

A new species of leaf porter crab of the genus *Neodorippe* Serène & Romimohtarto, 1969 (Crustacea, Decapoda, Brachyura, Dorippidae) from Irian Jaya, Indonesia

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Abstract.—A new species of dorippid crab of the genus *Neodorippe* Serène & Romimohtarto, is described from Irian Jaya in Indonesia. The genus was previously monotypic. The new species is distinguished from *N. callida* (Fabricius) by its more glabrous carapace and appendages, proportionately longer ambulatory legs, and different structure of the male first gonopod. Both species habitually carry leaves on their backs for camouflage.

The genus *Neodorippe* Serène & Romimohtarto, 1969, currently has only one species, *N. callida* (Fabricius, 1798). Holthuis & Manning (1990:93, 95) revised the Indo-West Pacific Dorippinae and resolved the taxonomic and nomenclature problems associated with the type species of *Neodorippe* and its identity. *Neodorippe callida* had previously been better known as *Neodorippe astuta* (Fabricius, 1798), but Holthuis & Manning (1990) showed that *Dorippe astuta* Fabricius, 1798, is actually a junior synonym of what is now known as *Dorippoides facchino* (Herbst, 1785).

All dorippids carry a variety of living and dead objects above their carapaces (Guinot et al. 1995), *N. callida* is perhaps unique in that it always carries leaves, and has the habit of swimming upside down near the water surface (Ng & Tan 1986, Ng 1987, Lim et al. 1994).

Recently, we examined a good series of specimens from Irian Jaya which superficially resemble *N. callida*. Comparisons with an excellent series of *N. callida* specimens from Singapore, Malaysia, Thailand, Brunei, Philippines and western Indonesia in the Raffles Museum, as well as examination of the type specimens in the Copen-

hagen Museum, showed that these Irian Jaya specimens belong to a new species herein described.

Specimens examined are deposited in the Museum Zoologicum Bogoriense, Indonesian Institute of Sciences, Bogor, Indonesia (MZB); and Zoological Reference Collection, Raffles Museum, National University of Singapore (ZRC). Measurements provided (in millimetres) are of the carapace width (cw) and carapace length (cl). The abbreviations G1 and G2 refer to the male first and second gonopods respectively. The terminology used here follows Holthuis & Manning (1990).

Neodorippe simplex, new species
Figs. 1–4

Material examined.—Holotype: male (cw 13.3 mm, cl 13.8 mm), station EM 870, Otakwa estuary, Timika, Irian Jaya, Indonesia, 04°58'43"S, 137°12'94"E, trawl, coll. K. Hortle, 16 Dec 1997, MZB 1479. Paratypes: 5 males (cw 11.4 mm, cl 11.7 mm; cw 12.7 mm, cl 13.0 mm; cw 12.7 mm, cl 12.8 mm; cw 12.8 mm, cl 13.2 mm; cw 14.0 mm, cl 14.1 mm), 3 females (cw 12.5 mm, cl 12.7 mm; cw 13.6 mm, cl 13.8 mm;

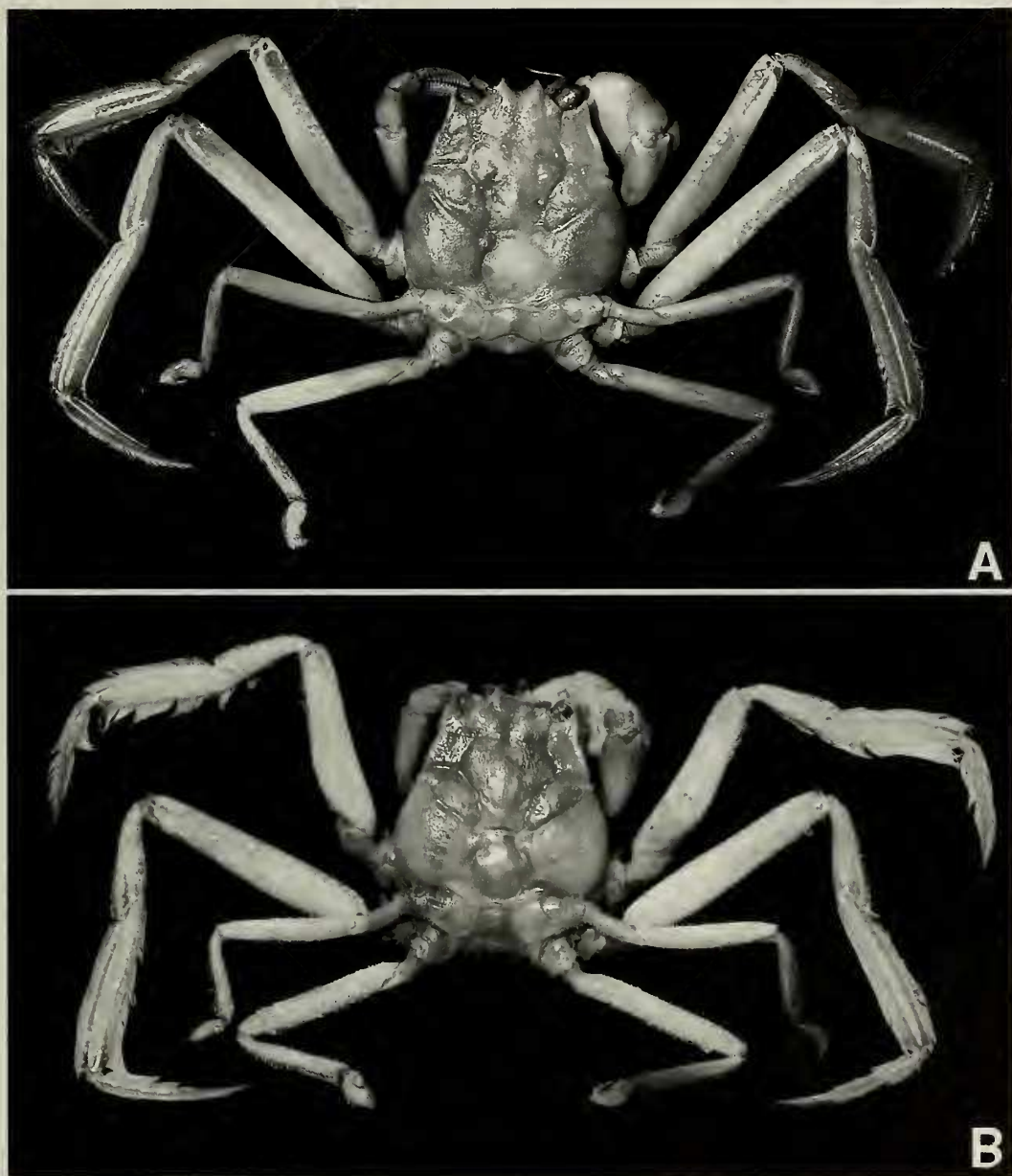


Fig. 1. A, *Neodorippe simplex*, new species, holotype male (cw 13.3 mm, cl 13.8 mm), MZB 1479; B, *N. callida* (Fabricius, 1798), male (cw 14.5 mm, cl 15.2 mm), off Kuala Lumpur, Peninsular Malaysia, coll. S. Lim, January 1993, ZRC 1993.386.

cw 13.7 mm, cl 13.5 mm [ovigerous]), same data as holotype, ZRC. 3 males (cw 7.3 mm, cl 7.4 mm; cw 8.5 mm, cl 8.7 mm; cw 8.8 mm, cl 9.0 mm), 1 female (cw 8.2 mm, cl 8.4 mm), station EM 775, Mawati estuary, Timika, Irian Jaya, Indonesia,

04°52'46"S, 137°9'26"E, coll. A. Haris, 19 Mar 2000, MZB. 1 male (cw 6.8 mm, cl 7.0 mm), estuary outside Sungai (river) Tipoeaka, Timika, Irian Jaya, Indonesia, coll. A. Haris, 28 Jun 2000, ZRC.

Description.—Males. Carapace longer

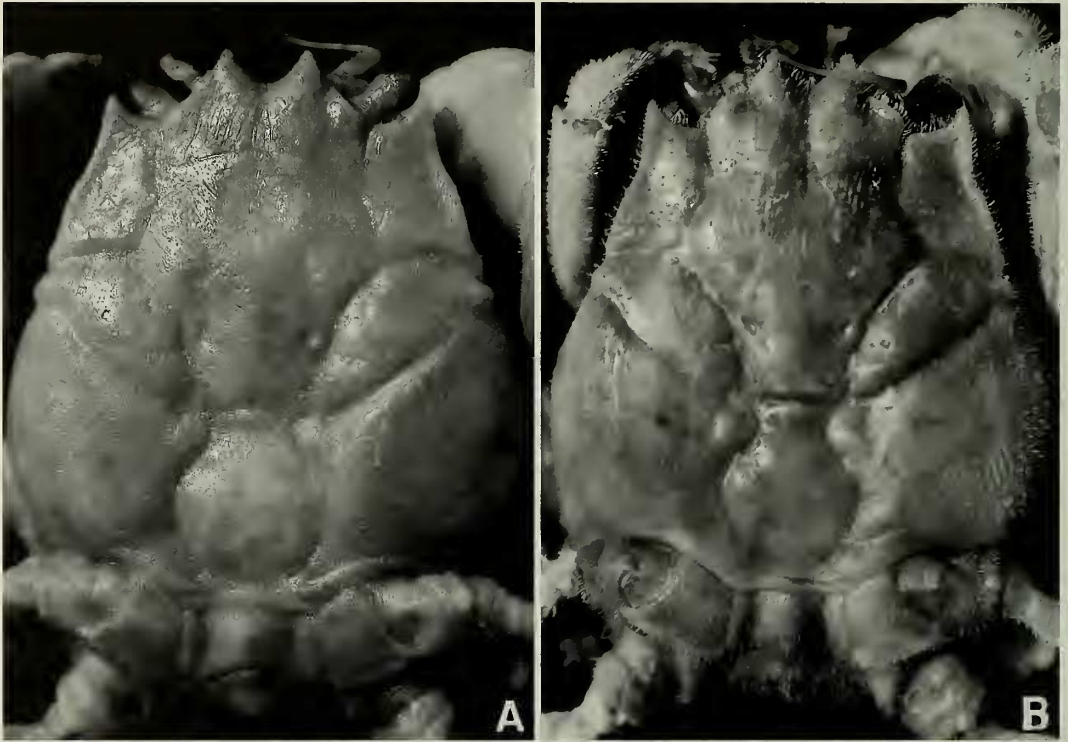


Fig. 2. Carapace. A, *Neodorippe simplex*, new species, holotype male (cw 13.3 mm, cl 13.8 mm), MZB 1479; B, *N. callida* (Fabricius, 1798), male (cw 14.5 mm, cl 15.2 mm), off Kuala Lumpur, Peninsular Malaysia, coll. S. Lim, January 1993, ZRC 1993.386.

than broad. Dorsal carapace surface almost flat, regions well defined, very smooth, glabrous; cervical groove very shallow, just discernible; gastric and branchiocardiac grooves deep, prominent; postorbital groove shallow; branchial groove deep, encircling swollen region, forming low rounded branchial tubercle at anterolateral margin. Anterolateral margin gently sinuous, smooth to slightly granular, glabrous or with only very short scattered setae; posterolateral margin convex. Front with 2 well developed teeth, separated by broad, U-shaped cleft; orbital fissure short, very narrow; outer orbital tooth triangular, tip well below level of frontal teeth. Infraorbital margin entire.

Chelipeds asymmetrical. Carpus relatively elongate, smooth, almost glabrous, without distinct teeth or projections. Larger chela with palm prominently swollen, surfaces

smooth, dorsal margins with scattered very short setae; fingers much shorter than palm; cutting margins lined with numerous evenly-sized teeth; pollex bent obliquely downwards, with shallow longitudinal median sulcus on outer surface; dactylus longer than pollex, with shallow longitudinal median sulcus on outer surface. Smaller chela slender; surfaces with scattered very short setae; fingers longer than palm, not prominently bent downwards; cutting margins lined with numerous evenly-sized teeth.

First 2 pairs of ambulatory legs (pereopods 2 and 3) very long, slender; laterally flattened, margins unarmed; carpus with short setae on dorsal margin, with only scattered setae on ventral margin; propodus with median longitudinal sulcus, margins lined with relatively dense setae, progressively longer along distal part; dactylus gently curved, bicarinate marginally with

median longitudinal groove, dorsal and ventral margins with dense setae, those on dorsal margin longer, setae not present on distal quarter of ventral margin. Third and fourth ambulatory legs (fourth and fifth pereopods) modified for carrying leaves; dactylus and propodus forming mobile subchelate structure; carpus and propodus lined with short setae.

Thoracic sternites 1 and 2 completely fused; sternites 2 and 3 separated by distinct complete suture; sternites 3 and 4 fused, demarcated by shallow transverse depression; sternite 4 with prominent median transverse ridge (gently convex towards buccal cavity) medially interrupted by notch; sternites 5, 6 and 7 raised above that of sternite 4, suture of sternites 3 and 4 separated from median transverse ridge of sternite 4 by prominent transverse depression; surface of sternites 5–7 with submedian oblique striae. Male abdominal cavity deep, reaching to just before anterior margin of sternite 5; abdominal locking button on outer posterior margin of sternite 5.

Abdomen with segments 3–5 fused, immovable, but sutures still visible between segments 3 and 5, suture between segments 4 and 5 faint, only median part still discernible; segment 1 trapezoidal; segment 2 broader, more prominently trapezoidal, proximal margin triangular; segment 3 subrectangular with convex lateral margins, slightly broader than segment 2, lateral parts swollen; segment 4 narrowly trapezoidal; segment 5 rectangular; segment 6 subtrapezoidal with sinuous lateral margins; telson triangular, partially sunken into distal margin of segment 6, tip rounded. Surfaces of segments not prominently ornamented.

G1 strongly bent, basal part bulbous, rest of structure very slender; subdistal part slightly dilated before tapering to sharp point. G2 bent.

Females. Similar to males except chelipeds symmetrical, with both chelae slender, not swollen, fingers longer than palm; abdomen rounded, with all segments free, anterior part of thoracic sternum not covered;

telson semicircular, with segments increasingly broader posteriorly; segments 4 and 5 with prominent transverse submedian ridges; abdominal cavity has pair of functional abdominal locking buttons on posterior margins of sternite 5 which hold abdomen relatively tightly to thoracic sternum.

Etymology.—The name is derived from the Latin *simplex*, meaning single, and alludes to the simple G1 of the species when compared to *N. callida*.

Remarks.—Compared to *N. callida*, the anterolateral margin of *N. simplex*, new species, is usually straighter and less obviously concave (Figs. 2A, 3A vs. 2B, 4A); the carapace, chelipeds and legs are almost glabrous or with only scattered short setae (vs. distinctly pubescent) (Figs. 1A, 2A, 3F vs. 1B, 2B, 4B); the orbital fissure is narrower (vs. broader) (Fig. 3A, B vs. 4A); the cervical grooves are very shallow (vs. deep, prominent) (Figs. 2A, 3A vs. 2B, 4A); the anterolateral and proximal part of the posterolateral margin is slightly granular to almost smooth (vs. distinctly granular) (Figs. 3A vs. 4A); the meri of the legs are distinctly more slender and relatively longer (Figs. 3F vs. 4B); and most significantly, the distal part of the G1 is simple, with only a single tapering process (vs. with two processes, one sharp, one rounded) (Figs. 3G–I vs. 4C). Other than for the G1, all the other differences are independent of size or sex.

The habits of *N. simplex* appear to be identical to what has been reported for *N. callida*. In the aquarium, *N. simplex* carry leaves on their backs and swim upside down, with the leaf, when disturbed. The subchelate structures of the last two pairs of legs of *N. simplex* are very similar to those figured for *N. callida* and probably function in the same manner (Lim et al. 1994:108, 127).

While *N. callida* has a wide distribution, ranging from the Red Sea to Southeast Asia and China (Holthuis & Manning 1990:99, 100), it has yet to be reported from eastern Indonesia or northern Australia. In the shallow continental shelf waters of Irian Jaya

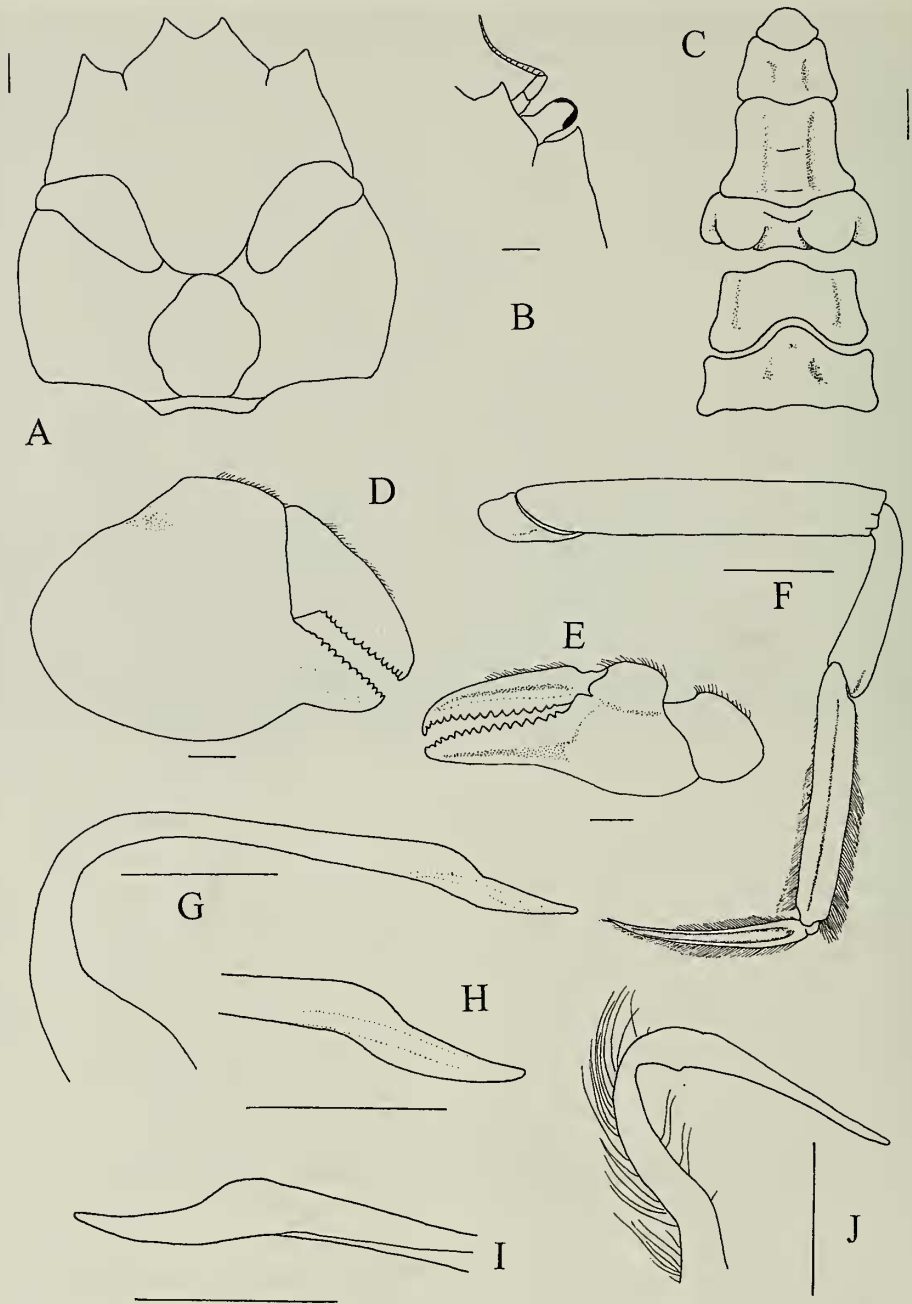


Fig. 3. *Neodorippe simplex*, new species, holotype male (cw 13.3 mm, cl 13.8 mm) (MZB 1479). A, dorsal view of carapace; B, right orbit and eye; C, abdomen, outer view; D, right major chela, outer view; E, left minor chela and carpus, outer view; F, right second ambulatory leg, outer view; G, left G1 (setae not drawn), ventral view; H, distal part of left G1, ventral view; I, distal part of left G1, dorsal view; J, left G2, ventral view. Scales = 1.0 mm.

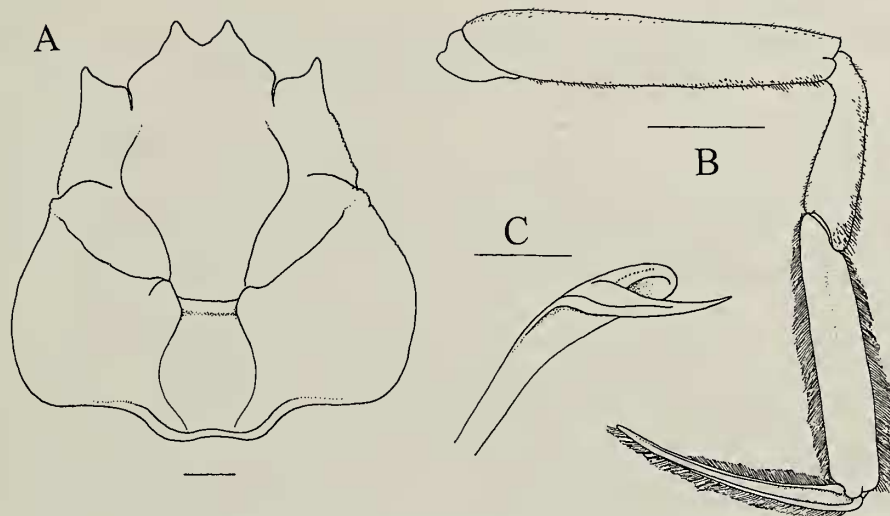


Fig. 4. *Neodorippe callida* (Fabricius, 1798), male (cw 14.5 mm, cl 15.2 mm), off Kuala Lumpur, Peninsular Malaysia, coll. S. Lim, January 1993, ZRC 1993.386. A, dorsal view of carapace (setae not drawn); B, right second ambulatory leg, outer view; C, distal part of left G1, ventral view. Scales = 1.0 mm.

and northern Australia (part of the Sahul Shelf) at least, it seems to have been replaced by *N. simplex*.

Acknowledgments

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