

FIG. 12. — *Polyonyx quadratus* sp. nov.

A, carapace and chelipeds. — B, frontal region in anterior view. — C, outer face of left (major) chela. — D, left third walking leg. — E, propodus and dactyl of same. — F, right third maxilliped. — G, right antennule in ventral view.

Ovigerous female holotype; « Gérard Tréca » Sta. 47;
scale : A, $\times 6.4$; B, D, $\times 7.8$; C, $\times 13.2$; E, $\times 40$; F, $\times 30$; G, $\times 39$.

Diagnosis. — Carapace nearly or more than one and one-fourth times as wide as long, subrectangular, punctate, and bare except on posterolateral walls and on frontal margin. Front vertically deflexed, invisible in dorsal view except for marginal fringe of hairs, trilobate from in front, the median point acute and far exceeding lateral lobes.

Major cheliped with merus rugose, especially proximally; antero-internal lobe long and nearly straight. Carpus about one and one-half times as long as wide; flat inner shelf grossly punctate dorsally and finely scalloped along margin. Chela swollen, hairy on internal and external margins of palm, and with prominent tubercles on outer surface of movable finger and proximad to base of fixed finger, the tubercles extending proximally in two subparallel rows near middle of palm; fingers curved outward, movable one markedly so; largest tooth on cutting edge of movable finger near middle, that on fixed finger much larger and near base; lower edge of palm and fixed finger with a series of outstanding tubercles which increase in size and become blunt teeth distally. Minor cheliped with merus and carpus similar to those of major cheliped but meral lobe more convex and carpal lobe less sinuous and decorated with a few submarginal tubercles. Minor chela similar to major one but with nearly straight fingers and fewer tubercles on palm.

Merus of third walking leg about twice as long as wide. Propodus of similar proportions and armed on lower margin with four stout spines, one on proximal half and three forming a triangle near articulation with dactyl. Dactyl armed with small, stout spine midway between base and bifid tip.

Telson composed of seven pieces. A pair of abdominal appendages in male.

The ovigerous female holotype has the carapace 3.65 mm. long and 4.95 mm. wide. The carapace of the male is 3.7 mm. long and 4.6 mm. wide. The female from Sierra Leone is 3.95 mm. long and 5.05 mm. wide.

Remarks. — The carapace of the male is less convex dorsally and converges slightly anteriorly rather than posteriorly as in the females, and the front is turned down a little less abruptly so that it is just visible in dorsal view. There is a single detached left cheliped with this specimen; it has the fingers straight, as in the minor chela of the female, but the meral lobe is straight and the carpal lobe sinuous, as in the major cheliped of the female.

The species apparently differs from all previously described species of *Polyonyx* in the combination of the following characters: the subrectangular carapace; the prominent and acute median frontal lobe; the shape of the carpus of the major cheliped; the presence of tubercles on the outer surface of the chela; and the relative size and disposition of the spines on the dactyls of the walking legs. It superficially resembles *P. sinensis* STIMPSON from the China Sea, but in that species the front is described as only slightly convex, not sharply trilobate.

Ecology. — *P. quadratus* has been found in depths of 10 to 15 meters. The holotype came from a muddy sand bottom with hydroids. This, the only ovigerous specimen, was taken in the month of March.

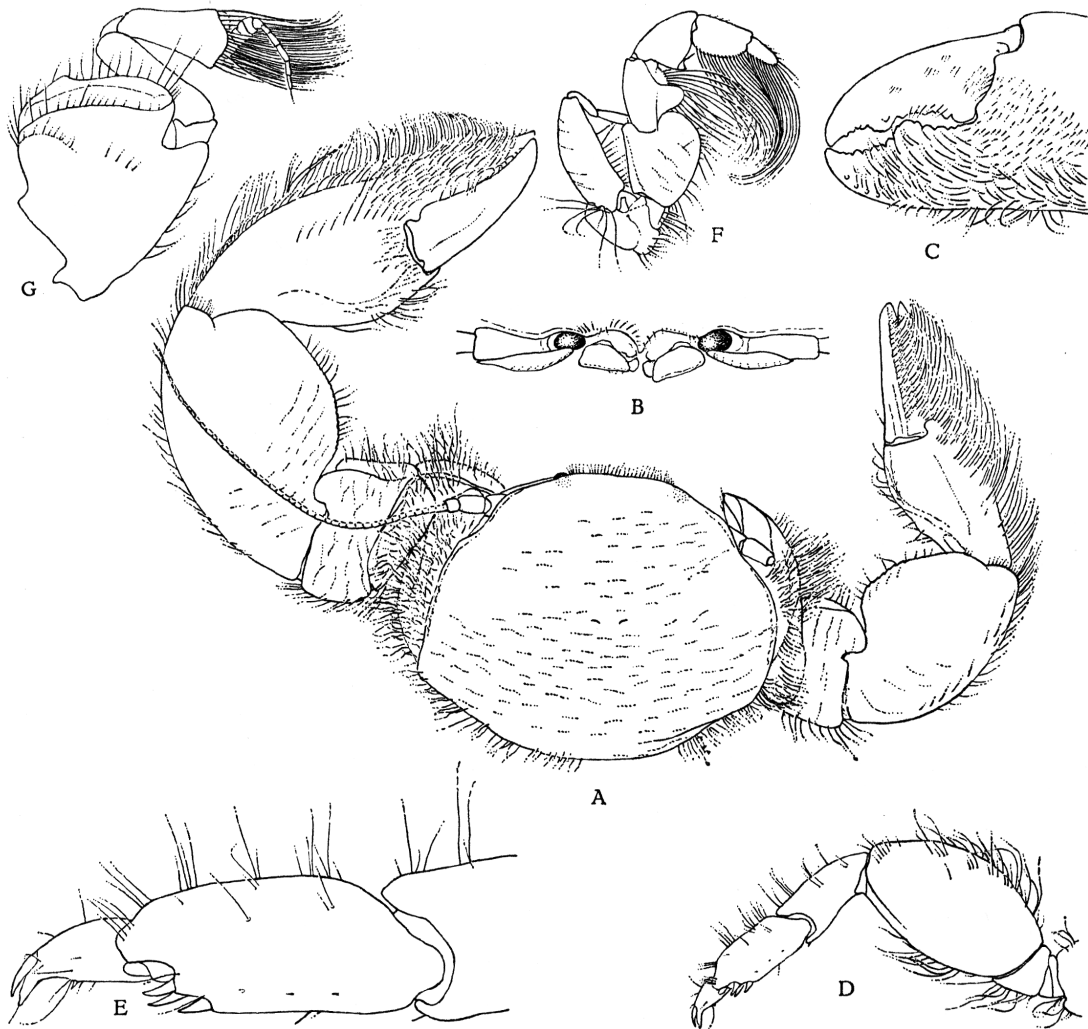
Geographical distribution. — French Guinea and Sierra Leone.

***Polyonyx bouvieri* SAINT-JOSEPH, 1900.**

(Fig. 13, A-G.)

Polyonyx Bouvieri SAINT-JOSEPH, Baron de, 1900, p. 231, pl. 8, figs. 15-18, pl. 9. figs. 19-41. — BALSS, H., 1916, p. 42.

Diagnosis. — Carapace about one-third wider than long, somewhat asymmetrical, dorsally convex, faintly striate posteriorly, and hairy laterally. Front with a fringe of setae, median lobe acute in frontal view and extending well beyond obtuse lateral angles.

FIG. 13. — *Polyonyx bouvieri* SAINT-JOSEPH, 1900.

A, carapace and chelipeds. — B, frontal region in anterior view. — C, outer surfaces of fingers of left (major) chela. — D, left third walking leg. — E, propodus and dactyl of same. — F, right third maxilliped. — G, right antennule in ventral view. Male topotype; Corabane, Senegal; scale : A, $\times 10.8$; B, C, D, F, $\times 13.8$; E, G, $\times 40$.

Merus of chelipeds with entire inner lobe and no ventral armature. Carpus of major cheliped with inner margin convex and nearly entire; outer margin strongly convex. Fingers distinctly more than half as long as palm and not strongly curved outward. Movable finger with a large tooth distad to middle of cutting edge, in addition to a large proximal one. Minor chela densely hairy.

Merus of last walking leg distinctly more than half as wide as long; propodus armed ventrally with three spines near distal end, the last two being placed side by side; dactyl with a single stout spine on ventral margin proximal to terminal pair.

Remarks. — Through the kindness of Dr. J. FOREST of the Muséum National d'Histoire Naturelle at Paris, I was able to examine a topotype of this species identified by Baron DE SAINT-JOSEPH and compared with the type by Dr. J. FOREST. Although this specimen appears to be a cast shell and is therefore somewhat fragile and slightly distorted, it is in good enough condition to indicate the characters by which the species is distinguished from the related one described below.

Ecology. — The type specimens of *P. bouvieri* were found in tubes of the polychaete worm, *Loima medusa* SAVIGNY, living between the body of the worm and the tube.

Geographical distribution. — The type locality of *P. bouvieri* is Corabane [Karabane], one kilometer from the mouth of the Casamance, Senegal. Balss records the species from Gorée, Senegal, and from Kinsembo, Angola, but the identity of these specimens should perhaps be verified in view of the discovery of the following species.

Polyonyx senegalensis sp. nov.

(Fig. 14, A-G.)

Source and material.

Collector	Locality	Date	Depth m	Bottom tem- perature °C	Nature	Material
J. CADENAT	Gorée, Senegal	22.VIII.1950			Lobster trap	1 ♂
F. PARAÏSO	»	5.IX.1950			»	1 ovig. ♀
M. KRITA	»	6.X.1950			»	1 ovig. ♀
J. FOREST	S. Gorée, Senegal	4.III.1953	30	—	—	1 ♂, 2 ♀ (1 ovig.)
I. MARCHE- MARCHAD	Near Banc du Seminole, Baie de Gorée, Senegal	8.XII.1953	38	—	—	1 ovig. ♀
« MERCATOR »	Off Rufisque, Senegal	14.XI.1935	—	—	—	5 ♂, 1 ovig. ♀ (1 ♂ is holotype figured)
J. FOREST « GERARD TRÉCA » St. 56	Between Tamara and Ile de Corail, French Guinea	16.III.1953	10	—	Muddy sand with gorgonians	1 ovig. ♀
J. FOREST « GERARD TRÉCA » St. 41	1 M. SE. Kassa, French Guinea	9.III.1953	15	—	Muddy sand with hydroids and bryozoans	1 ovig. ♀
J. FOREST « GERARD TRÉCA » St. 50	9°22'N-13°27'W (French Guinea)	14.III.1953	10	—	Sand	1 ♀

Types. — The holotype and four of the paratypes are deposited in the Institut royal des Sciences naturelles de Belgique at Brussels. The other paratypes have been distributed among the Institut Français d'Afrique Noire at Dakar, the Muséum National d'Histoire Naturelle at Paris, and the U. S. National Museum at Washington.

Diagnosis. — Carapace from about one and one-fourth to a little more than one and one-third times as wide as long, nearly smooth anteriorly, rugose on posterior half, and bare except near lateral margins and on frontal region, where there are long, plumose hairs. Front broadly obtuse in dorsal view, distinctly trilobate from in front, the median lobe subrectangular.

Major cheliped with merus hairy proximally and laterally, faintly rugose dorsally, and with a prominent rounded lobe at antero-internal angle. Carpus nearly one and two-thirds times as long as wide; flat inner shelf minutely denticulate on proximal half of margin and sparsely fringed with plumose hairs.

Chela swollen, hairy on internal and external margins of palm, and smooth except for faint longitudinal ridges converging proximally from dorsal and lateral articulations of movable finger; fingers curved outward, movable one

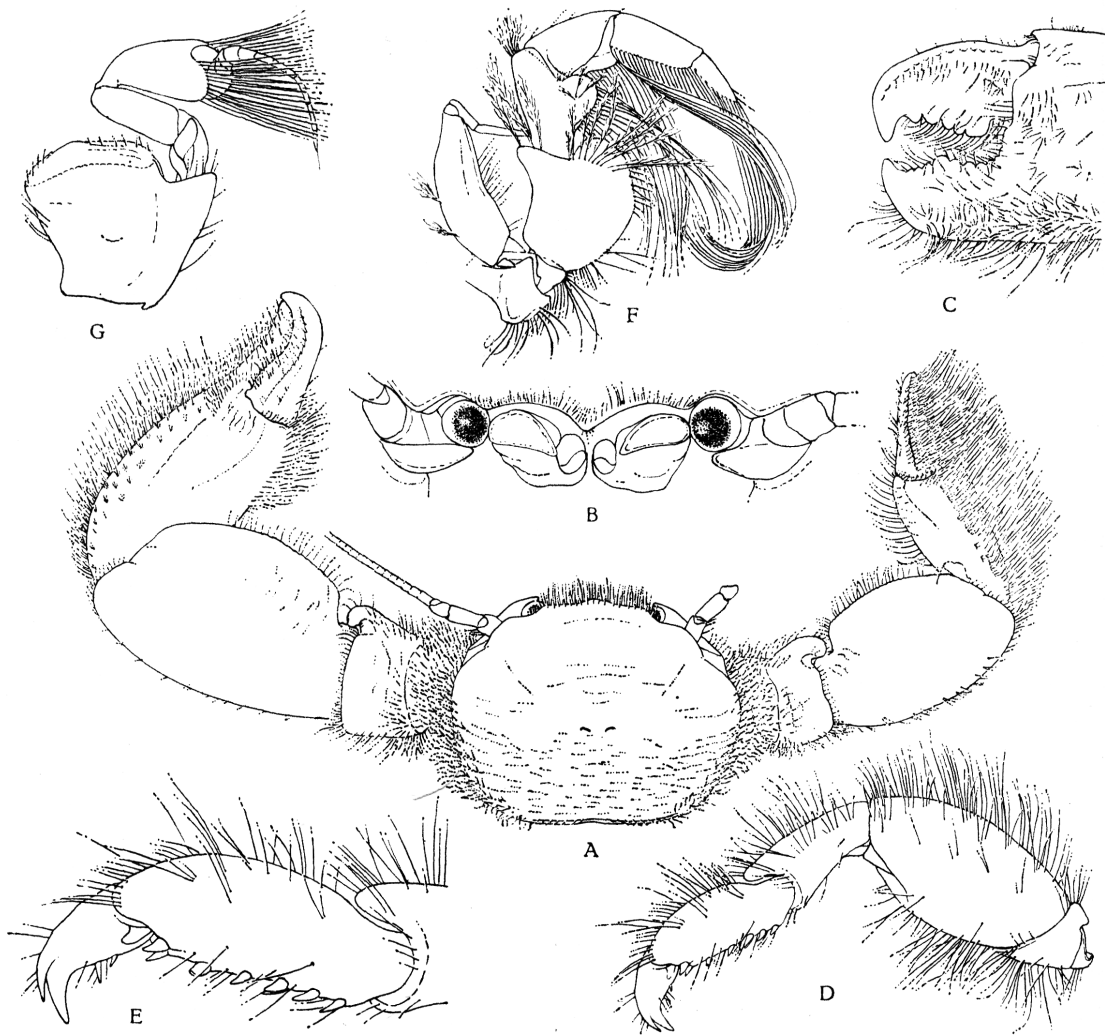


FIG. 14. — *Polyonyx senegalensis* sp. nov.

A, carapace and chelipeds. — B, frontal region in anterior view. — C, outer surfaces of fingers of left (major) chela. — D, left third walking leg. — E, propodus and dactyl of same. — F, right third maxilliped. — G, right antennule in ventral view.

Male holotype; off Rufisque, Senegal;

scale: A, $\times 11,1$; B, $\times 22,2$; C, $\times 14,4$; D, F, $\times 21,6$; E, $\times 43$; G, $\times 40$.

markedly so; largest tooth on cutting edge of movable finger near base, that on fixed finger in middle; lower edge of fixed finger distinctly denticulate. Minor cheliped with merus and carpus similar to those of major cheliped. Surface of minor hand, especially outer portion, concealed by dense growth of setae. Outer margin faintly denticulate, as also cutting edges of fingers.

Merus of third walking leg about twice as long as wide. Propodus armed on lower margin with four to nine stout spines, one or more of them paired. Dactyl armed with two slender spines on lower margin proximal to bifid tip.

Telson composed of seven pieces. A pair of abdominal appendages in male.

The male holotype has the carapace 2.8 mm. long and 3.5 mm. wide. The carapaces of the male paratypes range from 2.2 to 3.0 mm. long and from 2.7 to 4.0 mm. wide. The females are from 2.5 to 4.0 mm. long and from 3.1 to 5.6 mm. wide; the smallest ovigerous female, which has but two eggs, is 2.5 mm. long and 3.2 mm wide; the largest is 4.0 mm. long and 5.6 mm. wide.

Remarks. — Of the sixteen specimens examined, all but two males and two females have the major cheliped on the left side.

This species so closely resembles *P. bouvieri* that the specimens were at first thought to belong to that species, but comparison with one of the original series of *P. bouvieri*, mentioned above, disclosed significant differences. *P. senegalensis* has the orbits better defined, the median frontal lobe less prominent and less acute in frontal view, the movable finger of the major chela turned outward much more noticeably and differently armed along its cutting edge, the meri of the walking legs much more slender, and the propodi and dactyls of those legs armed with more spines. Except for these differences, *P. senegalensis* seems to be more closely allied to *P. bouvieri* than to any other known species of the genus in the following combination of characters: proportions of the carapace, form of the median frontal lobe, the convex and nearly entire inner margins of the merus and carpus of the chelipeds, the general form of the chelae, and the comparative sizes of the terminal spines on the dactyls of the walking legs.

Ecology. — *P. senegalensis* has been found in depths of 10 to 38 meters on bottoms of sand and muddy sand with hydroids, gorgonians, and bryozoans. Since this study was completed, Dr. TH. MONOD has sent me six additional specimens of *P. senegalensis* which were found by I. MARCHE-MARCHAD in the tube of a polychaete worm; fragments of this worm and its tube have been very kindly identified for me by Dr. P. FAUVEL as *Chaetopterus variopedatus* (Renier). Ovigerous specimens occurred in every month in which females were taken: March, September, October, November, and December.

Geographical distribution. — The species is known thus far only from Senegal and French Guinea.

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