure 21).

The Morne Delmas Formation consists of conglomerates, sands, sandstones, coarse argillites with occasional limestone beds rich in Ostrea haitensis, and numerous other molluscan shell fragments associated with coral fragments (Butterlin, 1960). The bottom of the formation is reported to unconformably overlie the River Grise Formation, and is similarly overlain by Quaternary alluvium.

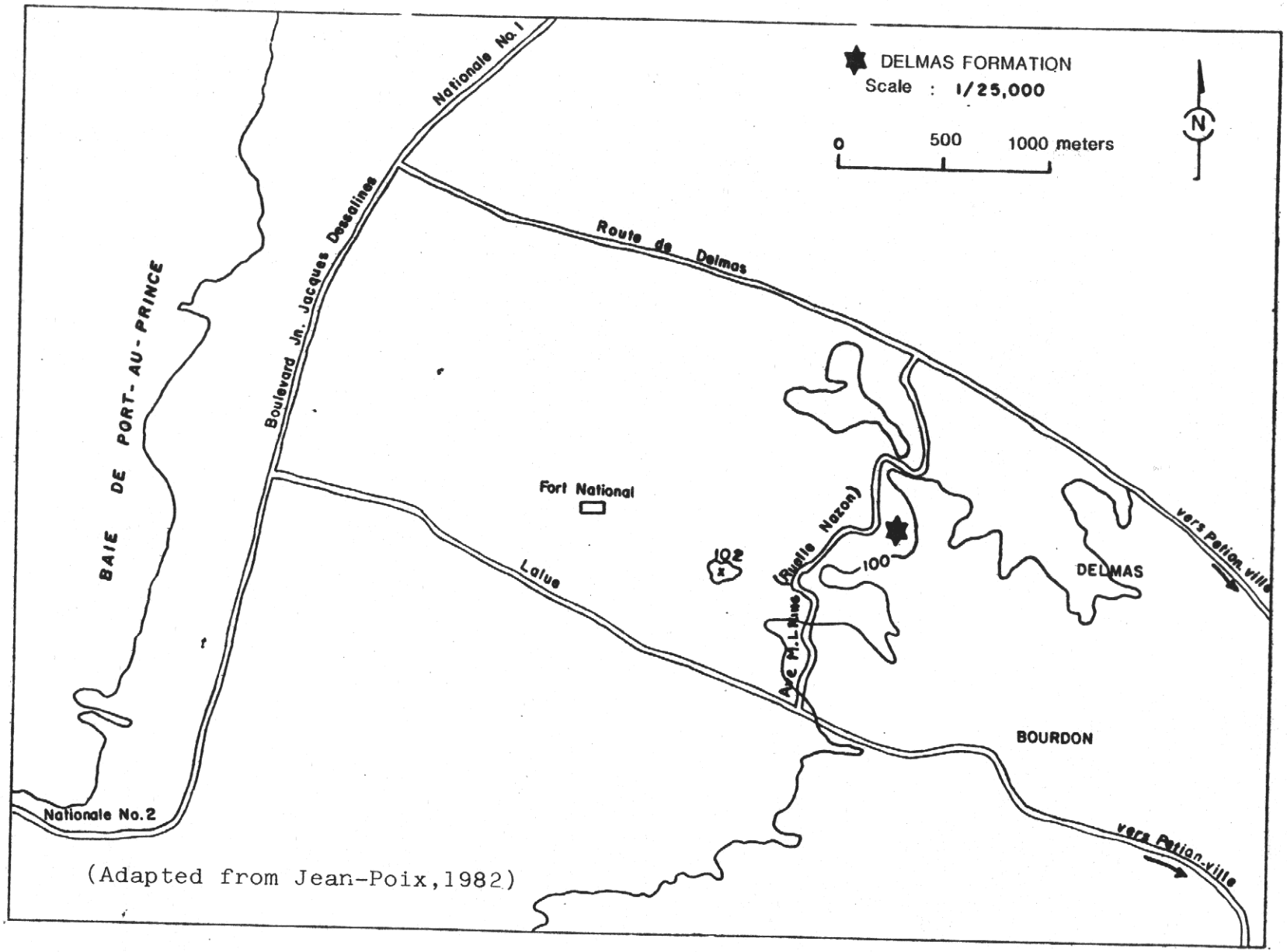


FIGURE 21 : Map showing location of the type locality of the Delmas Formation in the city of Port-au-Prince.

Butterlin (1960) assigned a Middle to Late Miocene age to the Delmas Formation on the basis of faunal similarity with the Bowden Formation in Jamaica. Van den Bold (1974) assigned the formation a Pliocene age, which is in agreement with my study of samples from these deposits. I also believe that Morne Delmas Formation is similar to the upper part of the Riviere Grise lithologic series (Figure 11). It is also worth noting that Woodring et al., (1924) did not differentiate these series which they refer to as the "Beds near Port-au-Prince". Perhaps such an appellation best described these series as a whole unit.

Butterlin (1960) gave an estimated thickness of 300 to 400 meters for the Morne Delmas Formation, which he pointed out occur between Port-aPrince and Petionville, the road of Delmas, between Port-au-Prince and Frères (northeast of Petionville). He also considered the detrital series east of the town of Gressier and those near Carrefour Fauche (Figure 12) as belonging in this formation.

Lithofacies of the western portion of the southern edges of the Cul-de-Sac/Enriquillo Neogene seaway, as described for the Riviere Grise and Delmas Formations, are much similar to those found in the eastern areas of the Dominican Republic side of the graben, except that they lack the evaporites. These facies best termed "Beds near Port-au-Prince (Woodring et al., 1924; Coryell and Rivero, 1940) are characterized by extreme vertical and lateral lithologic changes. Like their eastern counterpart, the terrigenous components consist of clastics elements similar to those being carried by rivers of the present drainage system (Figure 6). Thus, the existence of these rivers as main sources of terrigenous supplies is documented since at least the Miocene. The provenance of the clastics also implies that the present mountain range of the La Selle-Baoruco Block stood fairly high since that time. Late Quaternary uplift may have only accentuated the preexisting relief.

Fine volcanogenic debris also occur in variable amount among the clastics within most of the formations, particularly within the levels corresponding to the latest Miocene. These volcanic products were evidently carried across the graben from the volcanoes north of the basin, as Neogene volcanoes occur only in this part of the island. The spread of these volcanic products is indeed, compatible with expected distribution pattern controlled by the Trade winds of that time.

The oldest foraminiferal assemblages from the Riviere Grise lithofacies yielded foraminiferal taxa indicative of the Late Miocene Globoratalia siakensis Zone. Low diversity observed in these assemblages indicate stressed conditions of a neritic environment close to the shelf edge. The younger planktonic foraminiferal assemblages found in facies attributable to the Delmas Formation belong in the Middle Pliocene Globorotalia altispira Zone, and possibly the Globorotalia tosaensis Zone. The younger facies are also more neritic, suggesting gradual shallowing related to the combined effects of progradation and accentuated uplift toward the close of the Miocene and the Early Pliocene, to total emmersion during late Pleistocene. Conditions were such that the sediments were laid in a basin in which fans along the margins graded into deeper-water neritic environments, away from the deltas (Figure

19). Thus, upper bathyal to nerito-pelagic and hemipelagic facies intertongue with coarser components as a result of both intermittent subaqeous mud flows during flood stages of the adjacent rivers, and basin edge mud slumps associated with tectonic instability of the active boundary fault system, and further volcanic activities to the north.

RIVIERE GAUCHE FORMATION: Butterlin, 1954, p.67; 111. Named after Rivière Gauche, one of the tributaries of the Rivière de Jacmel, which flows southward within the Jacmel-Fauché depression (Figure 2).

Type locality: Subsequent designation, Butterlin, 1960. On road Trouin - Jacmel, 12.8 kilometers southeast of Trouin (Figure 12).

The Rivière Gauche Formation is defined to include conglomerates, yellow or brown sands, and coarse brown argillites. The bottom of the formation is reported to unconformably overlie older Miocene rocks, and its top is overlain by Quaternary allubium, or coral reefs(Butterlin, 1960, p.47).

The thickness of the formation has been estimated by Butterlin (op. cit.) to be within the order of 250 meters. The Riviere Gauche Formation is supposed to characterize the sedimentary deposits of the Jacmel-Fauché depression. It is found in the valley of Riviere Gauche, and Riviere Lavagne, (or Rio Fauche) flowing south and north respectively, within the depression.

ELEVATED TERRACES

Raised terraces are well developed throughout the Caribbean region, and in Hispaniola in particular. The most spectacular terraces occur in the Northwestern Peninsula in Haiti, and the Beata Peninsula at the extreme eastern end of the La Selle-Baoruco block in the Barahona Province of the Dominican Republic.

The highest terraces in Haiti reach an altitude greater than 500 meters in the Northwestern Peninsula at the Bombardopolis Plateau (Figure 4), and the highest ones in the Dominican Republic are those in the Barahona Province cresting at more than 1200 meters. Terraces in this latter area are covered with significant amount of ore grade laterites which are presently mined for Bauxite. Laterites also occur on the Bombardopolis Plateau but their relatively high silica content (Si 02 = 21%) indicates a rather poor grade Bauxite.

Pleistocene terraces of the Northwestern Peninsula, such as those near Mole Saint Nicolas (Figure 5), are also found in numerous areas of the island, but they are never as well developed. The best preserved ones worth mentioning are those found at Cap Saint Marc south of the Bay of Saint Marc, the northwestern end of the Southern Peninsula near Roseaux east of the city of Jérémie (Figure 4, 10), west of the city of Jacmel, along the southern