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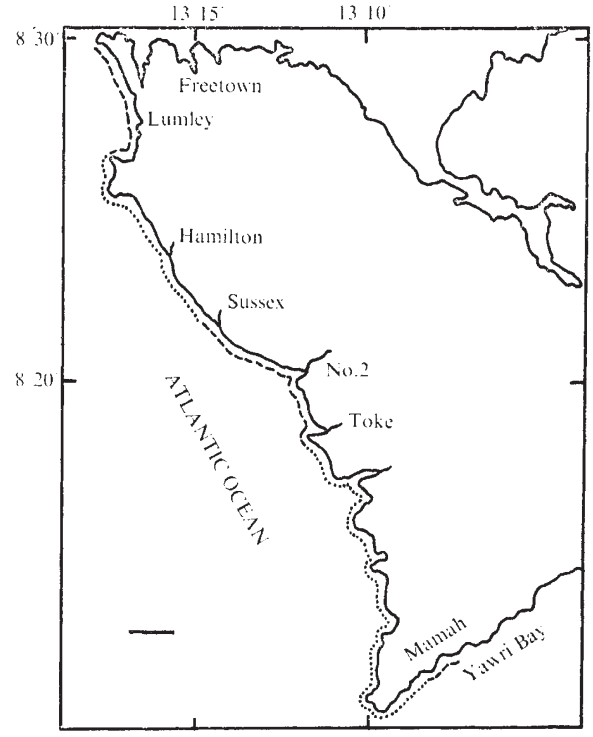

Fig. 1 Western area peninsula of Sierra Leone, showing the sites with tar polluted shores (dashed line) and the probable extent (dotted line) of the peninsular coastline affected by the pollutant. Scale bar represents 2.5 km.

Tar pollution of Sierra Leone beaches

THE widespread occurrence of pelagic tar and plastic wastes in parts of the Pacific and Atlantic oceans has been described previously[1]. Extensive and considerable fouling of the sandy beaches of Sierra Leone by tar lumps has now been observed at Lumley, Sussex, No. 2, Toke and Mamah villages (Fig. 1) during the past 14 months (June, 1973 to July, 1974). Large quantities of soft, brownish-black lumps (up to 7–8 cm diameter) have been repeatedly washed ashore along the entire stretch (about 6 km) of Lumley beach. This reaches a maximum during June to August, probably because of onshore south-western Monsoonal winds and the increased eastward flow of the Guinea Current during May to October[2]. On August 4, 1974, tar lumps were also observed 1–2 km up the No. 2 River estuary; and during Easter, 1974, a 4–5 km stretch of the sandy beach at Shenge village (7° 56′N 12° 56′W) at the southern tip of Yawri Bay, was also littered with the pollutant. Observations have not been made south of Shenge and north of Freetown (8° 29′N 13° 4′W) but the extent of current pollution tends to suggest that the whole Sierra Leone coastline, and perhaps those of the flanking countries as well, may be subject to frequent tar pollution, probably originating from the heavy, offshore traffic of tankers and ships.

At Lumley beach during ebb tide, tar lumps and other debris are deposited on the sand in a series of crescent-shaped aggregations by the receding waves. I have observed ghost crabs (*Ocypode* spp.) moving along these aggregations and from one crescent to another at different levels of the beach, probably as scavengers. Some workers[1] have already noted that the lumps are inhabited by a variety of marine organisms and I have seen several lumps (3–4 cm diameter) bearing colonies of 3–5 small goose barnacles. At successive spring tides, the lumps and the debris are swept by waves to the supralittoral fringe, leaving the littoral region momentarily clean until the next fresh influx of the pollutant. At the supralittoral fringe, tar lumps are lodged in the soft, dry sand and between the grass roots; here they harden, baked by the hot sun of the dry season (November to April). Fresh tar lumps easily stick to the feet, being effectively removed only by kerosene or local palm oil.

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In situ methylation of mercury in estuarine sediment

THE methylation of mercury compounds in sediments, believed to be a biological process, has been shown in a number of laboratory experiments[1-5]. Background levels of methylmercury (CH_3Hg) have been reported for estuarine sediments from the Mississippi Delta, Mobile Bay and the Florida Everglades[6]. We now report that sediment in San Francisco Bay contained background levels of methylmercury and methylated mercuric chloride ($HgCl_2$) *in situ*.