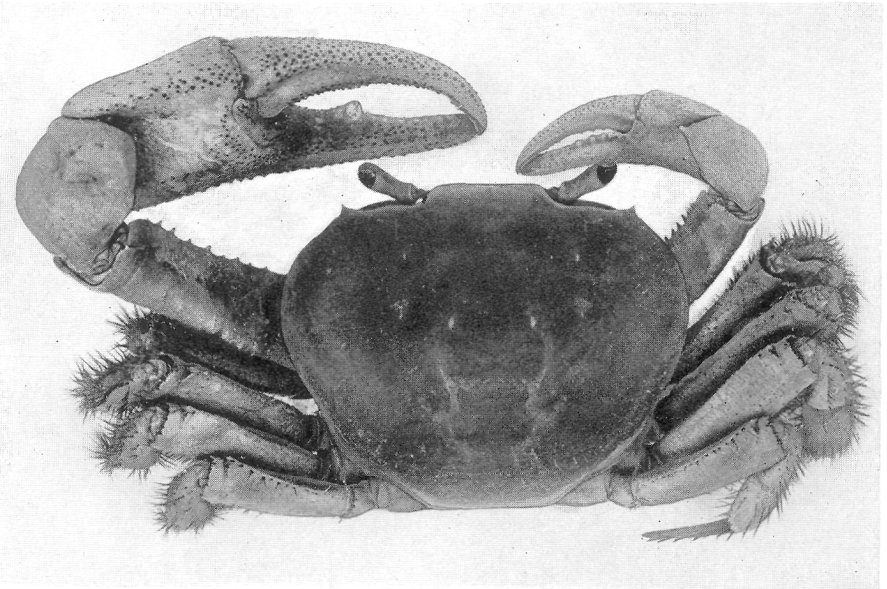
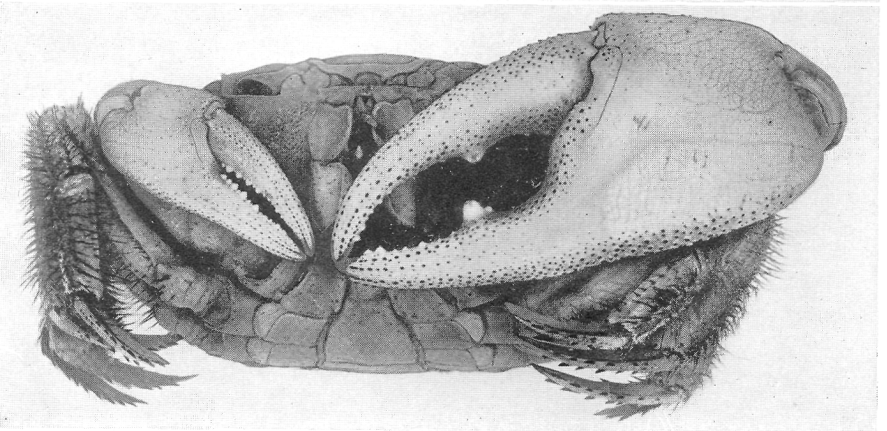


1



2

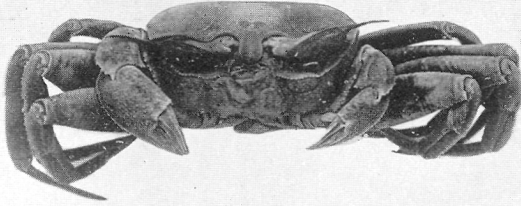


3

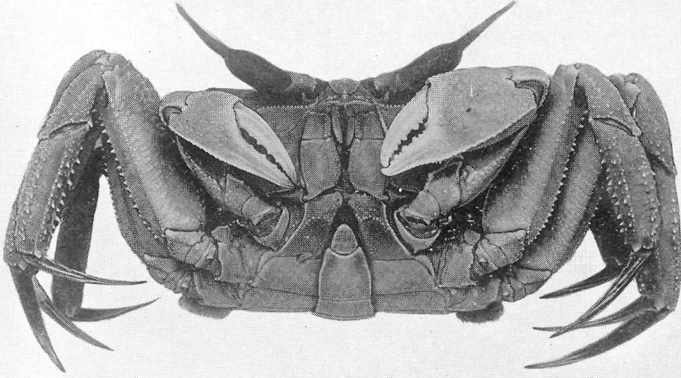
PLATE LII

*Ocypode ippeus*

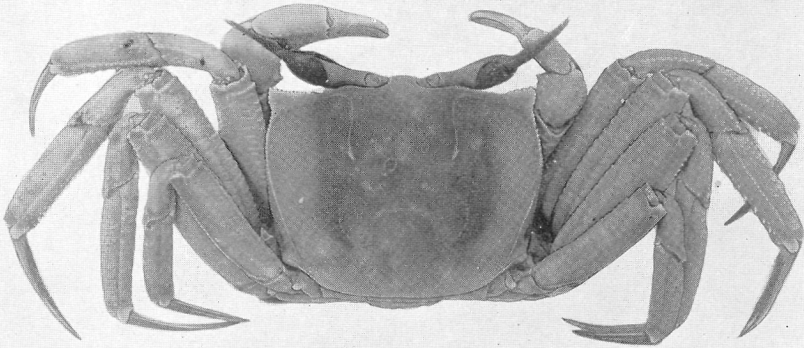
- Fig. 1. Male, 33 mm. wide, A. M. N. H. No. 3080, front view.  
Fig. 2. A larger male, same No., ventral view.  
Fig. 3. Another male, A. M. N. H. No. 3087, dorsal view.  
Fig. 4. Female, 41 mm. wide, dorsal view.



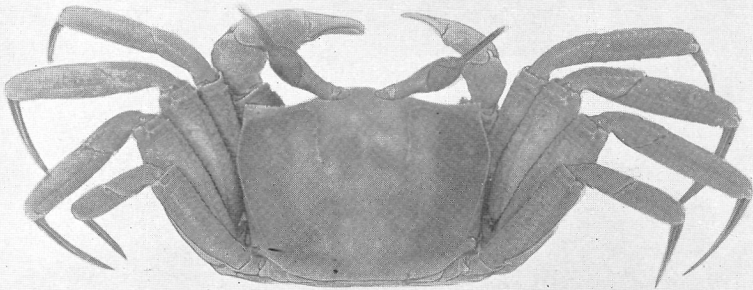
1



2



3



4

PLATE LIII

*Ocypode africana*, A. M. N. H. No. 3282

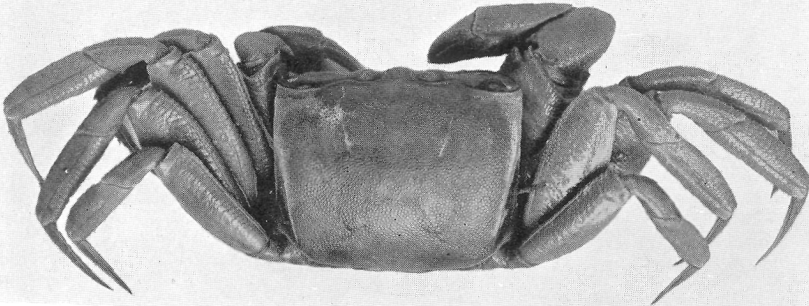
Fig. 1. Male, 29 mm. wide, dorsal view.

Fig. 2. Another male, ventral view.

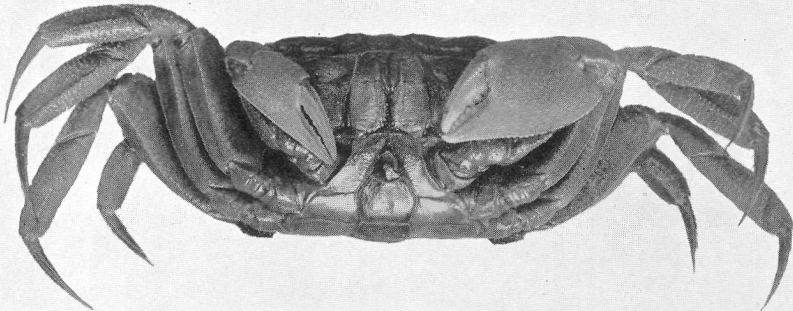
Fig. 3. Still another male, front view.

Fig. 4. Female, dorsal view.

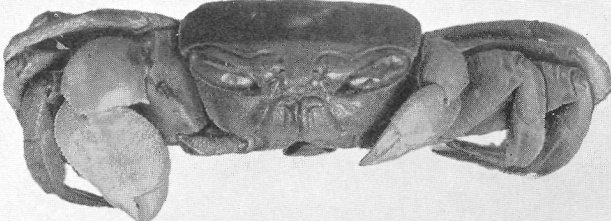
All figures to same scale.



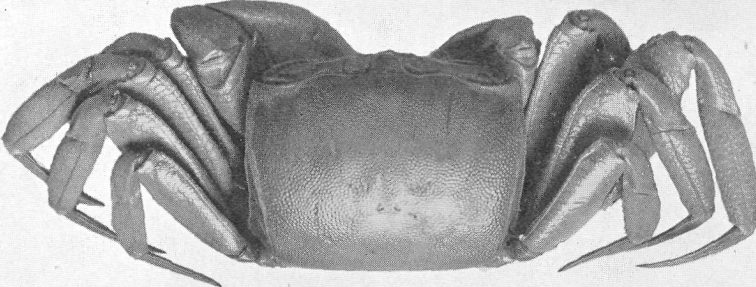
1



2



3



4

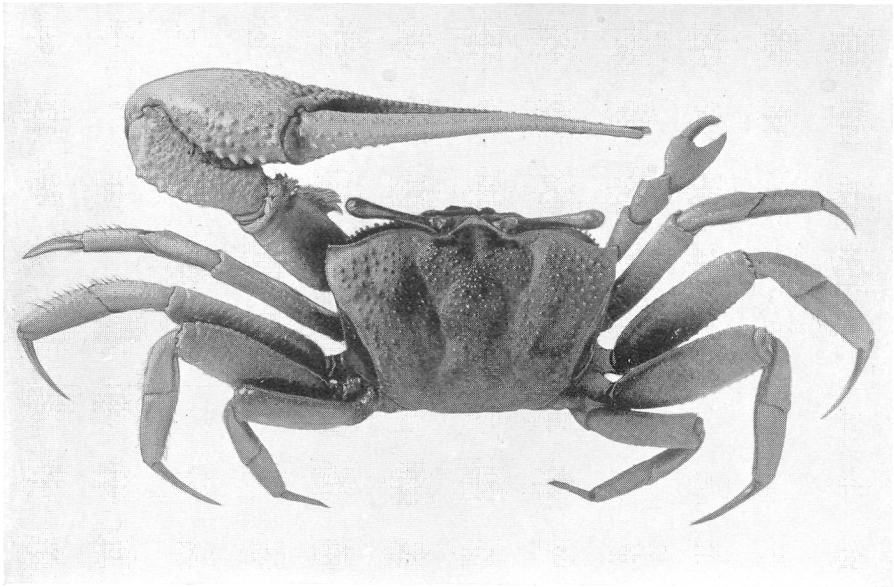
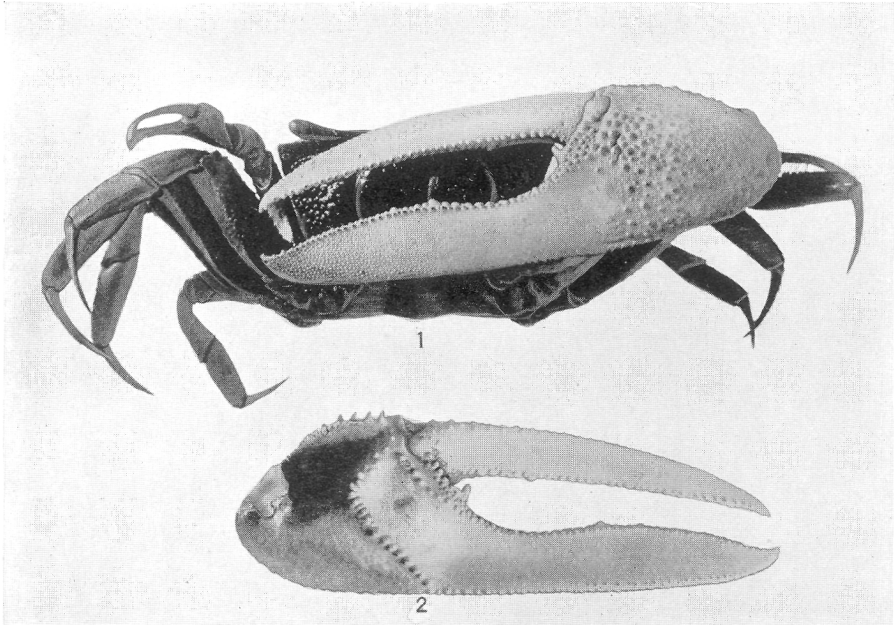
PLATE LIV

*Uca tangeri*, male, 31.3 mm. wide, U. S. N. M. No. 14874

Fig. 1. Front view.

Fig. 2. Inner face of major chela.

Fig. 3. Dorsal view.



## PLATE LV

Fig. 1. Shore of the Atlantic Ocean near the mouth of the Congo along the sandy peninsula which shelters San Antonio from the inroads of the high surf.

"On both sides of the estuary, the wave-swept portions are much alike, varying chiefly in details due to the more or less furious onslaught of the breakers. True dunes are unknown in this part of West Africa, and typical savannah formation reaches out to the very edge of the slope bordering the sea. Along the Angolan coast, dense groves of false Borassus (*Hyphane guineensis* Schumacher and Thonning) greatly enhance the pictorial effect and clusters of *Sansevieria* are not rare among the thorny shrub and fine grass. On the Belgian side, ecological conditions in the vicinity of the ocean are evidently less favorable for *Hyphane* which appear scattered and only near Zambi become more numerous.

"The two levels on the higher part of the steep beach, which sometimes varies in width, mark the limit of the ordinary high tide and that of the equinoxes. All along this shore the encroachment of the sea has been continuous in more recent years. As a result of the constantly shifting conditions, but little drift accumulates and very few of the halophilous plants can secure a foothold, though even here a few shoots of the wild sweet potato (*Ipomœa pes-capræ* Roth) have crept over the edge of the slope.

"Such shores are the favorite haunts of sand crabs (*Ocyroide ippus* and *O. africana*).'" (H. L.)

Fig. 2. Sandy cove along a bay on the left bank of the estuary of the Congo near San Antonio, at low tide.

"Formerly a great mangrove forest (*Rhizophora Mangle* Linnæus) flourished here, as is proved by the presence of many huge stumps and decaying roots. Part of an immense prop-root of the remains of a gigantic tree is seen to the left and in the background still thrives a fine growth. As the mangroves disappear, the swamps are filled in with sand, and clusters of false date palms (*Phoenix reclinata* Jacquin) here testify to the changed conditions and subsequent consolidation of the ground along the shores of the bay. The tussock of a slender reed-grass near the center is a typical feature of the halophilous vegetation frequently found in sheltered places in the estuary of the Congo.

"In the foreground to the left mangrove prop-roots show a peculiar adaptation by dividing more and more as they near the incoherent particles of sand. The ordinary prop-roots, so efficient in mud, could not secure a hold here, so masses of moss-like rootlets have been formed, which, weighted down by the sand washed up by the tide, admirably answer the purpose of anchoring the trees. These rootlets are responsible for the peat-like formation shown on Plate XVI, fig. 2.

"Here and nearby are the haunts of great colonies of crabs such as *Uca tangeri* and *Sesarma (C.) africanum*." (H. L.)





1



2

## PLATE LVI

Fig. 1. Shore on the east side of Banana peninsula opposite the Dutch trading houses, at the incoming tide.

"The rough embankment of loose stones was made long ago to protect part of the sandy beach along the mouth of Banana Creek from inroads of the waves. This rocky, highly brackish environment has attracted a relatively rich fauna of certain mollusks, worms, and crustaceans. Of the latter, some gregarious isopods (*Ligyda exotica* and *L. olfersii*) love to scurry over the rocks; in the interstices *Grapsus grapsus* occasionally seeks refuge and *Geograpsus lividus* and *Pachygrapsus gracilis* are more common; *Goniopsis cruentata* is well represented near the mangroves; *Panopeus africanus*, often associated with a shrimp, occurs in the more frequently inundated portions, and farther seaward *Callinectes latimanus* may be stirred up from the sand. Even *Uca tangeri* has colonies beyond the mangroves, which, on account of the high salinity of the water, are here the only shore vegetation and remain stunted bushes. The cocoanut-palms in the background are a rather recent introduction." (H. L.)

Fig. 2. Shore vegetation along a bay north of San Antonio at low tide, at the point where sand and mud struggle for the upper hand.

"In such sites, as well as in places where strong currents must be resisted, real stockades of prop-roots are formed by the mangroves (*Rhizophora Mangle* Linnæus). Towards the right, a few heavy stilts support the long, spiny blades of bunches of a stunted *Pandanus*. The palms and other trees in the background are *Phoenix reclinata* Jacquin and *Avicennia africana* Palisot de Beauvois respectively; their presence indicates firmer soil. Such sandy places at low tide are the ideal feeding grounds of fiddler crabs (*Uca tangeri*), whose numerous burrows are practically inaccessible to the collector, being tunneled among the mass of stilt-roots." (H. L.)



1



2

## PLATE LVII

Fig. 1. Wild date palms (*Phoenix reclinata* Jacquin) a few miles north of Banana after a grass fire had consumed most of their fronds and scorched the trunks.

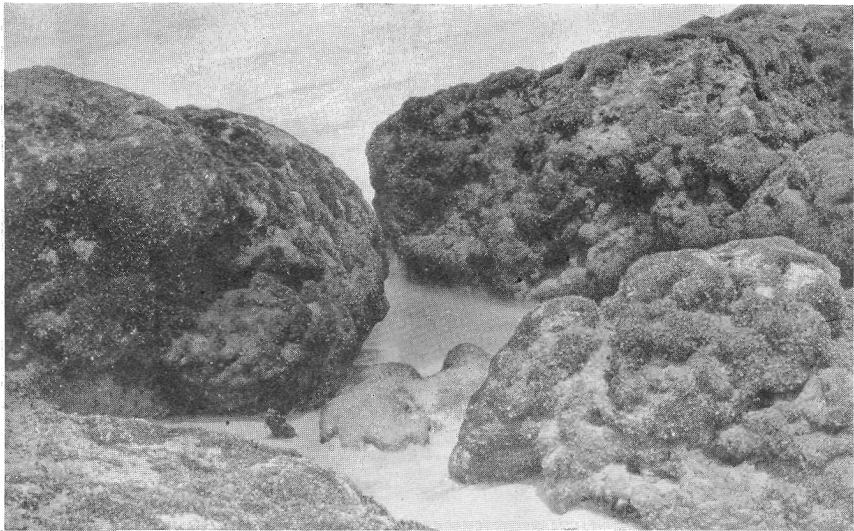
"Bunches of ripe fruits (in August) dangle from the tops of several trees at the right center. Groves of these palms are common across Africa and always indicate ground-water at a slight depth. They are especially numerous on Banana peninsula and in the neighboring savannah. Such sites near the coast are the favored haunts of the great land crabs (*Cardisoma armatum*), whose extensive burrows are established among the roots below the scorching hot surface sand and lead down to the water-level, near which the crabs rest." (H. L.)

Fig. 2. Laterite blocks on the beach of the Atlantic near Moanda at the lowest equinoctial tides.

"At the foot of the cliff, just below the lighthouse, extends a real boulder field, which is remarkably rich in marine animals not found near Banana nor along the sandy beach extending from the mouth of the Congo northward. Tiny mussels cover a great portion of the rocks like cushions of heavy moss. Numerous shells and even a few sea-anemones find a suitable environment on some of these boulders, which at normal times are constantly lashed by the incoming surf. A number of crabs which are extremely difficult to gather, such as *Grapsus grapsus*, seek shelter here beneath the rocks, in their cavities, and about the tide-pools; *Geograpsus lividus* occurs nearer the beach." (H. L.)



1



2

#### PLATE LVIII

Forest of mangroves (*Rhizophora Mangle* Linnæus) bordering a creek near Malela, at high tide.

“Such sites, especially at some distance from the shore, are the homes of *Sesarma* (*H.*) *elegans*, *S.* (*H.*) *büttikoferi*, *S.* (*C.*) *alberti*, *Sarmatium curvatum*, and even *Cardisoma armatum*. The thick outer fringe of foliage generally gives the impression of a continuously dense growth; but the photograph on Plate LIX, the interior view of the same site, shows the open formation in such forests. The rope-like, aërial roots are a characteristic feature and often dangle in masses from branches or trunks from a height of over forty feet. Near the water, or far above, they branch out in the manner of prop-roots, but, not always being anchored, they offer no support to the trees and are swayed back and forth by the wind and currents. Their function is also partly physiological, since they act as supplementary aërating organs (pneumatophores), the numerous rugosities (lenticels) on the surface of the bark providing for an exchange of gases.” (H. L.)