

## Two new species of the deep-sea crab genus *Chaceon* from the Pacific Ocean (Crustacea Decapoda Brachyura)

by Raymond B. MANNING

**Abstract.** — Two new species of *Chaceon* with laterally compressed dactyli on the walking legs are described from localities in the Pacific Ocean, *C. poupini* from the Marquesas Islands and *C. imperialis* from the Emperor Seamounts. Five species of *Chaceon* are now known from localities in the Pacific Ocean.

**Resumé.** — Deux espèces nouvelles de *Chaceon* à dactyles des pattes ambulatoires comprimés latéralement sont décrites de l'océan Pacifique : *C. poupini* des îles Marquises et *C. imperialis* des Emperor Seamounts. Cinq espèces de *Chaceon* sont maintenant connues de l'océan Pacifique.

**Key Words.** — Deep-sea crabs, Geryonidae, *Chaceon*.

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Three species of the deep-sea crab genus *Chaceon* are now known from the Pacific Ocean : *C. granulatus* Sakai, 1978 from Japan, *C. bicolor* Manning and Holthuis, 1989 from New Caledonia, Australia, and New Zealand, and *C. yaldwyni* Manning, Dawson, and Webber, 1990 from New Zealand. Two additional species are named below.

The *Chaceon* from the Marquesas Islands described below was collected by J. POUPIN of ORSTOM's Service Mixte de Contrôle Biologique (SCMB), Tahiti, during exploratory trapping surveys in French Polynesia (see POUPIN *et al.*, 1990, for background information). At first the materials collected by Mr. POUPIN were identified with *Chaceon bicolor* Manning and Holthuis, 1989, in spite of the differences in color between the populations of *Chaceon* in the Marquesas (red) and in New Caledonia and Australia (purple and tan to tan). A series of specimens of different sizes recently made available for study by Mr. POUPIN made it clear that the population of *Chaceon* from the Marquesas was distinct from *C. bicolor* proper.

That material also prompted me to re-examine material from the Emperor Seamount that had originally been identified with *Chaceon bicolor* by MANNING and HOLTHUIS (1989). That species, too, proved to be distinct from both *C. bicolor* as well as the undescribed species from the Marquesas, and it, too, is named below.

Types of the two new species characterized below have been deposited in the Muséum national d'Histoire naturelle, Paris (MNHN), and the National Museum of Natural History, Smithsonian Institution, Washington (USNM). Abbreviations used below include : cb,

carapace width including anterolateral spines ; cl, carapace length on midline ; m, meters ; mm, millimeters ; P1, cheliped ; P5, fifth pereopod (fourth walking leg) ; St, station.

## SYSTEMATIC ACCOUNT

### Family GERYONIDAE Colosi, 1923

Geryonidae Colosi, 1923 : 249.

### CHACEON Manning and Holthuis, 1989

*Chaceon* Manning and Holthuis, 1989 : 51. Type species : *Geryon fenneri* Manning and Holthuis, 1984, by original designation. Gender masculine.

#### ***Chaceon imperialis* sp. nov.**

(Figs. 1h-l, 2a-c)

*Geryon affinis* ; SAKAI, 1978 : 9, figs. 18, 19, pl. 2, fig. D (color) [not *Geryon affinis* A. Milne Edwards and Bouvier, 1894].

*Chaceon bicolor* Manning and Holthuis, 1989 : 55 [part, reference to material from Kinmei Seamount only].

PREVIOUS RECORDS : Emperor Seamounts Chain, North Pacific Ocean : North of Nintoku Seamount, 42°20'N, 170°50'E, 800 m ; Jingu Seamount [38°50'N, 171°15'E], 890-930 m ; Kinmei Seamount, 35°34'N, 171°41'E, 600-640, 980-1100 m (SAKAI, 1978). — Kinmei Seamount, 35°17.50'N, 171°25.98'E, 275 m (MANNING and HOLTHUIS, 1989).

MATERIAL EXAMINED : Kinmei Seamount, 35°17.50'N, 171°25.98'E, 275 m (150 fm), *Townsend Cromwell* Cruise 82-05, St 57, 11/11/82 : 3 ♀, 95 (cl) × 113 (cb) mm (holotype, USNM 205974), 95 × 114 mm (paratype, USNM 252410), 83 × 101 mm (paratype, MNHN-B24529).

#### DIAGNOSIS

A large *Chaceon*, cl to 155 mm, cb to 141 mm in adults, with sharp frontal and anterolateral teeth on the carapace and with laterally compressed dactyli on the walking legs. Carapace 1.1-1.2 times broader than long, inflated, convex from front to back, protogastric regions prominent, surface of carapace sparsely pitted but smooth except for few coarse tubercles on branchial regions ; hepatic region smooth ; pterygostomian region lacking line of granules on ridge leading from antennal pore. Median pair of frontal teeth slender, sharp, narrower than and extending further forward than laterals. Anterolateral teeth spiniform, fourth lower and blunter than remainder, distance from first to second tooth less than distance from third to fourth, distance from first to third slightly less than distance from third to fifth. Suborbital teeth well developed, falling short of level of lateral frontal teeth ; suborbital margin evenly curved, smooth. Cheliped : merus with sharp subdistal spine, lacking distal dorsal spine ;

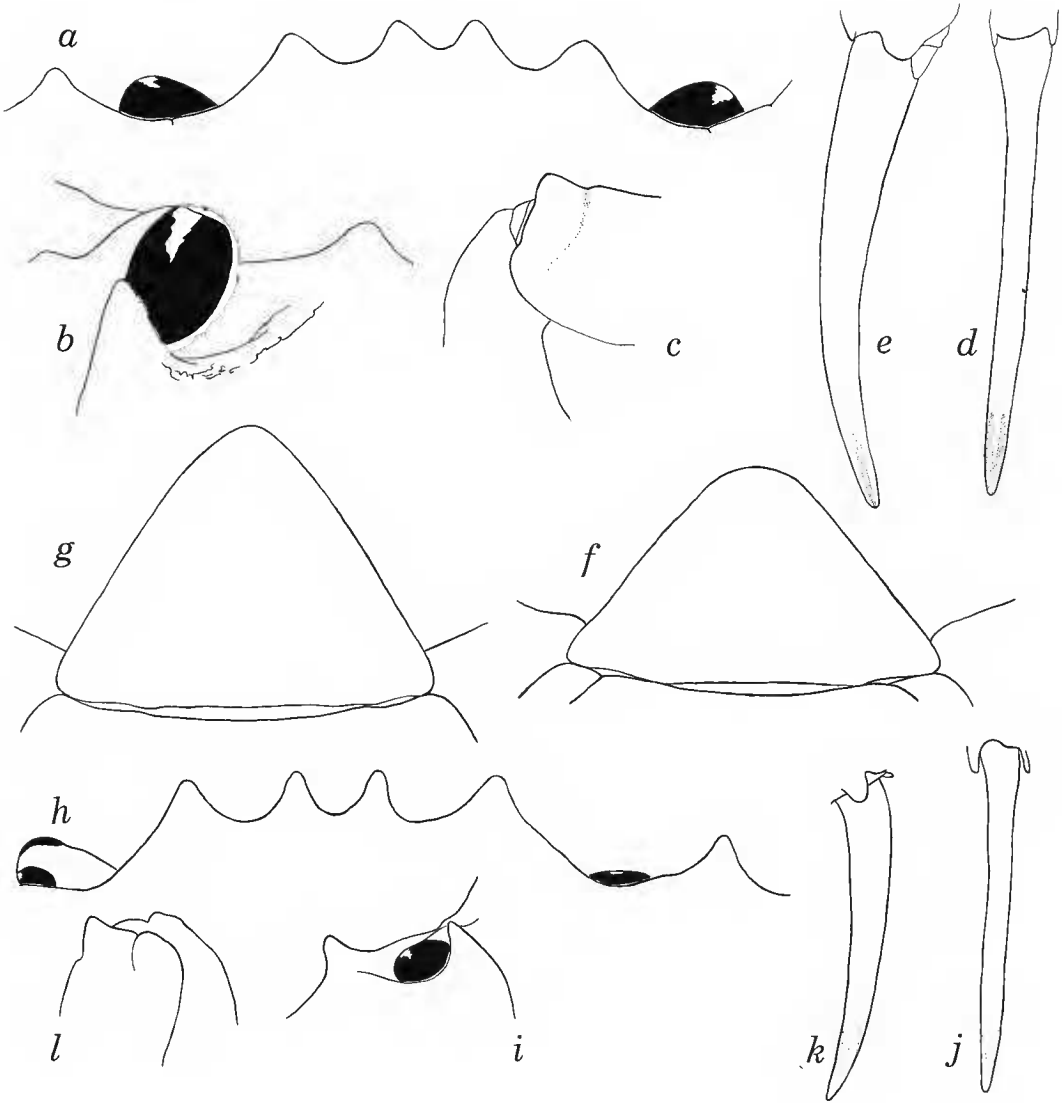


FIG. 1. — a-f, *Chaceon poupini* sp. nov., male paratype, cl 105 mm ; g, *C. bicolor* Manning and Holthuis, 1989, male, cl 109 mm, New South Wales ; h-l, *C. imperialis* sp. nov., female paratype, cl 95 mm. a, front and orbits ; b, orbit, ventral view ; c, distal end of P5 merus, lateral view ; d, P5 dactylus, dorsal view ; e, P5 dactylus, posterior view ; f, g, telson of male ; h, front and orbits ; i, orbit, ventral view ; j, P5 dactylus, dorsal view ; k, P5 dactylus, posterior view ; l, distal end of P5 merus.

carpus slightly roughened dorsally, granules relatively low and smooth, lacking outer spine; propodus coarsely pitted, lacking distal dorsal spine. Dactyli of walking legs laterally compressed, height at midlength distinctly greater than width, tips of dactyli worn down. P5: merus 4.3-4.4 times longer than high, length 0.49 times cb, lacking distal dorsal spine; carpus with low, coarse tubercles on dorsal ridge; propodus 3.6-3.7 times longer than high.

*Measurements*: Females only known. Examined specimens, cl 83 to 95 mm, cb 101 to 114 mm. SAKAI (1978) studied four specimens: males, cl 90 to 141 mm, cb 102 to 155 mm; female, cl 60 mm, cb 68 mm.

*Color*: SAKAI (1978) described the color as carapace pale purple, and the walking legs pale yellowish brown with purple markings; he also gave a colored figure of the species (pl. 2, fig. D).

#### REMARKS

This species closely resembles *C. bicolor*, with which it was originally identified, and *C. poupini* as well, but differs from both in having more prominent anterolateral teeth on the carapace in adults, a smoother carapace, and shorter walking legs. It further differs from *C. bicolor* in having the tip of the dactyli of the walking legs worn down in adults; in *C. bicolor* the tips of the dactyli are sharp in adults. Further, *C. poupini* is red in life, whereas *C. imperialis* is purplish with yellow legs. The walking legs of *C. yaldwyni* are much slenderer, and have a distal dorsal spine on the merus and a line of erect spinules on the carpus. In *C. granulatus* the dactyli of the walking legs are depressed rather than compressed, and this feature will distinguish members of that species from all other Pacific species of *Chaceon*.

Material of this species was identified as *Chaceon bicolor* by MANNING and HOLTHUIS (1989) in their original account of that species, as its color and general morphology matched that of *C. bicolor*. A comparison of material of this species with specimens of *C. poupini* and *C. bicolor* made it clear that three separate taxa could be recognized.

SAKAI (1978) remarked that this species was flatter than *C. granulatus* and that the frontal and anterolateral teeth of the carapace were well developed, even in adults.

One of SAKAI's specimens, a paratype of *C. imperialis*, is now in the collections of the Nationaal Natuurhistorisch Museum in Leiden.

*ETYMOLOGY*: The name is derived from the type locality in the Emperor Seamounts Chain.

*RANGE*: Known only from the Emperor Seamounts Chain in the northern Pacific Ocean, in depths between 275 and 980-100 meters.

#### ***Chaceon poupini* sp. nov.**

(Figs. 1a-f, 2d-f)

*MATERIAL EXAMINED*: Marquesas Islands, récoltes SCMB, leg J. POUPIN: Hiva-Oa, 9°49.6'S, 139°10.7'W, 600 m, 09/09/89: 2 ♂, 117 (cl) × 135 (cb) mm (paratype, MNHN-B24704), 124 (cl) × 143 (cb) mm (paratype, USNM 243908). — St. 280, Eiao, 8°10.3'S, 139°42.6'W, 600 m, 18/08/90: 1 ♂,

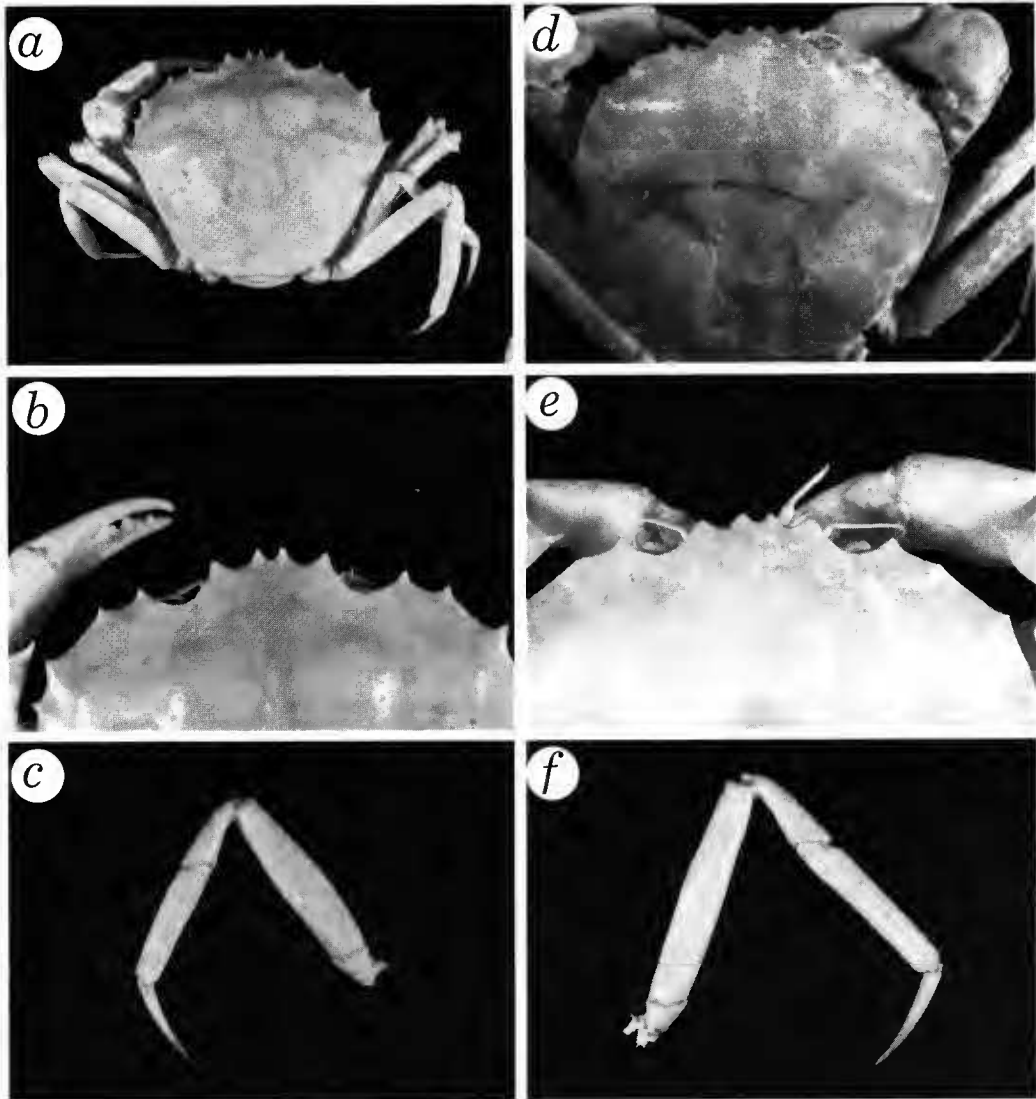


FIG. 2. — a-c, *Chaceon imperialis* sp. nov., female paratype, cl 95 mm ; d-f, *Chaceon poupini* sp. nov., male paratype, cl 105 mm. a,d, carapace, dorsal view ; b,e, frontal region ; c,f, P5.

141 × 160 mm (holotype, MNHN-B24703). — St. 293, Hiva-Oa, 9°47.3'S, 139°11.8'W, 900 m, 30/08/90 : 1 ♂, 58 × 69 mm, 2 ♀, 49 × 61 mm and 118.5 × 135.5 mm (paratypes, MNHN-B24706). — St. 298, Tahuata, 9°54.2'S, 139°09.2'W, 1050 m, 01/09/90 : 3 ♂, 55 × 68 mm, ca. 85 × ca. 99 mm, and 105 × 123 mm, 2 ♀, 42 × 51 and 52 × 62 mm (paratypes, USNM 252409).

#### DIAGNOSIS

A large *Chaceon*, cl to 141 mm, cb to 160 mm, with low, blunt frontal and anterolateral teeth on the carapace in adults and with laterally compressed dactyli on the walking legs. Carapace 1.1-1.2 times broader than long, moderately inflated distinctly convex from front to back, surface of branchial regions lightly pitted and eroded. Median pair of frontal teeth short, rounded, separated by U-shaped emargination, median frontal teeth extending further forward than laterals. Anterolateral teeth well developed but not spiniform, first, third, and fifth largest, fourth obsolete in large specimens. Distance from first to second tooth subequal to distance from third to fourth, distance from first to third tooth subequal to or slightly greater than distance from third to fifth. Suborbital tooth well developed, falling short of level of lateral frontal teeth; suborbital margin evenly curved, smooth. Cheliped : merus with sharp spine subdistally, lacking distal dorsal spine; carpus roughened dorsally, lacking outer spine, anterior margin smooth, inner spine strong; propodus lightly pitted and eroded, lacking distal dorsal spine. Dactyli of walking legs laterally compressed, height at midlength distinctly greater than width. P5 : merus 5.1-6.0 (mean 5.5) times longer than high, 0.55-0.64 (mean 0.61) times cb, lacking distal dorsal spine; carpus with line of low tubercles dorsally in smaller specimens, smooth in adults; propodus longer than dactylus, 3.9-4.8 (mean 4.3) times longer than high. Telson length 0.58-0.65 (mean 0.62) times width in males.

*Measurements* : Males, cl 45 to 141 mm, cb 56 to 160 mm; females, cl 42 to 118.5 mm, cb 51 to 135.5 mm.

*Color* : Uniform red in life.

#### REMARKS

This species, so far known only from the Marquesas Islands, resembles *C. bicolor* Manning and Holthuis, 1989 in overall facies, but differs in several features. The suborbital spine is lower, the carpus of the cheliped is smoother in adults, lacking the low granulations characteristic of *C. bicolor*, the telson of the male is wider and shorter, and the dactylus of the walking legs is slenderer, with the height much greater than the width. In addition, this species is red in life, whereas *C. bicolor* is purple and tan to tan in life.

*Chaceon poupini* differs from *C. granulatus* in having compressed rather than depressed dactyli on the walking legs and by its much smoother carapace. It can be distinguished from *C. yaldwyni*, which is also red in life, by the shorter walking legs, lacking a distal spine on the merus and erect spinules on the carpus.

Differences among the five species of *Chaceon* now known from the Pacific Ocean are summarized in tabular form below.

	<i>bicolor</i>	<i>granulatus</i>	<i>imperialis</i>	<i>poupini</i>	<i>yaldwyni</i>
Carapace teeth sharp in adults	—	—	+	—	+
Carapace strongly granular	—	+	—	—	—
P1 carpus with outer spine	—	—	—	—	+
P5 merus with distal spine	—	—	—	—	+
L/H P5 merus	4.3-5.1	—	4.3-4.4	5.1-6.0	5.1-5.3
L/H P5 propodus	4.1	—	3.6-3.7	3.9-4.8	4.9
P5 dactylus compressed (C) or depressed (D)	C	D	C	C	C
Color	tan or purple	yellow- brown	purple, legs yellow	red, legs red	red, legs red

ETYMOLOGY : This species is dedicated to Joseph POUPIN, whose fieldwork in French Polynesia has materially increased our knowledge of deep-water crustaceans occurring there.

RANGE : Known only from the Marquesas Islands in depths of 600, 800, 900, and 1050 m.

#### Acknowledgements

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