It was Forest (1974) who first pointed out that the West African form is distinct from the Mediterranean and NE Atlantic *D. personata*, and Forest proposed the name *Dromia marmorea* for it, at the same time providing an excellent, well-illustrated description.

BIOLOGY.—This species has been reported from depths between 0 and 96 m, with one doubtful record from 100 m, but more than 90% of the records are from depths of less than 42 m, and about 60% are from 20 m or less. Irvine (1947: 302) remarked that the species "lives in deep water and is sometimes caught in bottom-nets a mile or more from land." It has been reported from the following types of bottom: mud (Crosnier, 1967); very fine sand (Buchanan, 1958); sand and shells (Forest, 1974); muddy sand (Longhurst, 1958); rocks (Sourie, 1954a; Monod, 1956; Forest, 1974). Monod (1956) reported a juvenile specimen from the hull of a ship. Sourie (1954a) classed this species as characteristic of the "hypobioses lapidicoles du sous-étage," while Buchanan considered it to belong to the active epifauna of the inshore fine sand community off Ghana.

Osorio (1889) is the only author to report that this species carries a sponge. Sourie (1954a:247) stated that it mostly bears didemnid or polycitorid ascidians. Two specimens from Bel-Air, Dakar, in the collection of the Smithsonian Institution (USNM 152646) have balanids all over the central and anterior part of the carapace; if these specimens carried a sponge or ascidian it must have covered a small area on the posterior part of the body.

Ovigerous females have been taken in September, November, and December (Monod, 1956; Forest, 1974).

DISTRIBUTION.—*Dromia marmorea* is a West African species, reported from the Azores, Madeira, and the Canary Islands south to Cabinda, and São Tomé and Principe islands in the Gulf of Guinea. Monod (1956:62) reported two males and a female from "Cap Blanc, M. H. Routh coll., 1951 (B.M.)"; an examination of this lot in the British Museum revealed that Monod's locality indication was erroneous, for the specimens actually originate from Gambia (see "Other Material" p. 11). The records of the species in the literature are as follows:

Azores: Ilha do Muda [?], off Ilha das Flores, 22–30 m; Caldeira Inferno, Ilha do Faial, 10 m; Ponta São Diego [?], Ilha Terceira, 0–30 m; Ponta Delgada, 15–20 m, Caloura, 3 m, and Ponta da Galera, 10–12 m, Ilha de São Miguel (all Forest, 1974).

Madeira: No specific locality (Gordon, 1950; Forest, 1974; Türkay, 1976b). Funchal harbor (Türkay, 1976b).

Canary Islands: Santa Cruz de La Palma, Isla de La Palma, 15 m; Playa de los Abrigos, Las Caletillas, 100 m (?), Puerto de la Cruz, intertidal, and Ensenada de Cristianos, intertidal, Isla de Tenerife; Playa Quemada, 2–3 m, and Arrecife, Isla de Lanzarote (all Forest, 1974).

Cape Verde Islands: Porto da Praia (as La Praya), São Tiago, 10–30 m (A. Milne Edwards and Bouvier, 1900; Forest, 1974); Porto da Praia, São Tiago (as Porto Praia (I. Santiago)), the type-locality (Forest, 1974).

Mauritania: No specific locality (Monod, 1956; Forest, 1974).

Senegal: No specific locality, in 80 m (A. Milne Edwards and Bouvier, 1900; Forest, 1974). Dakar (Monod, 1956; Forest, 1974). Gorée Island, near Dakar, beach, 2–3 m and 96 m; S of Gorée, 33–35 m and 40 m (Monod, 1956; Forest, 1974). Bel-Air, near Dakar, 5–10 m (Forest, 1974). Anse Bernard, Dakar; Gorée, 23 m; Mbour, 25 m; Joal (Monod, 1956).

Gambia: Erroneously cited as Cap Blanc, Mauritania (Monod, 1956).

Guinea-Bissau: 10°22′N, 16°22′W, 41 m (Forest, 1974).

Guinea: 09°22′N, 13°42′W, 20–35 m; Guinea, 15–20 m; 09°N, 13°50′W, 30 m (Monod, 1956). 09°20′N, 14°15′W, 32 m (Forest, 1974).

Sierra Leone: Off Freetown, 15 m (Forest, 1974).

Ghana: Gold Coast (Irvine, 1932); same, 23–45 m (Longhurst, 1958). Near Accra, in deep water (Irvine, 1947); same (Monod, 1956); same, in 5.5–14.6 m (Buchanan, 1958); same, in shallow water to 25 m (Gauld, 1960); same (Forest, 1974). Chorkor, near Accra, beach seine (Monod, 1956).

Principe: No specific locality (Osorio, 1889, 1898).

São Tomé: Praia Lagarto (Osorio, 1889, 1898).

Gabon: Cap Lopez, 20 m (Crosnier, 1967; Forest, 1974).

Congo: Baie de Pointe-Noire, beach seine (Rossignol, 1962; Crosnier, 1967; Forest, 1974). Off Pointe-Noire, 50 m (Crosnier, 1967; Forest, 1974).

According to Forest (1974) the present species also occurs in Saint Helena, and he assigned material from there identified as *Dromia vulgaris* by Melliss (1875) and Cunningham (1910), as well as that reported upon as *Dromia* species? by

Colman (1946) and as *Dromia erythropus* by Chace (1966), to the present species. The records by Rathbun (1900a) and Balss (1921) of *Dromia vulgaris* from St. Helena are not original, but based on Melliss' (1875) record. We have examined Chace's (1966) St. Helena material and found it impossible to confidently assign it to the present species, although it indeed is very similar, but so is it similar to *Dromia erythropus* and *D. personata*. Therefore, we have not included St. Helena in the range of *D. marmorea*. It seems possible that the St. Helena *Dromia* belongs to a species distinct from either *D. marmorea* and *D. erythropus*, but more material is needed to decide the status of that form; it also is possible, although less likely, that more than one species of *Dromia* occurs in St. Helena waters.

**Dromia monodi* Forest and Guinot, 1966

FIGURE 3*a*, *b*

Dromia spinirostris Osorio, 1889:136, 139; 1898:193—Balss, 1921:47—Capart, 1951:23 [part, only specimens from A.S. 141 and *Mercator*]. [Not *Dromia spinirostris* Miers, 1881 = *Sternodromia spinirostris*.]

Dromia atlantica.—Rathbun, 1921:393, fig. 1, pl. 18: fig. 3 [not *Dromia atlantica* Doflein, 1904 = *Sternodromia spinirostris* (Miers, 1881).]

Dromia nodosa.—Monod, 1956:65 [part], figs, 52–71, 83b.—Longhurst, 1958:87.—Gauld, 1960:68. [Not *Dromia nodosa* A. Milne Edwards and Bouvier, 1898.]

Dromia monodi Forest and Guinot, 1966:43, fig. 1.—Crosnier, 1967:321 [part, only the male specimens].—Le Loeuff and Intès, 1968:38, tables 1,5,9.—Forest, 1974:96, figs. 1e, 2, 3f,g, 5, 7a,b, pl. 4: figs. 1–3, pl. 6: fig. 2.

Dromia sp.—Forest and Guinot, 1966:46.—Forest, 1974:99.

?Dromia.—Maurin, 1968b, fig. 4.

?Dromia nodosa.—Maurin, 1968b:484, 489.

Not *Dromia nodosa*.—Rossignol, 1962:113 [= *Sternodromia spinirostris* (Miers, 1881)].

MATERIAL EXAMINED.—*Pillsbury Material*: Ghana: Sta 26, 27 m, shell bottom (scallops), 1♀ ov (L).

Nigeria: Sta 248, 33 m, 5♂, 5♀ (2 ov) (L, W). Sta 250, 24 m, brackish water, 1♀ (L).

Other Material: Senegal: Dakar, 10 m, Dec 1951, E. Postel, 1♂ (MP). Bel-Air, near Dakar, 1.5–10 m, lobster net, I. Marche-Marchad, 1♂ (MP).

Ivory Coast: Off San-Pedro, 20 m, 23 May 1958, Mission Casamance, I. Marche-Marchad, 1♂ (MP).

Cameroon: Kribi, beach seine, 10 Aug 1964, B. de Wilde-Duyfjes, 2♂ (L).

Cabinda: Off Cabinda, 25 m, Dec 1962, A. Crosnier, 1♂, 1♀ (MP).

DESCRIPTION.—Forest and Guinot, 1966:43; Forest, 1974:96.

Figures: Monod, 1956, figs. 52–71, 83b; Forest and Guinot, 1966, fig. 1; Forest, 1974, figs. 1e, 2, 3f,g, 5, 7a,b, pl. 4: figs. 1–3, pl. 6: fig. 2.

Male Pleopod: Monod, 1956, figs. 70, 71 (Ghana).

MEASUREMENTS.—The males in our material have carapace lengths varying between 14 and 43 mm, the females between 14 and 47 mm. The three ovigerous females have carapace lengths of 14, 18, and 47 mm, respectively.

REMARKS.—As reported by most authors, the species strongly resembles *Sternodromia spinirostris*. It is distinctly more elongated than *Dromia marmorea*, *D. personata*, or *D. erythropus*. In juveniles the carapace is as long as wide or may even be slightly longer. In adults the carapace width exceeds the length only slightly: in specimens more than 40 mm long the carapace width/carapace length ratio is 1.05–1.13 in males and 1.06–1.16 in females. For the differences between the present species and *Sternodromia spinirostris* see p. 19.

Forest and Guinot (1966:46) and Forest (1974:99) described under the name *Dromia* sp. two small specimens (one of which was sexually mature), which resemble greatly *Dromia monodi*, but differ in (1) the small size, (2) the sharper teeth on the carpus of the chelipeds, and (3) the presence, in the mature female cl 9.9 mm, of "une forte protubérance transverse faiblement excavée au milieu" (Forest, 1974:47) at the end of the sternal grooves. They considered these specimens as possibly representing a new species, because the smallest adult *D. monodi* known to them was so much larger than their small adult (ovigerous) female. Actually the smallest ovigerous female of *D. monodi* so far reported in the literature is one with cl 31 mm from Gorée (Monod, 1956). Our material from *Pillsbury* Sta 248, however, contains

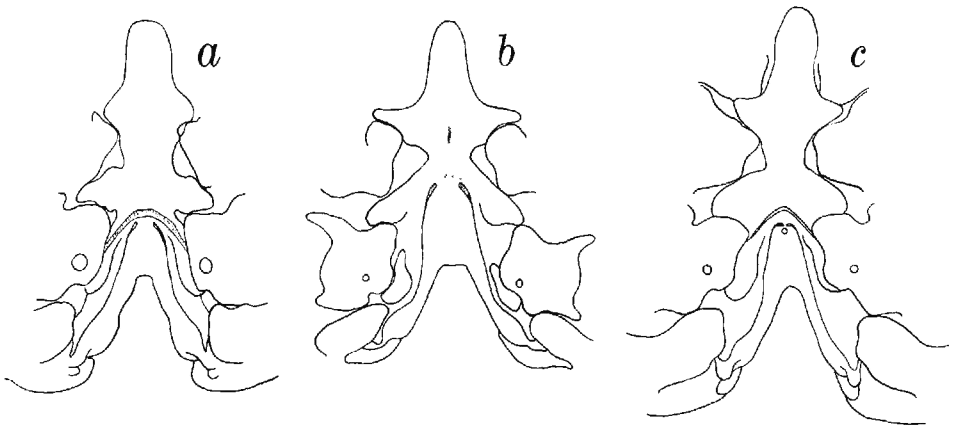

FIGURE 3—Sternal grooves of females of various sizes. *Dromia monodi* Forest and Guinot, *Pillsbury* Sta 248: *a*, cb 14 mm, *b*, cb 38 mm. *Sternodromia spinirostris* (Miers), *Pillsbury* Sta 47: *c*, cb 21 mm.

two ovigerous females, cl 14 and 18 mm, bridging nicely the existing gap. The smallest of these specimens has the sternal grooves rather straight and wide apart distally and each ends at the base of a tubercle; these tubercles are connected by a low wide ridge. The structure of the two tubercles and the ridge could very well be described as a strong transverse swelling, excavated in the middle. The specimen of 18 mm shows about the same situation, only the tubercles are less distinct and the ridge is absent, the surface between the tubercles being flush with the rest of the surface. In the ovigerous female of cl 47 mm the situation resembles that in the specimen of 18 mm, but here the tubercles are even less distinct as shown for a specimen 38 mm long in Figure 3*b*. We have not been able to find any consistent difference in the sharpness of the tubercles of the carpus of the cheliped in large and small, ovigerous and non-ovigerous specimens, and believe that this character, to which Forest and Guinot themselves attached very little importance, indeed is of no taxonomic value here. We have come to the conclusion therefore that the specimens indicated by Forest and Guinot as *Dromia* sp. can safely be considered to belong to *D. monodi*. Forest (1974: 100) considered it most likely that the specimens are precocious *D. monodi*, but did not exclude the possibility that they are a new species.

An interesting feature of this species is the arrangement of the sternal grooves in the female. As already stated above, in the ovigerous females, whether large or small, these grooves end wide apart, each at the base of a low rounded tubercle, which in the small specimens is somewhat more distinct than in the large. From the genital opening the groove extends straight backward, parallel and rather close to the lateral margins of the thoracic sternum; the anterior ends of these grooves are definitely not turned inward. In the non-ovigerous females, again whether small or large, the tips of the grooves are distinctly curved inward towards each other, and no tubercles are visible; in these specimens the tubercle is replaced by a depression (Figure 3*a*, ♀ cb 14 mm; 3*b*, ♀ cb 38 mm). An excellent figure of the latter situation also is given by Rathbun (1921:393, fig. 1e).

Forest and Guinot (1966) showed that the *Dromia* species from West Africa indicated by Monod (1956) as *Dromia nodosa* is specifically distinct from the type-specimen of the true *Dromia nodosa* A. Milne Edwards and Bouvier, 1898, and gave it the new name *Dromia monodi*. The source of the confusion was given by Forest and Guinot (1966:45) as "l'inexactitude du dessin ensemble (A. Milne Edwards et Bouvier, pl. IX; fig. 14)," evidently meaning figure 12, not 14; also Forest (1974:97) mentioned "le peu de fidélité du dessin publié par A. Milne Edwards et Bouvier (1900; pl. 9, fig. 12)." Examination of the text and

figures published by A. Milne Edwards and Bouvier shows, however, that figure 12 is not inexact, but has only been given the wrong name. Comparing Forest and Guinot's figure 2a of the type of *Dromia nodosa* with A. Milne Edwards and Bouvier's (1900, pl. 9: fig. 15) of "*Dromia vulgaris*," it is clear that these two are made after the same specimen. What has happened, therefore, obviously is that A. Milne Edwards and Bouvier (1900) on their plate 9 gave as figures 12 to 14 the entire animal and details of what in the text they called "*Dromia vulgaris*," and on figure 15 the type of *Dromia nodosa* in dorsal view, but that in the explanation of these figures (1900:369 and pl. 9) they switched the names, and also in the text referred to the wrong figures. This is confirmed in the explanation (1900:369) of plate 9: figure 15 ("*Dromia vulgaris*"), which is said to be of "un des petits exemplaires des îles du Cap-Vert," which evidently refers to *Dromia nodosa* of which the authors had 5 specimens from the Cape Verde Islands, while in their material "*Dromia vulgaris*" was represented by only a single Cape Verde Islands specimen. A Milne Edwards and Bouvier's (1900, pl. 9: figs. 12–14) illustrations are actually made after a specimen they named *Dromia vulgaris*, probably the large male from Senegal, which was shown by Forest (1974:79) to belong to *Dromia marmorea*. It is not surprising therefore that Monod (1956) arrived at the wrong conclusion about the identity of *Dromia nodosa*, especially since A. Milne Edwards and Bouvier's (1900) figure 12 shows the second and third anterolateral tooth of the carapace quite close together as in *Dromia monodi*.

As Forest and Guinot (1966:46) indicate, it is more likely that Osorio's (1889:136, 139) *Dromia spinirostris* from São Tomé and Principe islands belongs to *Dromia monodi* rather than to *Sternodromia spinirostris*, because the latter species usually is found at greater depths than the 4 or 5 m from which Osorio reported his male. Monod (1956) referred the specimens listed by Balss (1921) under *Dromia spinirostris* to the present species, evidently because Balss did not find a median tubercle between the ends of the sternal grooves of his female. As Balss' specimens were collected at depths of 10 and 20 m, it seems highly likely that Monod's surmise is correct, even though the character of the sternal tubercle does not always hold good. Monod (1956) also referred the material that Odhner (1923) identified as *Dromia spinirostris* to the present species, but there are reasons to believe that Odhner's identification was correct (see p. 19).

Rathbun's (1921) description and illustrations of what she thought to be *Dromia atlantica* Doflein leave no doubt that her material was actually *D. monodi*; already Monod (1956) pointed this out.

Monod (1956) very extensively figured the present species and identified it with *Dromia nodosa* A. Milne Edwards and Bouvier, being followed in this by Longhurst (1958), Gauld (1960), Rossignol (1962), and possibly Maurin (1968b). Forest and Guinot (1966) pointed out that the present species is different from the true *Dromia nodosa*, and proposed the new name *Dromia monodi* for it, which name has been adopted by subsequent authors.

Some of the specimens, mostly juveniles, that Monod (1956) identified as *Dromia nodosa* proved on examination to belong to neither that species nor to *D. monodi*. Forest (1974:79) found that the specimens indicated by Monod with the numbers 1–2 (Mauritania), 5, 7, 12(1), 15, 16(4) (all from Gorée), actually belong to *Dromia marmorea*. Examination of the specimen from Murray Town, Sierra Leone (Monod, 1956:69, no. 52), proved that it belongs to *Sternodromia spinirostris*.

Crosnier (1967:321) assigned two males and two females to the present species. The females are both juvenile, one is from Dahomey, the other from "Pte Ste Clara" (= Cap Santa Clara), Gabon. The Gabon female had been reported on before by Rossignol (1962) under the name *Dromia nodosa*. The two females are now in the collection of the Museum national d'Histoire naturelle, Paris, and were examined by us. Although juveniles of *Dromia monodi* and *Sternodromia spinirostris* are usually difficult to distinguish, we believe that both specimens should be assigned to *Sternodromia spinirostris* rather than to *Dromia mon-*

odi. Forest (1974:101) also assigned the Dahomey specimen to *Sternodromia spinirostris*, but did not mention the Cap Santa Clara specimen. The two male specimens listed by Crosnier (1967), from Cap Lopez (Gabon) and Cabinda, are true *Dromia monodi* (Forest, 1974:96, and p. 15).

Maurin (1968b:484, 489) reported *Dromia nodosa* from 200 m depth, dredged between Cabo Corbeiro and Cabo Blanco (= Cap Blanc), Spanish Sahara, and also from 60 and 70 m depth on the Banc d'Arguin, Mauritania. The species is not noted in Maurin's (1968a) more extensive treatise of the same area. As no morphological data are provided of the material, it is impossible to conclude whether the true *Dromia nodosa* or *D. monodi* is the species obtained by Maurin; the depth indications would indicate the former.

Pechüel-Loesche (1882) reported a specimen of *Dromia* from the "Banya" (= Crique Banjia, 00° 14'N, 09°40'E), Gabon. As insufficient morphological details are provided by Pechüel-Loesche, the identity of the species is uncertain, the description of its habits make it more likely that not *Dromia* but *Phyllodorippe* was meant (see p. 35).

BIOLOGY.—As Forest and Guinot (1966) pointed out, this species occurs mostly between 0 and 25 m depth. This is fully confirmed by the records below, all but one (60 m) of which are from less than 45 m and about 80% from 25 m or less.

As to the bottom on which the species lives, this is given variously as green and black mud (Capart, 1951; Forest, 1974), "sable" (Osorio, 1889), "sable vaseuse" (Le Loeuff and Intès, 1968), "between sponges that surrounded *Pinna*" (Rathbun, 1921), sand, shelly sand and shelly mud (Longhurst, 1958), "roche, coraux" and "vase, coquilles" (Forest and Guinot, 1966), "fonds à *Palythoa* et *Molgula*, sable," "sable dur" (Monod, 1956). Specimens have been reported as collected with beach seines on sandy beaches (Monod, 1956; and p. 15).

Like other species of *Dromia* the present species has been noted to carry sponges (Monod, 1956) and composite ascidians (Monod, 1956). Osorio (1889:136) reported on a specimen that carried a piece of decaying wood, by which it was entirely covered, but "il ne marchait pas tout à son aise"; it is possible that the collector mistook a sponge or ascidians for a piece of decaying wood.

Ovigerous females have been collected in February, March, May, July, and October (Monod, 1956; *Pillsbury*).

DISTRIBUTION.—*Dromia monodi* has been reported from the west coast of Africa between Mauritania and Angola. The records from between Cabo Corbeiro and Cabo Blanco, Spanish Sahara, 200 m and Banc d'Arguin, Mauritania, 60–70 m (both Maurin, 1968b) and Crique Banjia, Gabon, on the shore (Pechüel-Loesche, 1882), discussed above, are excluded. Other records include the following:

Mauritania: No specific locality (Forest, 1974).

Senegal: Near Dakar, 15–20 m (type-locality) (Monod, 1956; Forest and Guinot, 1966; Forest, 1974). SE of Île de la Madeleine, near Dakar, 35 m; near Dakar, 10 m and 34 m; Joal; Lagoba [?], 10–11 m (Monod, 1956; Forest, 1974). Bel-Air, near Dakar, 5–10 m (Forest, 1974). Near Gorée, in 20 m (Balss, 1921); same, in 15–20 m (Monod, 1956). Anse Bernard, near Dakar, 13–15 m; between Gorée and Rufisque, 25 m; E of Bel-Air, 14 m; Ngazobil, 4 m; Joal, 4 m, 10–11 m and 15 m (Monod, 1956).

Guinea: 09°25'N, 13°55'W, 15 m; 09°16'N, 13°34'W, 10 m; between Tamara and Île de Corail, 10–12 m (all Monod, 1956). Near Conakry, 20 m (Monod, 1956). 09°51'N, 15°30'W (Capart, 1951; Forest, 1974).

Sierra Leone: No specific locality, 10–22 m (Longhurst, 1958). 08°38'–08°42'N, 8–12 m; Murray Town; Freetown (Monod, 1956). Off Freetown, 15 m (Forest, 1974).

Ivory Coast: Grand-Bassam, 30 m, 60 m (Le Loeuff and Intès, 1968). Off San-Pedro, 20 m (Forest, 1974).

Ghana: Near Accra, in 14, 35, 37, and 44 m (Monod, 1956); same, in 0–45 m (Gauld, 1960). Chorkor, near Accra; Christiansborg; Ningo [?] (all Monod, 1956).

Togo: No specific locality (Monod, 1956); Lomé (Monod, 1956).

Cameroon: Douala (Balss, 1921).

Principe: No specific locality (Osorio, 1889, 1898).

São Tomé: No specific locality (Balss, 1921). Praia de Santa Catarina, 00°16'N, 06°29'E, 3–10 m (Forest and Guinot, 1966). São João dos Angolares, 4–5 m (Osorio, 1889, 1898).

Gabon: No specific locality (Monod, 1956). Cap Lopez, 20 m (Crosnier, 1967; Forest, 1974). Near Cap Lopez, 00°53'S, 08°40'E, in 33–55 m (Capart, 1951; Forest, 1974).

Cabinda: No specific locality, in 25 m (Crosnier, 1967; Forest, 1974).

Angola: Ambrizete (as Ambrizette), 10 m; Quicembo (as Kinsembo) (Balss, 1921). Luanda (as São Paulo de Loanda), a few feet deep (Rathbun, 1921).

Dromia nodosa A. Milne Edwards and Bouvier, 1898

Dromia nodosa.—Monod, 1956:65 [part].—Forest, 1974:94, figs. 2, 3e, 5, 7e,f, pl. 2: figs. 3, 4, pl. 5: fig. 6 [references].

REMARKS.—There is a male syntype of this species (USNM 22937), carapace length 7.2 mm, taken by the *Talisman* in the Cape Verde Islands in 75 m, 29 July 1883, in the collection of the Smithsonian Institution. Forest (1974:95) noted that only three of the original five specimens could then be located.

DISTRIBUTION.—Cape Verde Islands, in 75 m, and off the Atlantic coast of Morocco.

Genus *Sternodromia* Forest, 1974

Sternodromia Forest, 1974:100 [type-species: *Dromia spinirostris* Miers, 1881, by original designation and monotypy; gender: feminine].

* *Sternodromia spinirostris* (Miers, 1881)

FIGURE 3*c*

Dromia spinirostris Miers, 1881a:271, pl. 16: fig. 2.—Rathbun, 1900a:300.—Odhner, 1923:15.—Capart, 1951:23 [part, not the specimens from A.S. 141 and *Mercator*], figs. 2, 3b.—Rossignol, 1957:75.

Dromia fulvo-hispida Miers, 1881a:270, pl. 16: fig. 1.

Dromia fulvohispida.—Rathbun, 1900a:300—Balss, 1921:47.

Dromia atlantica Doflein, 1904:10, 189, 252, 253, pl. 7: figs. 3, 4.

Dromidiopsis spinirostris.—Monod, 1956:72, figs. 72–82, 83c.—Longhurst, 1958:87.—Rossignol, 1962:113.—Forest and Guinot, 1966:47.—Crosnier, 1967:322.—Le Loeuff and Intès, 1968:38, 65, 67, 68, 71, fig. 62, tables 1, 6, 7, 8, 9; 1969:64, 65.—Maurin, 1968a:48.—Maurin, 1968b:484, 489, 491, fig. 7.—Türkay, 1975a:71[listed], 72.—Pastore, 1976:114, fig. 1 [Mediterranean].—Lewinsohn, 1977:7 [discussion].

Dromia nodosa.—Monod, 1956:69 [part, specimen from Murray Town].—Rossignol, 1962:113. [Not *Dromia nodosa* A. Milne Edwards and Bouvier, 1898.]

Dromia.—Voss, 1966:22.

Dromia monodi.—Crosnier, 1967:321 [part, the two female specimens].

Dromidiopsis.—Maurin, 1968b, figs. 4, 9.

Dromidopsis spinifrons.—Maurin, 1968b:486 [erroneous spelling].

Sternodromia spinostris.—Forest, 1974:100, figs, 1f, 2, 3h, 5, 6c,d, 7g–i, pl. 4: figs. 4,5, pl. 6: fig. 3, pl. 7: figs. 2, 4 [erroneous spelling].

Not *Dromia spinirostris.*—Osorio, 1889:136, 139; 1898:193.—Balss, 1921:47. [= *Dromia monodi* Forest and Guinot, 1966.]

Not *Dromia atlantica.*—Rathbun, 1921:393, fig. 1, pl. 18: fig. 3 [= *Dromia monodi* Forest and Guinot, 1966].

MATERIAL EXAMINED.—*Pillsbury Material:* Liberia: Sta 68, 70 m, broken shell, 2 juv (L).

Ivory Coast: Sta 46, 38–42 m, mud bottom with dense *Jullienella*, 6♂, 3♀, 5 juv (L). Sta 47, 37 m, bottom with *Jullienella*, 1♀, 9 juv (W). Sta 62, 46 m, brown, branching and foliate Foraminifera, 1 juv (W). Sta 63, 64 m, sandy mud with shells, 1♂, 1♀ (L).

Ghana: Sta 22, 51 m, rough bottom, 1♂, 1 juv (L). Sta 24, 35–37 m, dark red bryozoans, 2♂, 1♀ (W). Sta 28, 49–53 m, 1♀ (L).

Other Material: Senegal: Gorée Bay, 9–15 fm (16–27 m), H. von Maltzan, syntypes of *Dromia spinirostris* Miers, 1♂, 1♀ (BM); holotype of *Dromia fulvohispida* Miers, 1♀ (BM).

Sierra Leone: Murray Town, 1920, N. P. Lowe, 1♂ (BM).

Ivory Coast: 05°12′30″N, 04°04′W, 40 m, trawl, 9 Oct 1963, Guinean Trawling Survey, Sta 3, 1♂ (MP).

Dahomey: Off Grand-Popo, 30 m, Petersen grab, 23 Feb 1964, Guinean Trawling Survey, Tr 34, Sta 2, 1 juv (L). 06°04′N, 01°38′30″E, 48 m, mud, 17 Oct 1963, 1♂ (MP). 06°10′N, 02°02′E, 45 m, sandy mud with Foraminifera, A. Crosnier, 1♀ juv (MP).

Cameroon: 03°54′N, 08°50′E, 65–70 m, mud, 25 Aug 1963, A. Crosnier, 1♂, 1♀ (MP).

Gabon: Cap Santa Clara, 20–40 m, 2 Jul 1960, trawled, *Ombango* Expedition, M. Rossignol, 1♀ juv (MP).

Congo: 04°23′S, 11°07′E, 88 m, mud, trawled, 26 Jan 1968, A. Crosnier, 1♂ (MP). 05°S, 11°36′E, 50 m, trawled, 13 Dec 1966, A. Crosnier, 1♂, 4♀ (1 ov, 2 impregnated) (MP). Off Pointe-Noire, 100 m, mud, 13 Feb 1967, A. Crosnier, 1♂, 1♀ (MP).

Angola: Ambriz, 70 m, Jul 1961, A. Crosnier, 1♂ (MP).

DESCRIPTION.—Forest, 1974:101.

Figures: Capart, 1951, figs. 2, 3b; Monod, 1956, figs. 72–82, 83c; Forest, 1974, figs. 1f, 2, 3h, 5, 6c,d, 7g–i, pl. 4: figs. 4,5, pl. 6: fig. 3, pl. 7: figs. 2, 4.

MEASUREMENTS.—The examined specimens have carapace lengths ranging from 5 to 64 mm. The largest male has a carapace length of 64 mm

and a carapace width of 72 mm; in the largest female these values are 58 mm and 68 mm, respectively. Ovigerous (and impregnated) females have cl 48 to 58 mm and cb 55 to 58 mm. In juveniles the carapace width is slightly less (0.9 times) than the carapace length, and the larger specimens become relatively wider. Even in the largest specimen however, the ratio between carapace width and carapace length does not go beyond 1.19, the females as a rule being on the average somewhat wider than the males. Our finds agree with those by Crosnier (1967) who found that this species is slightly wider on the average than *Dromia monodi*, although the difference is slight.

REMARKS.—The present species greatly resembles *Dromia monodi*. Differences between adult specimens of the two species, some of which have already been pointed out by previous authors (Monod, 1956; Forest and Guinot, 1966; Crosnier, 1967; Forest, 1974) are the following:

1. The pubescence in *Sternodromia spinirostris* consists of a very dense cover of short hairs of equal length giving the animal a smooth and shiny, almost sealskin-like surface. In *Dromia monodi* the hairs are of two sizes, the shorter are less closely placed than in *S. spinirostris* and therefore do not produce the skin-like effect, while groups of longer hairs, especially in the anterior and lateral portions of the carapace give the pubescence a still more shaggy appearance.

2. The interantennular spine in *S. spinirostris* is hardly visible in dorsal view; in *Dromia monodi* it is distinct and reaches beyond the middle of the rostral teeth.

3. The anterolateral teeth of the carapace in *D. monodi* are far stronger and more conspicuous than in *Sternodromia spinirostris*; moreover, they are directed more outwards and are less appressed. In *S. spinirostris* the teeth are inconspicuous, especially the second and third, which are often hidden by the pubescence. Some of the teeth, especially the fourth and fifth are often continued backward as a marginal carina. The first anterolateral tooth is far more conspicuous than the second.

4. Between the first anterolateral tooth and the suprasutural tooth (Ihle, 1913:9, fig. 5) there is a marked groove in *Dromia monodi*; in *Sternodromia spinirostris* such a groove is hardly noticeable, while the teeth are less distinct.

5. The chelipeds in *Dromia monodi* have strong tubercles: one on the outer surface of the palm at the base of the dactylus, and two near the anterior margin of the carpus. These tubercles are hardly noticeable in *Sternodromia spinirostris* being quite obscured by the pubescence.

6. The outer surface of the carpus of the second and third pereiopods (= first and second walking legs) is evenly rounded in *Sternodromia spinirostris*, while in *Dromia monodi* it shows a distinct longitudinal ridge in the pubescence.

7. The dactyli of the second and third pereiopods in *D. monodi* are shorter than in *S. spinirostris* and have stronger spines on the lower margin.

8. The upper margin of the propodus of the fourth pereiopod is longer than the height of this segment in *S. spinirostris*, much shorter than the height in *D. monodi*. The dactylus is twisted in the latter species, lying in the same plane as the propodus in the former.

9. The fifth pereiopod is more slender in *D. monodi* than in *S. spinirostris*.

10. The female abdomen in non-ovigerous females is triangular with a rounded tip in *D. monodi*, more trapezoidal with a truncated tip in *S. spinirostris*.

11. In the same non-ovigerous females the sternal grooves in *S. spinirostris* end somewhat closer together than in *D. monodi*.

12. In our material of *S. spinirostris* the pubescence is grayish brown and the finger tips of the chelae are white; in *D. monodi* the pubescence is more yellowish brown and the finger tips are pink.

Young specimens of *Sternodromia spinirostris* differ from the adults in the following points:

1. The pubescence of the carapace shows some longer hairs in the anterior part, by which the smooth appearance is lost and becomes more shaggy like in *D. monodi*.

2. The interantennular spine is relatively longer and more distinct.

3. The anterolateral teeth of the carapace are even less conspicuous than in the adults.

These young specimens still can be distinguished from young of *Dromia monodi* by the character of the smaller anterolateral teeth and the more slender dactyli of the second and third pereiopods, in which the lower margin bears smaller spinules.

The sternal grooves in the females collected by the *Pillsbury* Expedition, all of which are non-ovigerous, very closely resemble those of non-ovigerous females of *Dromia monodi*, the only difference being that the anterior ends of the two grooves are placed somewhat closer together. In the Muséum national d'Histoire naturelle, Paris, we examined five large females (cl 48 to 58 mm) of the present species, some of which are impregnated or ovigerous. In these specimens the sternal grooves converge anteriorly and end at a distinct median tubercle, as shown in Monod's (1956) figures 78 and 79. In a juvenile female in the Paris Museum (cl 34 mm) no tubercle was seen, but the grooves resemble those found in the *Pillsbury* specimens (Figure 3*c*, ♀ cb 21 mm) in which the tubercle is visible. Evidently the arrangement of the sternal grooves changes drastically when sexual maturity is reached. It is debatable whether the sole character of the placement of the female sternal grooves is sufficient to distinguish genera. This seems the more doubtful when one considers the fact that *Dromia monodi* and *Sternodromia spinirostris* resemble each other so closely that they are difficult to separate, while both differ less from one another than from the other West African Dromiidae. Monod (1956:75) already commented that it does not seem logical that these two species should be placed in different genera. For the time being, however, we followed Forest (1974), who separated the present species from the other *Dromidiopsis* and *Dromia* species and erected a new genus, *Sternodromia*, for it. Lewinsohn (1977:7), when dealing with Dromiidae of the Red Sea, commented that in his view too much importance has been attached to the female sternal grooves as a generic character and that a revision of the family on a generic level is highly desirable.

There can be little doubt that the type material of Miers' *Dromia spinirostris* belongs to the present species, and in the modern literature the epithet *spinirostris* has practically always consistently and correctly been used for it. A quite different matter is the identity of *Dromia fulvo-hispida* Miers, 1881. This species was based on a single juvenile specimen (8 × 11 mm), taken together with the types of *Dromia spinirostris*. The specimen was reexamined by Monod (1956:59), who gave additional details of it but did not arrive at a conclusion concerning its identity. We have also examined the specimen, which is in a poor condition; it is a juvenile female, which is partly damaged; therefore, the measurements 8 × 11 mm cannot be relied upon. We decided after studying this specimen that it is a juvenile specimen of *Sternodromia spinirostris*. The fact that the anterolateral margins show hardly any teeth (Miers described these margins as entire, but as Monod correctly pointed out there is at least one visible tooth) points strongly in this direction. Furthermore that it was taken at a depth of 9 to 15 fathoms (16.5–27 m) together with the types of *Dromia spinirostris* make the identity of the two highly likely. As the type specimen of *Dromia fulvohispida* shows no characters that make it impossible to identify it with *D. spinirostris* and as there are several indications that the two species are synonymous, we confidently sink the epithet *fulvohispida* as a synonym of *spinirostris*.

Under *Dromia monodi* (p. 17) we have given the reasons why the specimens that Osoria (1889, 1898) and Balss (1921) considered to be *Dromia spinirostris* actually should be referred to *Dromia monodi*. Also we point out that the female specimens from Dahomey and Cap Santa Clara, identified by Rossignol (1962) and Crosnier (1967) as *Dromia monodi*, be better referred to the present species. All this again clearly shows the close resemblance of the two species.

The juvenile specimens from Angola that Odhner (1923) identified as *Dromia spinirostris*

were referred by Monod (1956:72) to *Dromia nodosa* (= *D. monodi*). Although Monod examined one of Odhner's specimens, we are not convinced that his conclusion is correct. Odhner himself was convinced that his specimens were conspecific with *Dromia atlantica* Doflein, after he compared them with Doflein's description and figures; moreover Odhner sent his material to W. T. Calman, who did not find any characters that would make them specifically different from Miers' types of *Dromia spinirostris*. Also the fact that Odhner's specimens came from depths of 72 and 108 m makes it more likely that they belong to *Sternodromia spinirostris* than to *Dromia monodi*.

As already suggested by Balss (1921), Odhner (1923), Monod (1956), and others, *Dromia atlantica* of Doflein (1904) is identical with the present species, as is clearly shown by Doflein's account.

The juvenile male from Sta A.S. 141 and the juvenile male collected by the *Mercator* expedition, both of which were identified by Capart (1951) with the present species, were examined by Forest (1974:96) and found to be *Dromia monodi*.

The specimen from Murray Town, Sierra Leone, assigned by Monod (1956:69) to *Dromia nodosa*, was examined by us and proved to belong to the present species.

The frequent misidentification, especially of juvenile specimens, clearly shows the difficulty of distinguishing the various species of West African Dromiidae.

BIOLOGY.—The species has been reported from depths between 7.5–9.5 and 108 m. As already pointed out by Forest and Guinot (1966) it has its optimum occurrence in water deeper than 25 m, this in contrast to *Dromia monodi*, which is hardly ever found in water deeper than 25 m. About 90% of the published records for *Sternodromia spinirostris* are from depths of 25 m or over and about 80% from depths between 25 and 75 m. Le Loeuff and Intès (1968) indicate that the species "vit de 35 à 60 m et surtout à 40 et 50 m." The bottom on which the species has been taken has variously been described as "partly shelly and partly muddy" (Miers, 1881a); sand and shell fragments, sand and muddy sand with broken shells and stones (Odhner, 1923); sand, mud, coral and rock, black mud, mud and brown sand, green mud and sand, brown mud, mud (Capart, 1951); mud (Rossignol, 1957); muddy sand (Longhurst, 1958); mud, rock, calcareous algae, sand and Foraminifera, mud and sand, mud and shells, muddy sand and Foraminifera, mud with *Arca* shells (Forest and Guinot, 1966); sandy mud and shells (Voss, 1966; and p. 19 herein); sandy mud with Foraminifera (Crosnier, 1967); "fonds détritiques envasés" (Maurin, 1968a, 1968b); sand or sand with shells and *Suberites*, liquid mud sometimes mixed with very fine sand (Maurin, 1968b); mud, Foraminifera, dark red bryozoans, mud with *Jullienella* (p. 19). Le Loeuff and Intès (1968), who obviously carefully studied the species, stated that in Ivory Coast waters they only found it on sandy mud bottoms, and they ranged it among the "vasicoles."

None of our specimens carried a sponge or ascidians, and we know of no record in the literature indicating such an association.

Ovigerous females have been collected in February, April, May, and December (Capart, 1951; Forest and Guinot, 1966; Forest, 1974; and p. 19).

DISTRIBUTION.—*Sternodromia spinirostris* is a West African species which occurs from the Spanish Sahara to Angola. Pastore (1976) recently recorded the species from the Gulf of Taranto in the Mediterranean. The West African records in the literature are as follows:

Spanish Sahara: Islote Virginia (as Ilot Virginie) (Forest, 1974). Between Cabo Barbas and Cabo Blanco, 50–90 m (Maurin, 1968b). Between Cabo Corbeiro and Cabo Blanco, 60–80 m (Maurin, 1968a). Cabo Blanco, 20°37.7′N, 17°24.4′W, 57 m (Türkay, 1975).

Mauritania: 20°55′N, 17°22′W, 60 m; and 20°19.5′N, 17°13.8′W, 20 m (Forest, 1974). Banc d'Arguin, 30–40 m (Maurin, 1968b).

Cape Verde Islands: 15°16′28″N, 23°27′24″W, 40–45 m (Forest, 1974).

Senegal: ?Senegal, 50–62 m (Forest, 1974). Saint-Louis, 35–40 m (Maurin, 1968b). Baie de Gorée, 18–28 m (Miers, 1881a). Between Gorée and Cap Manuel, 7.5–9.5 m; Ngaparou (Forest, 1974). 13°01′N, 17°24′W, 51–55 m; and 12°55.5′N, 17°33′W, 65–75 m (Forest and Guinot, 1966; Forest, 1974).

Gambia: 13°12′N, 17°03.5′W, 21 m (Forest, 1974).

Guinea-Bissau: 10°19′N, 16°24′W, 60–73 m (Forest and Guinot, 1966; Forest, 1974).

Guinea: 09°28′N, 14°58′W, 45 m (Forest, 1974). 09°15′N, 14°50′W, 45 m (Monod, 1956).

Sierra Leone: No specific locality, in 39 m (Longhurst, 1958). Murray Town (Monod, 1956).

Ivory Coast: No specific locality (Le Loeuff and Intès, 1969). 04°35′N, 06°40′W to 04°35′N, 06°41′W, 64 m (Voss, 1966). 05°02.5′N, 05°25′W, 21–27 m (Forest and Guinot, 1966; Forest, 1974). 05°11.5′N, 04°09′W, 40 m; 05°12.5′N, 04°05′W, 40 m; and 05°04′N, 03°22.5′W, 50 m (Forest, 1974). Fresco; Grand-Lahou, 40 m; Jacqueville; Grand-Bassam, 35–60 m (overall depth range 15–60 m) (all Le Loeuff and Intès, 1968).

Ghana: 05°18′N, 00°24′W, 35–37 m (Forest, 1974).

Dahomey: 06°04′N, 01°38.5′E, 48 m (Forest, 1974). 06° 10′N, 02°02′E, 45 m (Crosnier, 1967; Forest, 1974).

Nigeria: 04°03′N, 06°12′E, 32 m (Forest and Guinot, 1966; Forest, 1974).

Cameroon: 03°54′N, 08°50′E, 65–70 m (Forest, 1974).

Gabon: W of Cap Santa Clara, 20–40 m (Rossignol, 1962; Crosnier, 1967). Off Pointe Banda, 03°57.5′S, 10°36.5′E, 85 m (Capart, 1951).

Congo: Pointe-Noire, 100 m (Forest, 1974). Off Pointe-Noire, 50 m (Rossignol, 1957, 1962). Off Pointe-Noire, 04° 23′S, 11°07′E, 88 m, and 05°S, 11°36′E, 50 m (Forest, 1974).

Zaire: Off Banana, 05°54′S, 11°58.5′E, 50 m; 05°55′S, 12°01′E, 25–30 m; and 05°56′S, 12°E, 50–60 m (Capart, 1951; Forest, 1974).

Angola: Off Moita Seca, 06°06′S, 12°14′E, 12–15 m (Capart, 1951; Forest, 1974), and 06°16′S, 12°07′E, 50 m (Capart, 1951). Off the mouth of the Congo River, 06°18′S, 12°02′E, 44 m (Doflein, 1904). Near Ambriz, 07°57′S, 13° 05′E, 40–50 m (Capart, 1951; Forest, 1974). Ambriz, 70 m (Forest, 1974). Porto Alexandre, 72 and 108 m (Odhner, 1923).

Family DYNOMENIDAE Ortmann, 1892

DYNOMENIDAE Ortmann, 1892:538, 541, 543.

EASTERN ATLANTIC GENERA.—One, *Dynomene*, represented in the tropical fauna.

EASTERN ATLANTIC SPECIES.—One, *Dynomene filholi*, material of which was collected by the *Pillsbury*.

Genus *Dynomene* Desmarest, 1823

Dynomene Desmarest, 1823:422 [index] [a genus without included nominal species; type-species: *Dynomene hispida* Guérin-Méneville, 1832, by subsequent monotypy by Guérin-Méneville, 1832, in 1829–1844, pl. 14; gender: feminine].

Maxillothrix Stebbing, 1921:456 [type-species: *Maxillothrix actaeiformis* Stebbing, 1921, a subjective junior synonym of *Dynomene pilumnoides* Alcock, 1899, by monotypy; gender: feminine].

REMARKS.—So far as we can determine, the first latinized use of the generic name *Dynomene* was by Desmarest (1823:422) in the index to his article in the *Dictionnaire des Sciences Naturelles*. In the text of this article (1823:249, footnote) the name is used in the vernacular (DYNOMÈNE). Desmarest again used the vernacular form in his book *Considérations Générales sur la Classe des Crustacés* (1825:133, footnote), using DYNOMÈNE in the text (p. 133), DYNOMÈNE HISPIDE in the list of figures (p. 432), and Dynomène *hispide* on the plate itself (plate 18); in this work he gave the Latin name again in the index (p. 442). The specific epithet *hispida*, often attributed to Latreille or Desmarest, apparently was first used by Guérin-Méneville (14 July 1832: pl. 14). Guérin also used the Latin name in the text of his *Iconographie* which, however, was published as late as September 1844. We are much indebted to Col. C. F. Cowan (*in litt.*, 29 September 1971), who provided the information that livraison 22 of Guérin's *Iconographie*, which was published on 14 July 1832 (Cowan, 1971:29), contained Crustacea plates 12 and 14.

* *Dynomene filholi* Bouvier, 1894

Dynomene filholi.—Monod, 1956:76, figs. 84–88, 873.—Forest and Guinot, 1966:48.

MATERIAL EXAMINED.—*Pillsbury Material*: Annobon: Sta 275, 9–69 m, rubble of coralline algae, 2♂, 1♀ (L). Sta 282, 18–37 m, nodular coralline algae, 7♂, 5♀, 6 juv (L). Sta 283, 51–55 m, nodular coralline algae, 25♂, 14♀ ov, 5 juv (W).

Other Material: Cape Verde Islands: 75 m, 29 Jul 1883, *Talisman*, syntypes, 3♂ (L, W).

Annobon: 01°27′S, 05°35′50″E, 50–60 m, dredge, 11 Dec 1965, A. Crosnier, 3♂, 1♀ (W).

DESCRIPTION.—Carapace depressed, covered with dense coat of low setae, with some longer setae arranged in tufts. Carapace appearing sub-

circular, about 1¼ times broader than long, depressed, moderately convex. Fronto-orbital region forming on obtuse triangle, frontal margin thickened, fronto-orbital width about 2/3 carapace width. Regions well marked but obscured by coat of low setae. Several rounded prominences on surface, each with long tuft of setae: usually 1 epigastric, 2 or 3 protogastric, 1 metagastric, 1 intestinal, and 5 branchial. Anterolateral margins with 5 blunt teeth, each tufted.

Chelipeds stout, subequal, larger in males, covered with low setae, ornamented with rounded, tufted prominences. Merus with subdistal prominence on posterior margin, smaller, lower naked tubercles on inner margin. Carpus with 3 tufted prominences on posterior margin, 1 dorsally, 1 anteriorly; inner angle produced into slender, flattened lobe, almost spatulate. Propodus stout, high, slightly longer than movable finger, all with almost naked ventral surface ornamented with rounded prominences. Upper and outer surfaces of chela with longer setae, denser on inner face. Fingers gaping, movable finger with prominent tooth near midlength, naked apically, apices spatulate.

Walking legs decreasing in length posteriorly, surface densely tomentose, dorsal surfaces with rounded, tufted prominences and some scattered longer setae. Dactyli curved, apices corneous, ventral margins toothed. Fifth legs very short, not extending much beyond midlength of merus of fourth, dactylus very small, subterminal, leg appearing chelate.

Abdomen of 7 somites in both sexes, broadening posteriorly in males.

Figures: A. Milne Edwards and Bouvier, 1900, pl. 3: fig. 3 (color); Monod, 1956, fig. 873.

Male Pleopod: A. Milne Edwards and Bouvier, 1900, pl. 8: fig. 13; Monod, 1956, figs. 84–88 (both Cape Verde Islands).

Measurements.—Our specimens have carapace widths of 3 to 16 mm; the carapace widths of ovigerous females are 7 to 12 mm.

Remarks.—The male pleopods of our specimens have a large, triangular apical lobe, resembling that of the pleopod figured by A. Milne Edwards and Bouvier (1900, pl. 8: fig. 13) rather than that figured by Monod (1956, figs. 84–88).

Biology.—The depth range of the species is from 23 to 1477 m (with one record of 9–47 m), but 80% of the records are from between 23 and 75 m. As the *Talisman* and *Travailleur* records are notoriously unreliable, it is possible that the records from 110–180 and 150–275 m are incorrect. Also the depth of 1477 m (Monaco Expedition Sta 1209) needs confirmation.

The *Pillsbury* specimens all were taken from a bottom of nodular coralline algae (diameter of the nodules about 100–150 mm; see Voss, (1966: 50, fig. 14)). In the literature the species is reported from "fond dur" (Bouvier, 1922:90), "bancs de corail rouge" (A. Milne Edwards and Bouvier, 1900:9) and from bottoms with calcareous algae or sand, rock, corals and calcareous algae (Forest and Guinot, 1966). Off West Africa, ovigerous females have been collected in May (*Pillsbury*).

Distribution.—This is an insular West African species, known so far from the Cape Verde islands (the type-locality) and the Gulf of Guinea Islands, Principe, and Annobon; it has not been recorded from the mainland. Monod (1956) reported material from the Cape Verde Islands and Principe. Since 1956 *Dynomene filholi* has been recorded from the following localities:

Principe: 01°35′N, 07°28′E, 45 m; and 01°38′35″N, 07°21′35″E, 35 m (Forest and Guinot, 1966).

Annobon: 01°27.5′S, 05°36.5′E, 35 m; N of San Antonio, 23 m; 01°26′15″S, 05°35′40″E, 60 m (Forest and Guinot, 1966).

Family Latreilliidae Stimpson, 1858

Latreillidea Stimpson, 1858c:226 [corrected to Latreilliidae by Stebbing, 1902:23; name 373 on *Official List*].

Eastern Atlantic Genera.—One, *Latreillia*, represented in the tropical fauna.

Eastern Atlantic Species.—One, *Latreillia elegans*, not represented in the *Pillsbury* collections.

Genus *Latreillia* Roux, 1830

Latreillia P. Roux, 1830, pl. 22 [type-species: *Latreillia elegans*

Roux, 1830, by monotypy; gender: feminine; name 1630 on *Official List*].

Practor Gistel, 1848:ix [erroneously substituted for *Latreillia* (see Rathbun, 1937:73); type-species: *Latreillia elegans* Roux, 1830; gender: masculine].

Latreillia elegans Roux, 1830

Latreillia elegans.—Monod, 1956:78 [references].—Zariquiey Alvarez, 1968:307 [Spain; references].

Latreilla elegans.—Türkay, 1976a:25 [listed], 36, fig. 16 [Morocco; erroneous spelling].

DISTRIBUTION.—Mediterranean Sea and adjacent eastern Atlantic, from Portugal, the Azores, off the Sahara coast, and the Cape Verde Islands, in depths between 100 and 475 m. Ascension Island (Stebbing, 1914); western Atlantic (Rathbun, 1937).

Family HOMOLIDAE de Haan, 1839

HOMOLIDEA de Haan, 1839:102 [corrected to Homolidae by White, 1847a:55; name 243 on *Official List*, there attributed to White, 1847, in error].

THELXIOPEIDAE Rathbun, 1937:62 [name 278 on *Official Index*].

EASTERN ATLANTIC GENERA.—Three, two of which, *Homola* and *Paromola*, are represented by species occurring off tropical West Africa. The other genus is *Homologenus* A. Milne Edwards (in Henderson, 1888:20): A substitute name for *Homolopsis* A. Milne Edwards (1880:34), an invalid junior homonym of *Homolopsis* Bell, 1862 (type-species: *Homolopsis rostratus* A. Milne Edwards, 1880, by monotypy; gender: masculine).

EASTERN ATLANTIC SPECIES.—Three, two of which were recorded by Monod (1956), as follows:

Name in Monod	Current Name
Thelxiope barbata	*Homola barbata**
Paromola cuvieri	*Paromola cuvieri*

The extralimital species is *Homologenus rostratus* (A. Milne Edwards, 1880): Eastern Atlantic from the Azores, Madeira, and off Morocco, 1435 to 2195 m (Türkay, 1976a); western Atlantic (Rathbun, 1937).

Genus *Homola* Leach, 1815

Thelxiope Rafinesque, 1814:21 [suppressed by the International Commission on Zoological Nomenclature, Opinion 522 in *Bulletin of Zoological Nomenclature*, 19:211; type-species: *Thelxiope palpigera* Rafinesque, 1814, by monotypy; gender: feminine; name 1190 on *Official Index*].

Homola Leach, 1815a:324 [type-species: *Homola spinifrons* Leach 1815, a subjective junior synonym of *Cancer barbatus* Fabricius, 1793, by monotypy; gender: feminine; name 1301 on *Official List*].

Homolax Alcock, 1899b:124, 129, 156 [type-species: *Homola megalops* Alcock, 1894, by monotypy; gender: feminine].

Moloha Barnard, 1947:371 [type-species: *Latreillopsis alcocki* Stebbing, 1920, by monotypy; gender: feminine].

**Homola barbata* (Fabricius, 1793)

Thelxiope barbata.—Gordon, 1950:221, 230, 232, 239, 250, figs. 19, 26b-d.—Monod, 1956:79.—Maurin, 1968b: 486.—Le Loeuff and Intès, 1968:31, table 1.

Homola barbata.—Figueira, 1960:7.—Guinot and Ribeiro, 1962:23.—Pérès, 1964:20.—Forest and Guinot, 1966: 48.—Crosnier, 1967:322.—Maurin, 1968a:19, 30, 43, 61, 107 [p. 107 Balearic Isles]; 1968b:480, 484.—Zariquiey Alvarez, 1968:304, figs. 12g, 106c [Spain; references].—Rice and Provenzano, 1970:446 ff., figs. 1–15 [larvae].—Türkay, 1976a:25 [listed], 36 [Portugal, in part]; 1976b: 61 [listed], 62.

SYNONYMS.—*Cancer cubicus* Forskål, 1775 (suppressed by ICZN); *Cancer novemdecos* Sulzer, 1776 (suppressed by ICZN); *Thelxiope palpigera* Rafinesque, 1814; *Homola spinifrons* Leach, 1815; *Dorippe spinosus* Risso, 1816.

MATERIAL EXAMINED.—*Pillsbury Material*: Liberia: Sta 68, 70 m, broken shell, 1♀ ov (L).

Nigeria: Sta 241, 59–63 m, mud and shell, 1♀ (W).

Annobon: Sta 283, 51–55 m, nodular coralline algae, 1♂ (W).

Other Material: Congo: Off Pointe-Noire, 04°56′S, 11° 31′E, 95–97 m, trawl, 21–22 Sep 1965, 2♂ (W).

DESCRIPTION.—Carapace subquadrate, widest anteriorly, frontorbital border with 2 pairs of spines in transverse row, outer longer. Gastric region with 9 large spines: 4 forming square on midline, 1 on midline posteriorly, and 2 pairs laterally, arranged in oblique line. Anterolateral area of carapace with 2 large spines, anterior larger, between branchial and cervical grooves.

Lateral margin of carapace with line of spinules decreasing in size posteriorly. Linea anomurica indistinct. Front, under orbit, with 3 spines forming triangle. Pterygostomian region with curved row of 6 spines dorsally, lower margin with curved row of 5–6 spines, and between these, 1–2 spines; below and posterior to these larger spines are numerous small spines. Raised anterior margin of epistome terminating before meeting in midline, leaving smooth median gap. Eyes elongate, stalk greatly enlarged proximal to cornea. Basal segment of antennal peduncle with outer spine.

Chelae slender, equal. Merus with 2 lines of spines below, 1 above, lower, outer spines largest. Carpus with 1 large and 1 small inner spines, outer surface with 6–8 spines arranged in 2 irregular rows and 2 distal spines. Palm with low, blunt spine on outer margin. Fingers shorter than palm, cutting edges corneous, tips of fingers crossing when closed, movable finger with low, obtuse prominence proximally on cutting edge.

Walking legs compressed, thin, elongate. Meri with row of fixed spines above. Propodi elongate, each shorter than respective merus, with row of 4 slender, movable spines below and 2 distal spines. Dactyli elongate, each equal to or slightly longer than respective carpus, more than half as long as respective propodus, with 11–13 spines below. Fifth leg with dorsal spine on coxa, 1 or 2 spines on ischium; merus with 4 large posterior spines and 1 terminal anterior spine; carpus with numerous small spines anteriorly; propodus with numerous spines on opposable margin; dactylus with 4 spines on opposable margin.

Abdomen of 7 somites in both sexes. Second segment of abdomen with prominent conical tooth.

Figures: Rathbun, 1937, fig. 16, pl. 15: figs. 1, 2; Rice and Provenzano, 1970, fig. 2.

Male Pleopod: Gordon, 1950, figs. 26b–d (Madeira).

MEASUREMENTS.—Our specimens have carapace lengths of 16 to 28 mm; the carapace length of the ovigerous female is 22 mm.

REMARKS.—In addition to the specimens collected by *Pillsbury*, we have been able to examine two larger males (cl 29 and 30 mm) reported off Pointe-Noire in 95–97 meters by Crosnier (1967: 322). The male pleopods of these specimens and that from a male (cl 32 mm, Leiden Crust. D.12989) from Naples, the type-locality, closely resemble that illustrated from a small male, cl 14 mm, from Madeira by Gordon (1950). The Mediterranean and eastern Atlantic populations of this species apparently are conspecific.

On the basis of their study of larvae identified with this species, Rice and Provenzano (1970) reinforced earlier suggestions by Rice (1964) and Rice and Von Levetzow (1967) that there might be several taxa, each with a distinctive larval form, currently placed in *H. barbata*. The recognized three groups of larvae are the western Atlantic, eastern Atlantic (including the Mediterranean and some specimens from South Africa), and a group found only off South Africa. Rice and Provenzano examined postlarval specimens from the western North Atlantic, Brazil, the Mediterranean, and South Africa but could find no consistent differences between specimens from these areas. However, they suggested that eastern Atlantic representatives of *H. barbata* matured faster and grew larger than specimens from other areas.

BIOLOGY.—*Homola barbata* inhabits moderate depths, having been taken in 55–679 m in the western Atlantic (Rathbun, 1937) and between 50 and 400 m in the eastern Atlantic (Monod, 1956); records since 1956 indicate that the species lives in depths between 10–30 and 470–500 m in the eastern Atlantic. The *Pillsbury* specimens were taken on broken shell in 70 m, on mud and shell in 59–63 m, and in nodular coralline algae in 51–55 m. This species also has been taken on mud in 215 m (Guinot and Ribeiro, 1962); reddish gravel with shell debris in 210 m (Pérès, 1964); calcareous algae in 73 m (Forest and Guinot, 1966); muddy sand in 95–98 m (Crosnier, 1967); muddy sand or sandy detritus in 10–30 m, slightly sandy mud with funiculines in 200–250 m, alcyonarians in mud in 90–150 m, and muddy sand in 470–500 m (all Maurin, 1968a); and on muddy shell in 50 m, mud in 40–60 m, muddy detritus in 200

m, and mud or sandy mud in 90–100 m (all Maurin, 1968b).

Off West Africa, ovigerous females have been collected in June and September (Crosnier, 1967; *Pillsbury*).

DISTRIBUTION.—Mediterranean, eastern and western Atlantic, and off South Africa, in depths between 10–30 m and 679 m. In the western Atlantic it has been recorded from localities between Massachusetts and Brazil (Rathbun, 1937; Rice and Provenzano, 1970). In the eastern Atlantic it is known from scattered localities in the Mediterranean and in the Atlantic from Portugal and Spain southward to South Africa, including the Azores, the Cape Verde Islands, and Madeira (Barnard, 1950; Gordon, 1950; Monod, 1956; Zariquiey Alvarez, 1968). Since 1956 it has been recorded from the following:

Spain: Off Guadiana, 470–500 m (Maurin, 1968a).

Azores: Off Horta, Ilha do Faial, in deep water (Figueira, 1960).

Madeira: Funchal, 100-ca. 250 m; Ilhas Desertas (Türkay, 1976b).

Morocco: Banc de Spartel, 35°54′N, 06°14′W, 210 m (Pérès, 1964). Between Cap Rhir and Cap Drâa, 10–30 m (Maurin, 1968a). Off Cap Juby, 50 m (Maurin, 1968b). 31°01′N, 10°16′W, 360–375 m (Türkay, 1976a).

Spanish Sahara: Off Médano de Aaiún and Cabo Bojador, 200–300 m; Morro Garnet, 300–350 m (Maurin, 1968a); between Cabo Corbeiro and Cabo Blanco, 200 m (Maurin, 1968b).

Mauritania: S Banc d'Arguin, 90–150 m (Maurin, 1968a). Banc d'Arguin, 40–60 and 90–100 m (Maurin, 1968b).

Ivory Coast: 05°06′N, 03°49′W, 50 m (Crosnier, 1967). In 40–50 m (Le Loeuff and Intès, 1968).

Principe: 01°43′10″N, 07°28′20″E, 73 m (Forest and Guinot, 1966).

Congo: Off Pointe-Noire, 05°00′S, 11°32′E, 98 m, and 04°56′S, 11°31′E, 95–97 m (Crosnier, 1967).

Angola: Baía dos Tigros, 215 m (Guinot and Ribeiro, 1962).

It has not been recorded previously from Liberia, Nigeria, or Annobon, although these localities are within the known range of the species.

Genus *Paromola* Wood-Mason and Alcock, 1891

Paromola Wood-Mason and Alcock, 1891:267 [type-species: *Dorippe cuvieri* Risso, 1816, by monotypy; gender: feminine; name 1641 on *Official List*].

Paromola cuvieri (Risso, 1816)

Paromola cuvieri.—Capart, 1951:25, fig. 4.—Monod, 1956:79, fig. 89.—Guinot and Ribeiro, 1962:23.—Rossignol, 1962: 113.—Forest, 1963:628.—Pérès, 1964:27, 29.—Figueira, 1964:69, pls. 1,2.—Zariquiey Alvarez, 1968:301, fig. 106b [Spain; references].—Maurin, 1968a:29, 33, 50, 64, 106, 114, 121 [p. 106, 114, 121 Mediterranean], fig. 22; 1968b: 479, 480, 482, 484, 489, 491, 492, figs. 3, 6.—Christiansen, 1969:24, fig. 8, map 2 [Scandinavia].—Crosnier, 1969: 529.—Türkay, 1976a:25 [listed], 36; 1976b:61 [listed], 62.—Intès and Le Loeuff, 1976:103.

Paromola.—Maurin, 1968a, fig. 23; 1968b, figs. 1, 9.

Parhomola.—Maurin, 1968a, fig. 29 [erroneous spelling].

Paramola.—Maurin, 1968b, fig. 4 [erroneous spelling].

SYNONYM.—*Maia dumerili* Risso, 1816.

MATERIAL EXAMINED.—*Pillsbury Material*: None.

Other Material: Morocco: Off Cap de Mazagan, 33°40′N, 08°45′W, 570 m, Agassiz trawl, 28 Mar 1976, *Onversaagd* Sta 159, 1♀ (L).

DESCRIPTION.—Capart, 1951:27.

Figures: Capart, 1951, fig. 4; Monod, 1956, fig. 89; Christiansen, 1969, fig. 8.

Male Pleopod: Sankarankutty, 1968, fig. 1a,b (North Sea).

Color: "Couleur générale jaune orange, plus rouge à l'avant de la carapace et sur les épines antérieures; les pattes un peu plus foncées" (Capart, 1951:27).

BIOLOGY.—*Paromola cuvieri* is a deep water species, generally occurring on soft bottoms in depths between 150 and about 1000 m; there is one record from a depth of 952–1038 m (Türkay, 1976a), and another from a depth of 10 m (Doflein, 1904), but generally the species occurs beyond shelf depths. It has been recorded from mud or sandy mud.

Off West Africa, ovigerous females have been recorded in March and October (Capart, 1951; Monod, 1956).

DISTRIBUTION.—Eastern Atlantic, from the Hebrides and southern Scandinavia southward to Angola, including the Azores, the Cape Verde Islands, and the Mediterranean, in depths between 10 and more than 1000 m, usually deeper

than 150 m. Monod (1956) summarized earlier West African records and reported material from Senegal. Since 1956 the species has been recorded from:

Azores: Ilha Terceira (Figueira, 1964).

Madeira: No specific locality; fish market, Madeira (Türkay, 1976b).

Morocco: Foum Agouitir (as Puerto-Cansado), 350–450 m (Maurin, 1968a). 35°19′N, 06°32′W to 35°28.8′N, 06°39.2′W, 333–360 m, and 35°17.5′N, 06°10.3′W to 35°13.9′N, 06°36.2′W, 295–340 m (Pérès, 1964). 33°37.5′N, 09°02.2′W, 952–1038 m (Türkay, 1976a). Asilah (as Arzila) to Larache, 300–350 m (Maurin, 1968a).

Spanish Sahara: Off Médano de Aaiún and W of Cabo Bojador, 300–500 m; off Cabo Bojador and Morro Garnet, 530–720 m (Maurin, 1968b). Off Villa Cisneros, 300–500 m (Maurin, 1968a,b).

Mauritania: Off Nouakchott, 350–400 to 600 m (Maurin, 1968a). Banc d'Arguin, 200–300 m, and Tamzak (as Tamxat), 350–600 m (Maurin, 1968b).

Senegal: Fosse de Kayar, 300–350 to 600 m (Maurin, 1968b).

Ivory Coast: No specific locality (Intès and LeLoeuff, 1976). 04°32′30″N, 06°31′W, 300–455 m, and 04°54′N, 03°23′W, 380–400 m (Forest, 1963).

Ghana: 04°39′N, 02°46′W, 300–400 m (Forest, 1963).

Congo: W of Banga (as Banda), 250 m (Rossignol, 1962). Off Pointe-Noire, 04°54′S, 11°19′E, 300 m (Crosnier, 1969).

Angola: Baía dos Tigres, 453–478 m (Guinot and Ribeiro, 1962). 06°24′N, 11°34′E, 325 m (Crosnier, 1969).

Family Cyclodorippidae Ortmann, 1892

Cyclodorippidae Ortmann, 1892:552.
Tymolinae Alcock, 1896:273, 274.

Remarks.—This family is not represented in the eastern Atlantic fauna. It was considered by Glaessner (1969:R492, as Tymolinae) to be a subfamily of the Dorippidae.

Family Cymonomidae Bouvier, 1898

Cymonomae Bouvier, 1898:55, 59 [corrected to Cymonomidae by Glaessner, 1969:R627].

Eastern Atlantic Genera.—One, occurring to the north of the tropical region, *Cymonomus* A. Milne Edwards (1880:26). Type-species: *Cymonomus quadratus* A. Milne Edwards, 1880, by monotypy; gender: masculine; name 1618 on *Official List.*

Eastern Atlantic Species.—Two, both occurring north of the tropical region:

Cymonomus granulatus (Thomson, 1873). Ireland southward to Sahara coast, Mediterranean; sublittoral, 300–1350 m (Zariquiey Alvarez, 1968).

Cymonomus normani Lankester, 1903. Between Iceland and the Faroes, 875–1269 m, and off Portugal, 1370–1430 m (see Türkay, 1976a:36, for references).

Family Dorippidae MacLeay, 1838

Dorippina MacLeay, 1838:69 [corrected to Dorippidae by White, 1847a:53; name 355 on *Official List*, there attributed to de Haan, 1841, in error.]
Ethusinae Guinot, 1977:1052.

Eastern Atlantic Genera.—Four, *Ethusa*, *Ethusina*, *Medorippe*, new genus, and *Phyllodorippe*, new genus, each represented by tropical species.

Eastern Atlantic Species.—Ten, six of which were recorded by Monod (1956), as follows:

Name in Monod	Current Name
[*Cymonomus granulatus* (Dorippidae)]	[*Cymonomus granulatus* (Cymonomidae)]
Ethusina abyssicola	*Ethusina alba*
Ethusa mascarone	*Ethusa vossi*, new species*
Ethusa rosacea	*Ethusa rosacea**
Ethusa rugulosa	*Ethusa rugulosa**
Dorippe lanata	*Medorippe lanata**
Dorippe armata	*Phyllodorippe armata**

A seventh West African species, *Ethusina beninia*, new species, is represented in the *Pillsbury* collections.

One species assigned to the Dorippidae by Monod (1956), *Cymonomus granulatus* (Thomson, 1873), is included under the Cymonomidae (above), following Garth and Haig (1971:6.7).

The extralimital species are as follows:

Ethusa mascarone (Herbst, 1785). Mediterranean and adjacent Atlantic, including Canary Islands (Miers, 1881a; A. Milne Edwards and Bouvier, 1900), Portugal (Nobre, 1936), and Bay of Biscay (Zariquiey Alvarez, 1968). For possible references

to *E. mascarone* from the NW African coast, see account of *E. vossi*, new species (p. 39).

Ethusa microphthalma Smith, 1881. Azores, in 1000 fm (1830 m) (Miers, 1886:329); western Atlantic (Rathbun, 1937).

Ethusina talismani A. Milne Edwards and Bouvier, 1897. Off the Azores and Cap Rhir, Morocco, in 2075 to 2235 m (Monod, 1956). A male syntype (USNM 22940) in the collections of the Smithsonian Institution was taken at *Talisman* sta 44 off Cap Rhir, Morocco, 29°52′N, 14°07′W of Paris (11°47′W of Greenwich), 2083 m, 25 June 1883.

REMARKS.—Usually the genera *Dorippe* sensu lato, *Ethusa*, and *Ethusina* are placed in the nominate subfamily of the Dorippidae. Recently Guinot (1977:1052) recognized a second subfamily, Ethusinae (p. 38), for *Ethusa* and *Ethusina*, an action with which we concur.

Key to Subfamilies and Genera of Dorippidae

1. Afferent branchial orifices narrow and placed somewhat before bases of chelipeds, being separated from chelipeds by narrow process of carapace reaching down to sternum. Last two pereiopods distinctly subchelate, dactylus closing against tubercle on propodus (Dorippinae) 2

   Afferent branchial orifices wide and placed immediately against bases of chelipeds. Last two pereiopods not subchelate; dactylus short and not closing against tubercle on propodus (Ethusinae) 8

2. Carapace with distinct epibranchial tooth 3

   Carapace without epibranchial tooth 5

3. Male gonopod short, broad, and straight. Gastric region of carapace with V-shaped ridge. Dactylus of second and third pereiopod with upper margin naked or with few hairs in extreme basal part (less than ¼ of length) 4

   Male gonopod slender, S-shapedly curved. Gastric region without V-shaped ridge. Dactylus of second and third pereiopod with fringe of short hairs over more than basal third of dorsal margin [Carapace broader than long.] ..... ***Phyllodorippe***, new genus

4. Meri of second and third pereiopods with dorsal row of spines or spinules; dactyli of these legs with few hairs and spinules in extreme basal part. Carapace broader than long with some low elevations. Abdomen of male and female without teeth ..... ***Medorippe***, new genus

   Meri of second and third pereiopods without dorsal spines or spinules; dactyli of these legs naked and smooth. Carapace longer than wide, with distinct tubercles. Abdomen of male and female with distinct teeth on third and fourth somites (also on second in male) ..... ***Dorippe***

5. Male gonopod short, stubby, with one or more narrow appendages, one or more of which are T-, hammer-, or cross-shaped. Carapace distinctly wider than long. Front reaching about as far forward as outer orbital teeth 6

   Male gonopod very slender and curved, ending in 3 or 4 rounded or subacute lobes. Carapace longer than wide or almost as long as wide. Front reaching beyond outer orbital teeth 7

6. Male gonopod straight, with single twisted L- or T-shaped appendage at apex, and lobe at base ..... ***Dorippoides***
   Male gonopod with sharp angular bend in middle, with several appendages at top, without lobe at base ..... ***Paradorippe***
7. Carapace distinctly longer than wide, flattened dorsally, without tubercles, but with grooves. Front reaching far beyond outer orbital teeth. Dactyli of second and third pereiopods with fringe of long hairs along both upper and lower margins ..... ***Neodorippe***
   Carapace slightly wider than long, convex, smooth or with tubercles. Front reaching only slightly beyond outer orbital teeth. Dactyli of second and third pereiopods with dorsal and ventral fringes of short hairs. ***Nobilum***
8. Eyes movable. Basal segment of antennules normal ..... ***Ethusa***
   Eyes immovable. Basal segment of antennules very large and swollen ..... ***Ethusina***

Subfamily DORIPPINAE MacLeay, 1838

REMARKS.—The two eastern Atlantic species belonging to this subfamily are present in the *Pillsbury* collections. Until recently both would have been placed in the genus *Dorippe*, but in 1969, Serène and Romimohtarto in a paper dealing with Indo-West Pacific species, recognized instead of the old genus *Dorippe* three genera (*Dorippe*, *Neodorippe*, and *Paradorippe*) and two new subgenera, *Dorippoides* (in *Dorippe*) and *Nobilum* (in *Neodorippe*).

We tried to accommodate the Atlantic species of *Dorippe* in the genera and subgenera recognized by Serène and Romimohtarto, but encountered several difficulties. Therefore a study first had to be made of the Indo-West Pacific species of Dorippinae. During this study we could only confirm the correctness of the taxonomic views of Serène and Romimohtarto, and even had to raise some of their subgenera to the rank of full genera. Furthermore, we found it necessary to establish two new genera, one each for the Atlantic species. It is our intention to discuss the Indo-West Pacific species of *Dorippe*, sensu lato, in a future paper, but our main conclusions can be found in the following list of the genera of Dorippinae that we at present recognize:

Dorippe Weber (1795:93). Type-species: *Cancer quadridens* Fabricius, 1793, a subjective junior synonym of *Cancer frascone* Herbst, 1785, by subsequent selection by Latreille, 1810:96, 422; gender: feminine. So far *Dorippe* contains only the type-species.

Dorippoides Serène and Romimohtarto (1969:3, 4, 8). Type-species: *Cancer facchino* Herbst, 1785, by original designation and monotypy; gender: masculine. So far only containing the type-species.

Medorippe, new genus. Type-species: *Cancer lanatus* Linnaeus, 1767, by present designation and monotypy; gender: feminine.

Neodorippe Serène and Romimohtarto (1969:3, 4, 11). Type-species: *Dorippe astuta* Fabricius, 1798, a subjective junior synonym of *Cancer facchino* Herbst, 1785, by original designation; gender: feminine. An examination of three syntypes of *Dorippe astuta* Fabricius, 1798, in the collection of the Leiden Museum, and photographs of two of the four syntypes in the Zoological Museum, Copenhagen, showed that *Dorippe astuta* Fabricius, 1798, is a subjective junior synonym of *Cancer facchino* Herbst, 1785, as defined by the lectotype selection for the latter species by Serène and Romimohtarto (1969:9). The specimens usually assigned by authors to *Dorippe astuta* and also described and figured under that name by Serène and Romimohtarto (1969:11, figs. 3, 7, 12, 17, pl. 1d, pl. 4a,b), prove to be *Dorippe callida* Fabricius, 1798. Photographs of the two type-specimens of *Dorippe callida* in the collection of the Copenhagen Museum, which could be examined by us, clearly

showed the identity of the species. Thus, *Neodorippe* is a genus based on a misidentified type-species, and in order to comply with Article 70(a) of the *International Code of Zoological Nomenclature*, we will submit this case to the International Commission on Zoological Nomenclature, requesting that under their plenary powers *Dorippe callida* Fabricius, 1798, be designated the type-species of the genus *Neodorippe*.

Although Serène and Romimohtarto assigned two species and a subspecies (the type-species, plus *Dorippe japonica* Von Siebold and *D. japonica taiwanensis* Serène and Romimohtarto) to the nominate subgenus of *Neodorippe*, we prefer to consider *Neodorippe* a genus with a single species, *Neodorippe callida* (Fabricius, 1798).

Nobilum Serène and Romimohtarto (1969:3, 5, 14). Type-species: *Dorippe histrio* Nobili, 1903, by original designation and monotypy; gender: neuter. We prefer to place *Dorippe japonica* in this genus rather than in *Neodorippe*. The gonopods of the two species, *Dorippe japonica* and *D. histrio*, in our opinion do not differ in essential details, while the general morphology of the body shows the species to be much closer to one another than to *Neodorippe callida*. Therefore we consider the genus *Nobilum* at present to consist of *Nobilum histrio* (Nobili, 1903), *N. japonicum japonicum* (Von Siebold, 1824) and *N. japonicum taiwanense* (Serène and Romimohtarto, 1969).

Paradorippe Serène and Romimohtarto (1969:3, 5, 15). Type-species: *Dorippe granulata* de Haan, 1841, by original designation; gender: feminine. This genus contains three species: *Paradorippe granulata* (de Haan, 1841), *P. australiensis* (Miers, 1884), and *P. polita* (Alcock and Anderson, 1894).

Phyllodorippe, new genus. Type-species: *Dorippe armata* Miers, 1881, by present designation and monotypy; gender: feminine.

The new genera, *Medorippe* and *Phyllodorippe*, are restricted to the eastern Atlantic. The other five genera inhabit the Indo-West Pacific region. The subfamily, so far, has not been found in American waters (neither in the western Atlantic nor in the eastern Pacific).

Genus *Medorippe*, new genus

TYPE-SPECIES.—*Cancer lanatus* Linnaeus, 1767.

ETYMOLOGY.—The name is formed from the Greek prefix *me-* (not) and the feminine generic name *Dorippe*.

DIAGNOSIS.—Carapace broader than long, pubescent, with distinct epibranchial spine on either side. Extra-orbital teeth slightly surpassing front. Tubercles on dorsal surface of carapace few and low, grooves conspicuous; V-shaped ridge present on cardiac region. Eyes not reaching beyond extra-orbital teeth. Lower margin of orbit, between extra- and infra-orbital teeth, smooth. Second and third pereiopods with dorsal margin of merus carrying row of spines. Dactylus of these pereiopods narrow and somewhat twisted, not fringed with hairs (at most with very short row of hairs in extreme basal part of dorsal margin). Abdomen of male with blunt and low elevations, but without teeth or spines. First pleopod of male short, stubby and straight, with lobe at outer margin of base; apex acute, turned inward abruptly (almost at right angle), without distal appendages.

REMARKS.—In the genus *Medorippe*, the shape of the male gonopod is closest to those of *Dorippe* and *Dorippoides*, but differs from that in both genera in the sharp straight apex which is turned inward. From the other genera, *Medorippe* can be distinguished by the short, straight gonopod without distal appendages. Like *Dorippe* and *Phyllodorippe*, *Medorippe* has a distinct epibranchial spine, which in *Dorippe*, however, is preceded by a row of granules. The presence of spines on the dorsal margin of the meri of pereiopods 2 and 3 distinguishes *Medorippe* from the others.

* *Medorippe lanata* (Linnaeus, 1767), new combination

FIGURE 4*a–h*

Dorippe lanata.—Capart, 1951:30, fig. 6.—Monod, 1956:90, fig. 103 [as *Dorippe armata*; not fig. 102 = *Phyllodorippe armata*].—Rossignol, 1957:75, pl. 3: fig. 3.—Forest and Gantès, 1960: 350.—Gauld, 1960:68.—Guinot and Ri-

beiro, 1962:25.—Rossignol, 1962:114.—Crosnier, 1964: 34.—Forest and Guinot, 1966:50.—Guinot, 1967a:244 [listed; Indian Ocean].—Zariquiey Alvarez, 1968:312, figs. 2f, 14b, 105a,b, 106b [Spain; references].—Maurin, 1968a:30, 41; 1968b:480, 486.—Le Loeuff and Intès, 1968: 38, table 1, figs. 47, 62; 1969:63, 65.—Serène and Romimohtarto, 1969:6 [discussion].—Bas, Arias, and Guerra, 1976, table 3.—Türkay, 1976a:25 [listed], 37.

Dorippe armata.—Monod, 1956, fig. 103.—Crosnier, 1964, fig. on pl. A.—Maurin, 1968b, figs. 5, 7. [Not *Phyllodorippe armata* (Miers, 1881).]

Dorripe lanata.—Rossignol, 1957:126 [key].—Crosnier, 1970: 1215. [Erroneous spelling.]

SYNONYM.—*Dorippe affinis* Desmarest, 1823.

MATERIAL EXAMINED.—*Pillsbury Material*: Liberia: Sta 68, 70 m, broken shell, 1♂, 1♀ ov, 6 juv (L).

Ivory Coast: Sta 42, 62-75 m, mud with brown, branched Foraminifera, 2 juv (W). Sta 46, 38-42 m, mud with dense *Jullienella*, 11♂, 11♀, 27 juv (L). Sta 47, 37 m, bottom with *Jullienella*, 4♂, 1♀ (W). Sta 60, 79-82 m, coral or rock, 1♂, 1 juv (L). Sta 62, 46 m, brown, branching and foliate Foraminifera, 19♂, 8♀ (W). Sta 64, 68 m, 1♀ (L). Sta 65, 46-49 m, 2♂, 4♀ (W).

Ghana: Sta 16, 46 m, mud with Foraminifera, shells, 1♂ (W). Sta 23, 42 m, foliate brown to orange bryozoans, 3♂, 2♀ (L). Sta 24, 35-37 m, dark red bryozoans, 1♂ (L). Sta 28, 49-53 m, 2♂, 1♀ (W). Sta 30, 61-64 m, coral, 1♂, 1♀ (L).

Nigeria: Sta 241, 59-63 m, mud and shell, 4♂, 1♀ (W). Sta 248, 33 m, 2♂ (L).

Cameroon: Sta 260, 46 m, 1♂, 1♀ (W).

Undaunted Material: Angola: Sta 102, 54 m, 1♀ (L). Sta 103, 90 m, 1♂ (L).

Other Material: Morocco: Off Cap Hadid, 31°55'N, 09°-52'W, 78 m, muddy sand, 5m beam trawl, 25 Mar 1976, *Onversaagd* Sta 127, 1♂ (L).

DESCRIPTION.—Monod, 1933b:490–494; Capart, 1951:30.

Figures: Capart, 1951, fig. 6; Monod, 1956, fig. 103.

Male Pleopod: Monod, 1933b, fig. 3f,g (Morocco, Syria) (Figure 4*g,h*).

Color: Capart (1951:31) noted that his material was "uniforme ocre rose, la carapace souvent encrassée de vase; les doigts de la pince roses." The *Pillsbury* specimens also were uniform pinkish in color, without obvious bands on the pereiopods.

MEASUREMENTS.—Carapace lengths of our specimens range from 4 to 28 mm; the single ovigerous female has a carapace length of 28 mm.

REMARKS.—The West African specimens of *Medorippe lanata* closely resemble those from localities in the Mediterranean as well as those from the Atlantic coasts of Spain and Portugal with which they have been compared. The male pleopods of our specimens apparently are identical with those of Mediterranean specimens, resembling those illustrated by Monod (1933b, fig. 3f, ♂ from Morocco) (Figure 4*g*); the pleopods of immature males are like that figured by Monod (1933b: fig. 3g) (Figure 4*h*) from a specimen from Syria; Monod questioned whether his specimens from the eastern Mediterranean actually were mature.

In spite of their close resemblance, some differences can be observed between our material from the Gulf of Guinea and specimens from more northern localities, but these observed differences overlap so broadly that we believe that the Gulf of Guinea and the Mediterranean populations of this species cannot be separated nomenclaturally at this time. Perhaps with additional material, distinct northern and southern subspecies can be recognized. In general, the Mediterranean specimens appear to be more pubescent, the spines on the merus of the walking legs are larger and give the impression of being less numerous, the teeth on the cutting edges of the chelae are sharper, and the walking legs appear to be longer and slenderer. The second and third pereiopods of a specimen from Tunisia (Figure 4*c,d*) and one from the Ivory Coast (Figure 4*e,f*) are shown here. Of these apparent differences, the first three vary widely and cannot be used to distinguish representatives of the two populations. Mediterranean specimens have 7–15 (usually 10–11) spines on the dorsal edge of the merus, whereas the Gulf of Guinea specimens have 7 to approximately 20 (usually 12) spines. The most striking difference is in the proportion of length to width of the merus of the walking legs (Table 1). The Mediterranean specimens appear to have much slenderer and longer legs, and this is in general supported by measurements, although for each size range the ratios overlap to some extent.

The Gulf of Guinea population may mature at

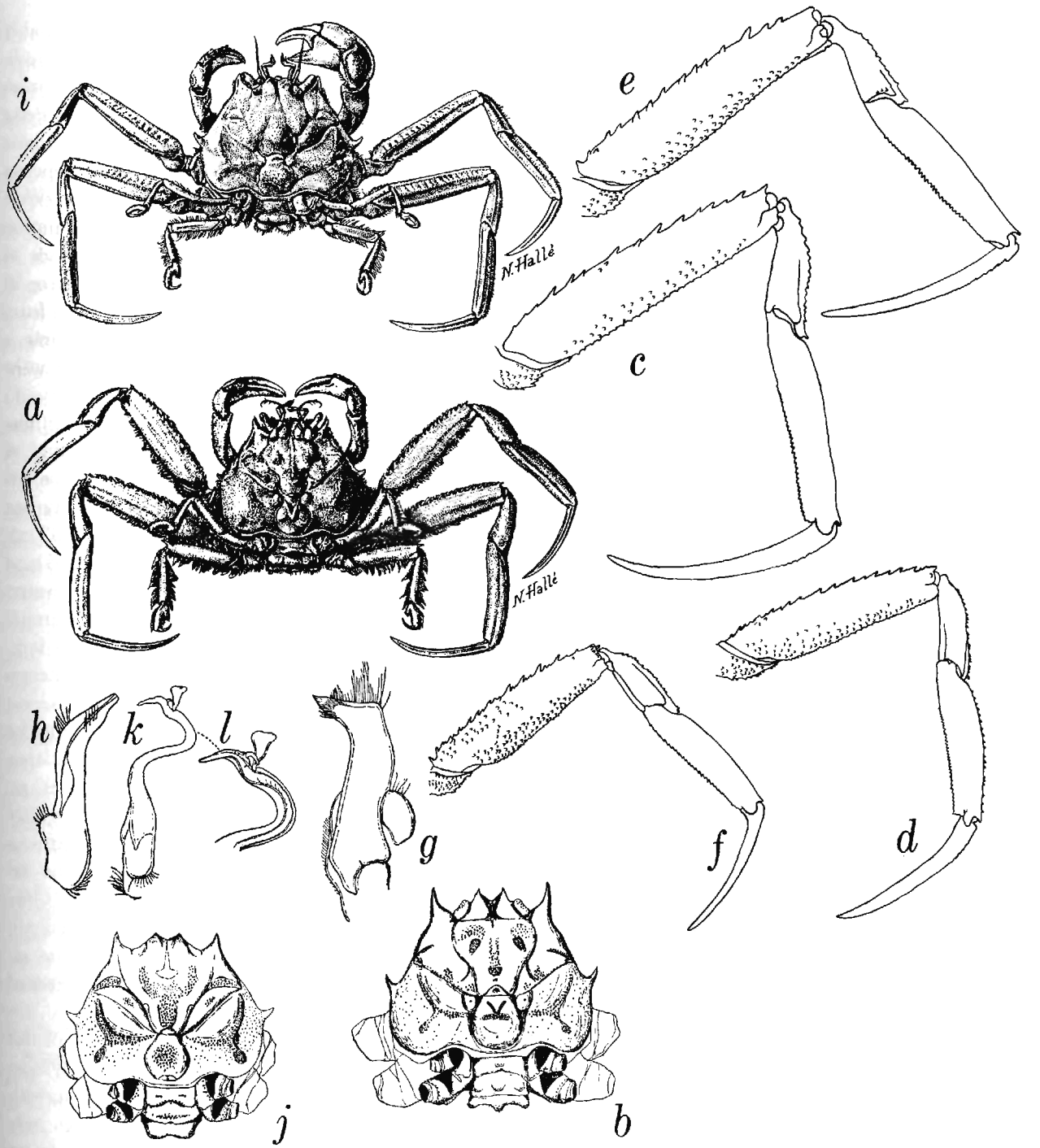

FIGURE 4.—*Medorippe lanata* (Linnaeus): *a*, dorsal view (from Monod, 1956, fig. 103); *b*, dorsal view of carapace (from Monod, 1933b, fig. 4c); *c*, second pereiopod, male, cl 23 mm, Tunis; *d*, third pereiopod, same specimen; *e*, second pereiopod, male, cl 19 mm, *Pillsbury* Sta 47; *f*, third pereiopod, same specimen; *g*, *h*, male, first pleopods (from Monod, 1933b, fig. 3f,g). *Phyllodorippe armata* (Miers): *i*, dorsal view (from Monod, 1956, fig. 102); *j*, dorsal view of carapace (from Monod, 1933b, fig. 4a); *k*, *l*, male first pleopods and apexes (from Monod, 1933b, fig. 3h).