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A new species of *Ischyromene* Racovitza, 1908 (Sphaeromatidae: Isopoda: Crustacea) from intertidal marine habitats in New Zealand

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Abstract

Ischyromene kokotahi sp. nov., from the intertidal 'mussel and barnacle zone' of North Island, New Zealand, is described and figured. It is the seventh species of *Ischyromene* recorded from New Zealand. The species is characterized by the presence, in both sexes, of a conspicuous pair of submedian longitudinal nodular carinae, this character distinguishing males of the species from all other New Zealand species. Comparative figures are given for *Ischyromene condita* Hurley & Jansen, 1977. A revised diagnosis to the genus is given.

Key words: New Zealand, Sphaeromatidae, *Ischyromene*, southwest Pacific, inter tidal

Introduction

In 2003 a single specimen of a small sphaeromatid isopod was collected in Auckland harbour during the New Zealand Ministry of Fisheries 'Ports Survey', a program to locate and identify introduced marine organisms. This specimen, a species of *Ischyromene* Racovitza, 1908, showed some distinctive similarities to the Mediterranean species *I. bicarinata* Harrison, 1981. Further specimens were obtained by the author from Evans Bay in Wellington in 2004 and 2005, and from further 'Ports Surveys' in Wellington harbour, this material confirming that the specimens belonged to a new species, and not to an introduced European species.

The genus *Ischyromene* is well represented in New Zealand waters, with five species having been recorded by Hurley & Jansen (1977), at that time all placed in the genus *Dynamenella* Hansen, 1905. None of the New Zealand species have been described in detail, and for the most part their generic characters remain unrecorded, as is the case for all species of *Ischyromene* except *I. lacazei* Racovitza, 1908 (see Schüller & Wägele

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2005b), the tropical Australian species *I. polytyla* Harrison & Holdich, 1982, and the new species described here.

Higher classification follows Brandt & Poore (2003).

Methods

Terminology, measurements and descriptions follow Bruce (e.g. 1997, 2003). The generic description was produced using a DELTA (Dallwitz *et al.* 1997) generic data set that is under development.

Abbreviations

RS—robust seta/setae; CP—circumplumose seta/e; PMS—plumose marginal seta/e; NHM—The Natural History Museum, London; NIWA—National Institute of Water and Atmospheric Research, Wellington; NMNZ-Museum of New Zealand Te Papa Tongarewa; PS—Ports Survey.

Superfamily Sphaeromatoidea Latreille, 1825

Family Sphaeromatidae Latreille, 1825

Genus *Ischyromene* Racovitza, 1908

Ischyromene Racovitza, 1908: LXII; Harrison & Holdich, 1982: 85.— Kensley & Schotte, 1989: 217.— Poore, Lew Ton & Bruce, 2002: 238.
Type species: *Ischyromene lacazei* Racovitza, 1908, by monotypy.

Species included (New Zealand species in bold): *I. australis* (Richardson, 1906), Cape Town, South Africa; *I. australoides* (Barnard, 1940), South Africa; *I. barnardi* (Menzies & Glynn, 1968), Puerto Rico; *I. bicarinata* Harrison, 1981, Israel (Mediterranean); *I. bicolor* (Barnard, 1914), South Africa; *I. brunnea* (Vanhöffen, 1914), St. Paul Is., southern Indian Ocean; *I. codii* (Nobili, 1906; figured in Nobili 1907), Tuamotu Islands; ***I. condita*** (Hurley & Jansen, 1977), New Zealand; ***I. cordiforaminalis*** (Chilton, 1883), New Zealand; *I. eatoni* (Miers, 1875), Kerguelen Is.; ***I. hirsuta*** (Hurley & Jansen, 1971), New Zealand; ***I. huttoni*** (Thomson, 1879), New Zealand; ***I. insulsa*** (Hurley & Jansen, 1977), New Zealand; *I.* ***kokotahi*** **sp. nov.**, New Zealand; *I. lacazei* Racovitza, 1908 (type species), Atlantic and Mediterranean France; *I. magna* Barnard, 1954, South Africa; *I. menziesi* (Sivertsen & Holthuis, 1980), Tristan da Cunha; ***I. mortenseni*** (Hurley & Jansen, 1977), New Zealand; *I. polytyla* Harrison & Holdich, 1982, Queensland, Australia; *I. rubida* (Baker, 1926), New South Wales, Australia; *I. sapmeri* (Kensley, 1976), St. Paul Is., southern Indian Ocean; *I. scabricula* (Heller, 1868), South Africa; *I. tuberculata* (Menzies, 1962), Chile.

Incertae sedis: Currently housed in the genus but regarded as incertae sedis: *I. ovalis* (Barnard, 1914), South Africa; *I. macrocephala* (Krauss, 1843), South Africa.

Diagnosis

Pleon of 4 segments, with 2 long, separate sutures, which run to the posterior margin. Pleotelson posterior margin perforate, with posteriorly closed and dorsally directed foramen, or with ventrally open exit channel. Penial processes short, not extending beyond pleopod peduncle. Pleopod 1 with both rami indurate (i.e. thickened) or the endopod with an indurate mesial margin; pleopods 1–3 endopods noticeably shorter than the exopods. Uropod rami biramous, lamellar.

Description

Body vaulted, dorsal surfaces smooth, with sparse setae, with ability to conglobate; not or weakly sexually dimorphic. *Head* with rostral point present, simple, not separating antennular bases; anterior margin simple, without incision, lateral margins not laterally extended to body outline. Eyes lateral, simple. *Pereonites* smooth or nodular or ornamented (to various degrees); 2–7 or 5–7 with posterior margin raised; pereonite 1 lateral margins not anteriorly produced, not laterally enclosing head, anteriorly without keys. *Sternite 1* without cuticular mesial extensions. *Pereonite 6* simple, without bosses, processes or marginal extensions. *Pereonite 7* as wide as pereonite 6, forming part of body outline, dorsally without bosses, processes or marginal extensions or posterior margin with posteriorly produced rim. *Coxae* ventrally wide, those of pereonites 2–7 overlapping anterior over posterior, rectilinear, coxae without ventral 'lock and key' processes, without grooved articulation; those of pereonite 6 not large, not overlapping those of pereonite 7. *Pleon* consisting of 4 visible segments (as determined by lateral sutures); pleonite 1 entire, posterior margin even, as wide as remainder of pleon, extending to pleon lateral margins; pleonal sternite present; sutures running to posterior margin, all separate, lateral or both sutures long; dorsal surface without process; posterior margin even, with 'keys'. *Pleotelson* vaulted, anteriorly as wide as pleon, without dorsal process; posterior margin forming posteriorly directed ventrally open tube or with dorsally directed ventrally and posteriorly enclosed short tube or with subapical round or Y-shaped foramen connected to posterior by narrow slit, with ventral thickened rim; lateral margins simple. *Membrana cingula* absent.

Antennule peduncle with basal articles medially not in contact, articles 1 and 2 not robust, articles 1–3 of similar stoutness; article 1 not anteriorly produced, without anterior lobe; article 2 approximately 0.5 as long as article 1, without anterodistal lobe; articles 1 and 2 not flattened; with articles 2 and 3 collinear, article 3 as long as or shorter than article 2; flagellum shorter than peduncle, longer than peduncular article 3. *Antenna* peduncle articles all collinear, articles less robust than antennule, peduncular articles all of sub-similar thickness.

Epistome anteriorly narrow, without median constriction, anteriorly flush with head, not projecting, anteriorly not prominently extended, short, wrapping around labrum.

Mandible incisor wide, multicuspid; lacinia mobilis present, tri-cuspid; spine row normal; molar process gnathal surface with transverse ridges, rounded. *Maxillule* lateral lobe RS with some or all serrate, medial lobe with 4 major RS, these setae being heavily serrate. *Maxilla* with setae on middle and lateral lobes serrate. *Maxilliped* palp articles 2–4 medial margins lobate, article 2 not expanded; endite distal margin rounded, with clubbed RS, dorsomedial margin with long curved serrate RS.

Pereopod 1 ambulatory; dactylus secondary unguis short, robust, trifid. Pereopod 2 similar in proportion to pereopod 3; dactylus with secondary unguis trifid, short and stout. Pereopods 3–7 dactylus with secondary unguis trifid. Pereopods with inferior margins of ischium to carpus bearing dense setulose fringe, ischium superior margin with sinuate acute RS; pereopods 1–3 or 4 ischium superior margin without long stiff slender setae. Pereopods 1 (or 1–3), inferior margins of merus, carpus and propodus palm without conspicuous RS.

Penial processes entirely separate, basally in contact, short (not extending beyond pleopod peduncles), straight, apex bluntly rounded.

Pleopod 1 rami operculate; with exopod indurate; rami collinear; endopod of similar proportions to exopod, medial margin indurate, distally triangular, endopod proximomedial heel present; exopod distally rounded, exopod distal margins not serrate. *Pleopod 2* endopod markedly longer than exopod; exopod distal margins not deeply serrate; *appendix masculina* inserted basally or sub-basally, proximal lobe absent, with straight margins or terminally spatulate, about as long as endopod, distally bluntly rounded. *Pleopod 3* exopod transverse suture absent, endopod longer that exopod. *Pleopod 4* rami without PMS; exopod transverse suture absent, exopod thickened transverse ridges present, exopod lateral margin not thickened, with short simple marginal setae; endopod thickened, transverse ridges present; mesial margin without deep distal notch; without proximomedial lobe. *Pleopod 5* exopod transverse suture present, entire, thickened transverse ridges present, lateral margin without short simple setae, not thickened; with 3 discrete scale patches on protruding lobes; endopod with thickened transverse ridges present, endopod with proximomedial lobe.

Uropod rami not strongly flattened, not forming part of continuous body outline; exopod lamellar, exopod similar in length to endopod, proximally inserted (at anterolateral angle), lateral margin simple, smooth, distally broadly rounded; endopod lamellar, distally broadly rounded.

Female. *Mouthparts* not metamorphosed. *Marsupium* formed from 3 pairs of oostegites, anterior pocket absent, posterior pocket present, oostegites overlapping at mid-line. Otherwise generally similar to the male.

Remarks

Ischyromene Racovitza, 1908, a long-established genus of 23 mostly small species (<5 mm), remains poorly known. Species of the genus, in the past mostly identified as species of *Dynamenella* Hansen, 1905, were allocated to *Ischyromene* by Harrison & Holdich (1982) in their revision of the genus. *Ischyromene* is readily recognized by the posterior margin of the pleotelson being perforate, short penial processes in males, pleopod 1 with both rami indurate (i.e. thickened) or the endopod with an indurate mesial margin, pleopods 2 and 3 exopods being noticeably shorter than the endopods, and the pleon with two separate sutures which run to the posterior margin. Superficially the genus resembles both *Dynamenella* and *Paradella*, genera not known from New Zealand, but the shape and thickened cuticle of pleopod 1 (usually easy to observe) readily distinguishes *Ischyromene* from those genera.

Ischyromene belongs to a group of primarily Southern Hemisphere genera (the '*Ischyromene* group'; see Bruce 1995) characterized by the wholly or partly indurate (thickened) first pleopods (among other characters). Related and often sympatric genera include *Cymodocella* Pfeffer, 1887 and *Dynamenopsis* Baker, 1908, these genera being distinguished by a prominent posteriorly directed and ventrally closed tube in the former, and large coxae on pereonite 6 in the latter (Harrison & Holdich 1982).

Most species of the genus are minimally described and very poorly characterized. Detailed descriptions have been published for only two species — *I. lacazei* Racovitza, 1908 (Schüller & Wägele 2005a, b) and *I. polytyla* Harrison & Holdich, 1982. The genus has a discontinuous distribution with two species known from the eastern Atlantic and Mediterranean, and one species from Puerto Rico; most species are from temperate and cool-water Southern Hemisphere regions. A character state present in several New Zealand species is the presence of dense and laterally extended setae on the margins of the pereonites and pleon (present species; see also Hurley & Jansen 1977), and of an anterior spine in the pleotelson foramen. Species also differ in being smooth bodied (e.g. *I. huttoni*) or ornamented on the pleotelson (most species). The posterior margin of the pleotelson may have a posteriorly directed and ventrally open sinus or may have a dorsally directed and posteriorly closed foramen. At present there is insufficient data to assess the phylogenetic significance of these differing character states within the genus.

Distribution

Predominantly Southern Hemisphere, with most records from south of the Tropic of Capricorn, the exception being *I. codii* from French Polynesia (Harrison & Holdich 1982). In the Northern Hemisphere one species is known from the Caribbean and two species from the eastern Atlantic and Mediterranean (not one as stated by Schüller & Wägele 2005a, b); all species are from intertidal or shallow water habitats.

***Ischyromene kokotahi* sp. nov.**
(Figs 1–4)

Material

Holotype: ♂ (3.8 mm), NIWA sea wall, Evans Bay, Wellington, 41°18.192'S, 174°48.370'E, 14 December 2004, intertidal barnacles and *Mytilus*, coll. N.L. Bruce & S. Lischinski (NIWA 23091).

Paratypes: ♀ (non-ovig. 3.5mm), same data as holotype (NIWA 23092). ♂ (4.1 mm [dissected; earlier damage to pleopods and one P7]), ♀ (non-ovig. 3.0 mm), 1 imm (2.6 mm damaged), NIWA sea wall, Evans Bay, Wellington, 41°18.190'S, 174°48.370'E, 14 January 2005, low intertidal *Mytilus* with encrusting barnacles, coll. N.L. Bruce (NIWA 23093).

Additional material: ♂ (3.4 mm) Auckland, 36°50.655'S, 174°46.684'E, 2 April 2003, scrapings from concrete pile, 1.6 m, PS stn AKL029 (NIWA 23094). ♂ (3.2 mm), Gisborne, 38°40.539'S, 178°01.527'E, 6 Dec 2005, scrapings from concrete pile, 2 m, PS stn 2GIS063 (NIWA 23095). ♂ (3.8 mm), Burnham Wharf, Wellington, 41°18.708'S, 174°48.707'E, 14 February 2005, pile scrape, PS stn 2WLG002 (NIWA 23096). ♀ (3.5 mm), Burnham Wharf, Wellington, 41°18.708'S, 174°48.707'E, 14 February 2005, pile scrape, PS stn 2WLG012 (NMNZ Cr.10855). 2 ♀ (ovig. 3.1, 3.5 mm), overseas passenger terminal, Wellington, 41°17.314'S, 174°47.124'E, 17 February 2005, pile scrape, PS stn WLG105 (NIWA 230101).

Also examined: *Ischyromene bicarinata* Harrison, 1981: Holotype, NHM 1980.222.1; 5 paratypes 1980.223.5, Mediterranean, Israel (details agree with that published). *Ischyromene condita* (Hurley & Jansen, 1977): 16 specimens, ♂, ♀ and mancas (♂ 3.3 and ♀ 3.5 mm drawn, Fig. 5), St Clair, Dunedin, 25 Jan 1968, intertidal algae… heavy turf E 973, coll. J.L. Barnard (NIWA 23097). [*Note*: These specimens were under an unpublished species name, but appear to be those reported by Hurley & Jansen (1977) as *I. condita* from that station number and locality; the type material of *I. condita* is held at the Canterbury Museum, Christchurch, but it was not possible to obtain this material on loan.] 35 specimens, ♂, ♀ and mancas, of *I. condita* of Poore (1981, misidentification), The Snares Islands, New Zealand (NMNZ Cr.2331, 3 tubes).

Description

Male. *Body* about 2.2 times as long as greatest width, strongly vaulted, lateral margins subparallel, widest at pereonite 6; dorsal surfaces smooth. *Head* anterior margin with single weak transverse ridge, rostral process weakly distinct, visible in dorsal view; 1.5 times as long as pereonite 1. *Pereonite* 1 about as long as pereonite 2 (in lateral view), unornamented; pereonites 2–6 subequal in length, 7 longest; pereonite 7 posterior margin dorsally produced forming posterior ridge, with single sublateral indentation on each side. *Coxae* without evident sutures. *Pleon* with evident sutures without sublateral 'keys'. *Pleotelson* with 2 conspicuous, longitudinal, submedial irregular carina, each with 3

nodules; laterally adjacent to each carina is an irregular row of separate nodules, decreasing in size posteriorly; pleotelson sinus posteriorly closed, opening dorsally, laterally with dorsal rim, with anterior spine in sinus cavity.

Antennule peduncle article 1 2.9 times as long as wide, about 2.6 times as long as article 2; posterior margin of both articles 1 and 2 with brush-tipped sensory setae, article 1 with 2 anterior bush tipped setae; article 3 about 1.5 times as long as article 2, 0.6 times as long as article 1, 2.8 times as long as wide; flagellum 7-articled, extending to mid-pereonite 1, about 1.7 times as long article 3. *Antenna* peduncle articles 1 shortest, 2–4 subequal in length and slightly longer than article 1; article 4 about 1.2 times as long as article 3, about 0.6 as long as article 5; flagellum 1.1 times as long as peduncle, extending to posterior of pereonite 4, with 18 articles.

Epistome anteriorly with median portion produced and narrowly rounded, without lateral constriction. Left *mandible* incisor with 3 cusps, lacinia mobilis with 3 cusps, spine row of 6 broad-based plumose spines; molar process round; palp article 2 0.7 times as long as article 1, distolateral margin with 7 biserrate setae, becoming progressively longer distally; article 3 with 11 serrate setae, terminal seta being longest. *Maxillule* mesial lobe with 4 long, strongly pectinate RS and 2 shorter simple RS, lateral lobe with 11 peripheral RS on gnathal surface, twelfth seta set between these; 3 proximomesial RS strongly serrate; single biserrate seta present in distomesial surface. *Maxilla* lateral lobe with 6 curved nodular RS, and middle lobe with 5 curved bluntly serrate RS, mesial lobe with 13 serrate and biserrate RS, proximal seta longest. *Maxilliped* endite lateral margin sinuate, distal margin with 1 simple acute RS at distomesial angle, distomesial margin with 2 CP RS, distal margin with 4 blunt and 1 acute CP stout RS and 4 sinuate and elongate CP RS; palp articles 2–4 lobed; articles 2–5 with about 12, 18, 14 and 8 setae respectively.

Pereopod 1 basis about 2.8 times as long as greatest width, approximately 1.7 times as long as propodus; margins large without setae or scale-setae; *ischium* 0.8 times as long as propodus, 2.2 times as long as greatest width, superior margin with 1 mid-distal acute short simple RS, distal superior margin with distinct spine-like scales, distal inferior margin with short sparse scale-setae; *merus* about 0.5 as long as ischium, as long as greatest width, superior distal angle with 1 acute simple RS, inferior margin with dense setulose fringe, inferior distal margin with 3 long simple setae; *carpus* approximately as long as wide, inferior margin 0.5 times as long as merus, with dense setulose fringe, inferior distal angle with 2 simple setae; *propodus* 2.0 times as long as greatest width, inferior margin dense setulose fringe and 2 simple setae, distal angle with 1 long and 1 short serrate RS; *dactylus* 0.5 times as long as propodus, inferior margin with prominent serrate cuticular scales, secondary unguis with 1 major and 2 minor cusps. Pereopods 2 and 3 longer than pereopod 1, not markedly slender. *Pereopod 2 ischium* 2.7 times as long as greatest width, superior distal margin with 1 proximal acute RS and 1 acute RS at mid-point, inferior margin setulose, distal angle with 1 short slender seta; *merus* 0.6 times as long as ischium, inferior margin with setulose fringe, with 2 slender setae, superior distal

angle with 1 short, simple seta; *carpus* 1.1 times as long as merus, 1.8 times as long as wide, anterodistal angle with 1 simple and 1 palmate setae, inferior margin setulose, with 4 slender setae; *propodus* 0.9 times as long as ischium, 3.2 times as long as wide, superior distal angle with 1 simple and 1 palmate setae, inferior margin setulose, with 6 slender setae. *Pereopods 5–7* similar, longer than pereopods 2 and 3. *Pereopod 7 basis* 3.1 times as long as greatest width, inferodistal angle with 1 acute RS, superior margin with 2 proximal palmate seta; *ischium* 0.7 times as long as basis, 3.0 times as long as greatest width, superior margin with 1 short proximal RS and 1 prominent acute RS at midlength; *merus* 0.5 times as long as ischium, 1.3 times as long as wide, superior distal margin with 1 long simple seta, inferior margin setulose with 2 simple setae; *carpus* 0.9 times as long as merus, 1.6 times as long as wide, distolateral margin with 5 biserrate RS, inferior margin setulose with 3 slender setae; *propodus* 0.7 times as long as ischium, 2.9 times as long as wide, superior distal angle with 2 slender setae, inferior margin setulose, with 3 simple setae midlength and 3 cluster of slender setae distally; dactylus 0.5 as long as propodus.

Penial processes set mutually adjacent, each 2.5 as long as basal width, distally bluntly rounded.

Pleopod 1 exopod and endopod with 16 and 15 PMS respectively; endopod 0.8 as long as exopod, 1.7 times as long as greatest width, proximal lateral margin weakly concave; exopod lateral margin angled at mid-length, with short simple setae (PMS largely absent), distal margin rounded; peduncle medial margin with 3 coupling hooks. *Pleopod 2* exopod and endopod with 20 and 16 PMS respectively; *appendix masculina* inserted sub-basally, 11 times as long as basal width, slightly shorter (0.96) than endopod, weakly spatulate, apex narrowly rounded, endopod mesial margin straight, lateral margin weakly convex distally, weakly concave proximally; exopod axis oblique, 0.6 times as long as endopod, distal margin broadly rounded. *Pleopod 3* exopod and endopod with 23 and 15 PMS respectively. *Pleopod* 4 both rami with prominent thick ridges; endopod distal margins simple, proximomesial lobe present; exopod lateral margin with ~15 fine simple setae. *Pleopod 5* both rami with prominent thick ridges, those of exopod indistinct; exopod with 3 scale patches, 2 distal and 1 proximal to suture, lateral margin with ~18 short simple setae.

Uropod rami subequal in length, distal margins smooth, with numerous marginal setae; endopod lateral margin curving smoothly to form distinct apical angle to mesial margin, 2.4 times as long as wide; exopod wide, lanceolate, lateral margin convex, about 2.0 (1.95) times as long as wide.

Female. Body shape and ornamentation similar to that of male; ovigerous females slightly less vaulted, with the transverse submarginal ridges on pereonite 7 and pleon slightly less well defined.

Size: Adults 3.0 to 4.1 mm; immature specimen 2.6 mm.

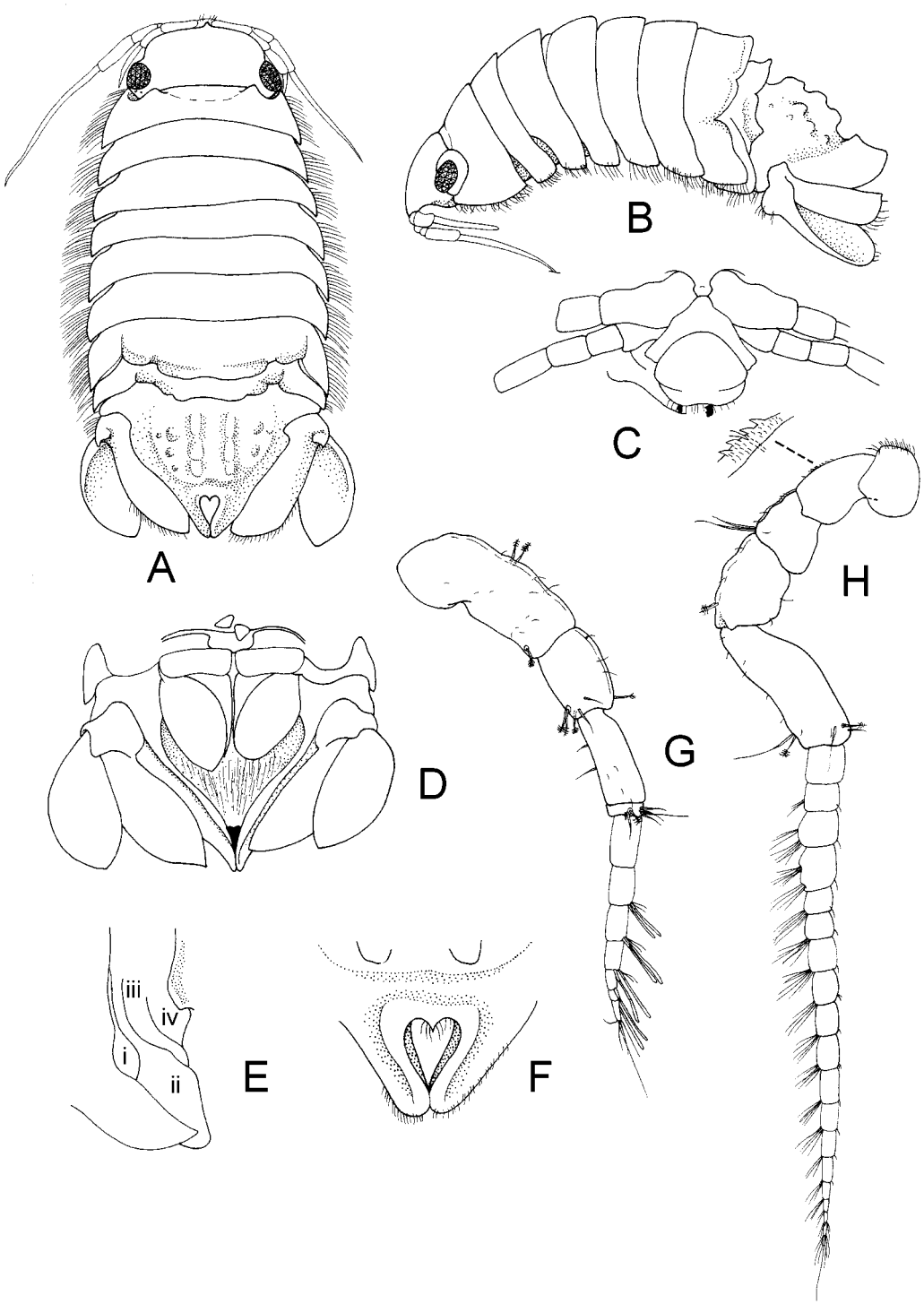

FIGURE 1. *Ischyromene kokotahi* **sp. nov.** A–F, holotype, remainder paratype. A, dorsal view; B, lateral view; C, frons; D, pleotelson, ventral view; E, pleon, lateral detail (pleonites numbered); F, pleotelson foramen, dorsal view; G, antennule; H, antenna.

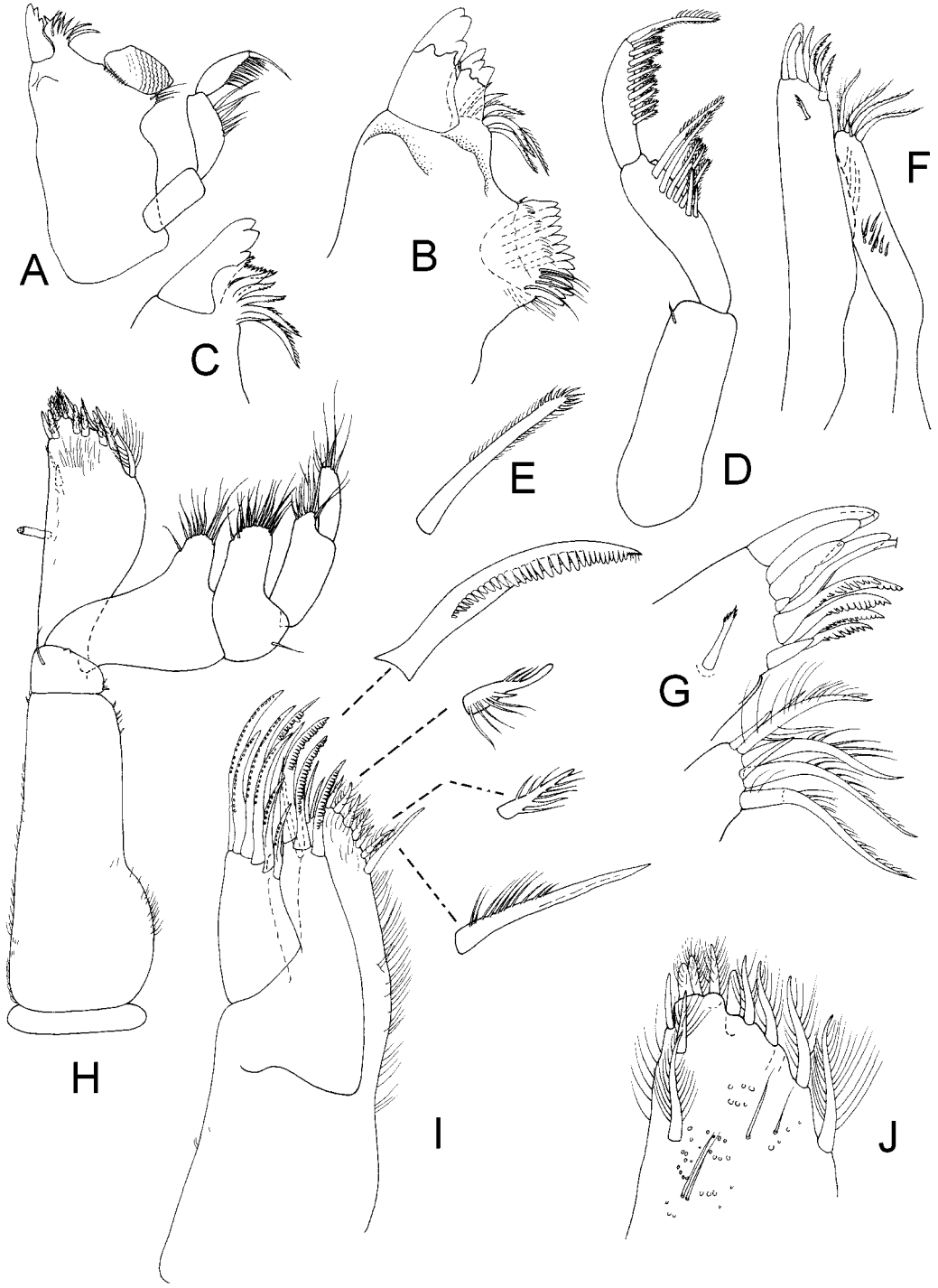

FIGURE 2. *Ischyromene kokotahi* **sp. nov.** Dissected paratype. A, mandible; B, right mandible, incisor and spine row; C, left mandible, distal; D, mandible palp; E, robust seta, mandible palp article 2; F, maxillule; G, maxillule, detail; H, maxilliped; I, maxilla; J, maxilliped endite, distal margin.

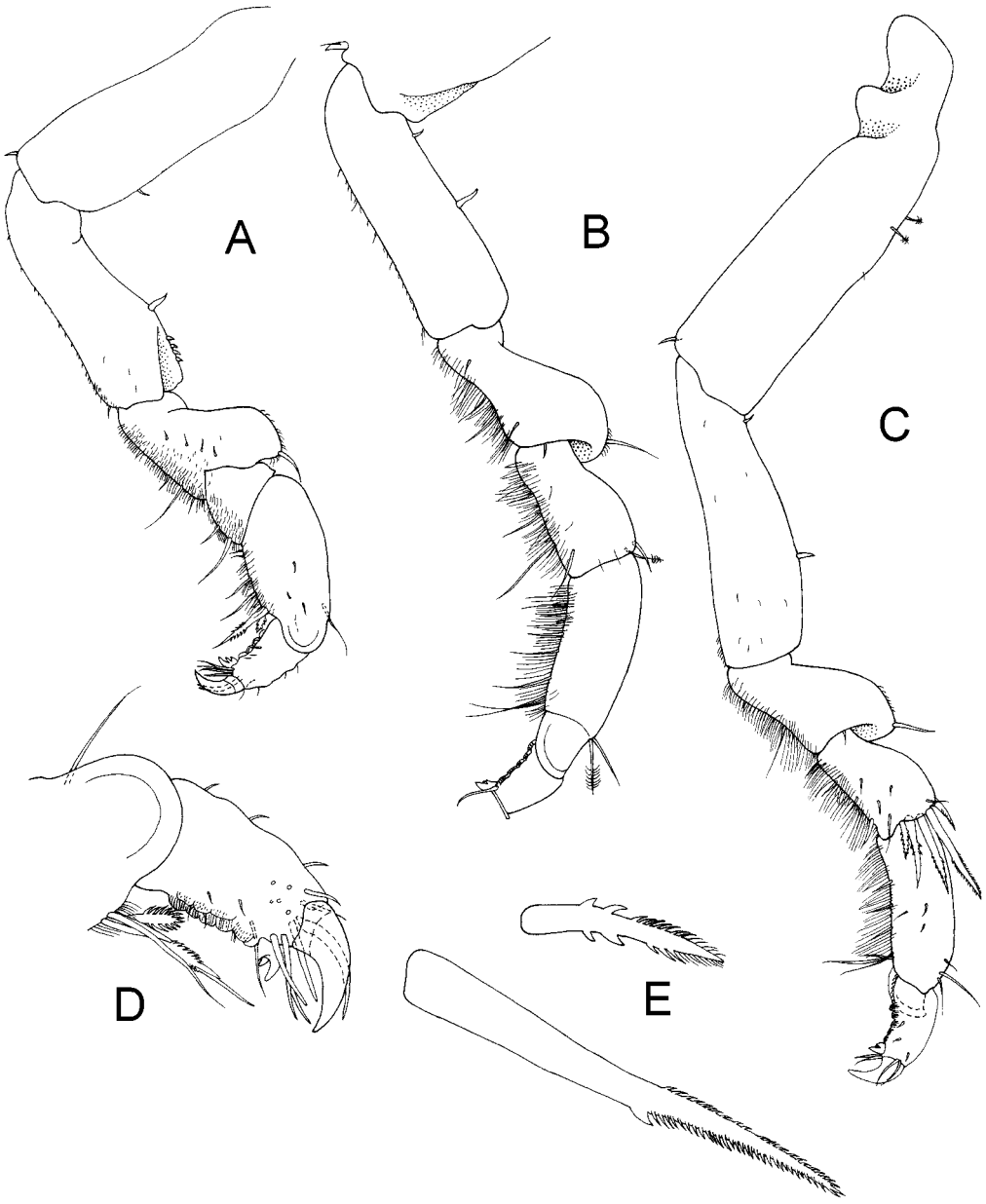

FIGURE 3. *Ischyromene kokotahi* **sp. nov.** Dissected paratype. A–C, pereopods 1, 2 and 7 respectively; D, pereopod 1, dactylus; E, robust setae, distal margin of pereopod 7.

Remarks

Ischyromene kokotahi **sp. nov.** can be recognized by the presence, in males and females, of two prominent irregular sub-mesial longitudinal ridges on the pleotelson together with a dorsally directed and posteriorly closed pleotelson foramen, the anterior margin of which is provided with an acute 'tooth'; to the lateral side of each longitudinal

ridge is a longitudinal row of three nodules. In addition the lateral margins of the pereonites and pleon are conspicuously setose. Only *Ischyromene bicarinata* Harrison, 1981 has a similar pleotelson ornamentation, but differs in the following character states: the pleotelson posterior margin has a ventrally and posteriorly open exit channel, the uropod rami extend well beyond the posterior margin of the pleotelson, the uropod exopod is more slender than in *I. kokotahi*, the body lateral margins lack conspicuous setae and the longitudinal ridges on the pleotelson are less nodular.

In New Zealand three species of *Ischyromene* have a nodular pleotelson (see Hurley & Jansen 1977, as *Dynamenella*). Of those, only *I. condita* has longitudinal ridges on the pleotelson, there being six (in males) more-or-less equally sized and relatively weak ridges as figured by Hurley & Jansen (1977). Examination of specimens referred to *I. condita* by Hurley & Jansen (1977) reveal numerous differences between that species and *I. kokotahi*, including differences in pleotelson ornamentation (the dorsum of the pleotelson of *I. condita* is far more nodular, with small acute points to the nodules), differences in the shape of the foramen (round in *I. condita*, and lacking lateral flanges) and in the shape of the posterior margin of pereonite 7 and the pleon. These differences are shown in Figure 5 for both male and female *I. condita*. [Note that other material (Stn E967, Eve Bay, Wellington south coast, 17 specimens, NIWA 23102), identified and reported by Hurley & Jansen (1977) from Wellington as *I. condita* is a misidentification, so the distribution of *I. condita* is not accurately known.] Furthermore, *I. condita* appears to occupy a different habitat from that of *I. kokotahi*, being described as occurring 'Under stones, among algae' while *I. kokotahi* has been collected from the barnacle and mussel zone in Evans Bay and other semi-sheltered areas.

Poore (1981) reported a large number of specimens of *Ischyromene condita* [as *Dynamenella condita*] from The Snares islands (*c*. 48°01'S, 166°35'E). The figures and specimens examined here conform neither with Hurley & Jansen's (1977) figures, nor material of that species examined here (Fig. 5), but do show a strong similarity to *I. kokotahi* **sp. nov.** The Snares species differs in a number of details including having the posterior margin of pereonite 7 even (vs. with sub-lateral notches in *I. kokotahi*), two smooth sub-median carinae on the pleotelson (vs. conspicuously nodular carinae), lacking conspicuous marginal setae on the coxae (vs. present), a more nodular pleotelson dorsal surface with 5–7 nodules on each side (vs. only three on each side) and a round pleotelson foramen (vs. posteriorly narrowed). The Snares material is an apparently common undescribed species.

Distribution

North Island, New Zealand; Wellington harbour and Evans Bay Wellington; also Auckland and Gisborne harbours.

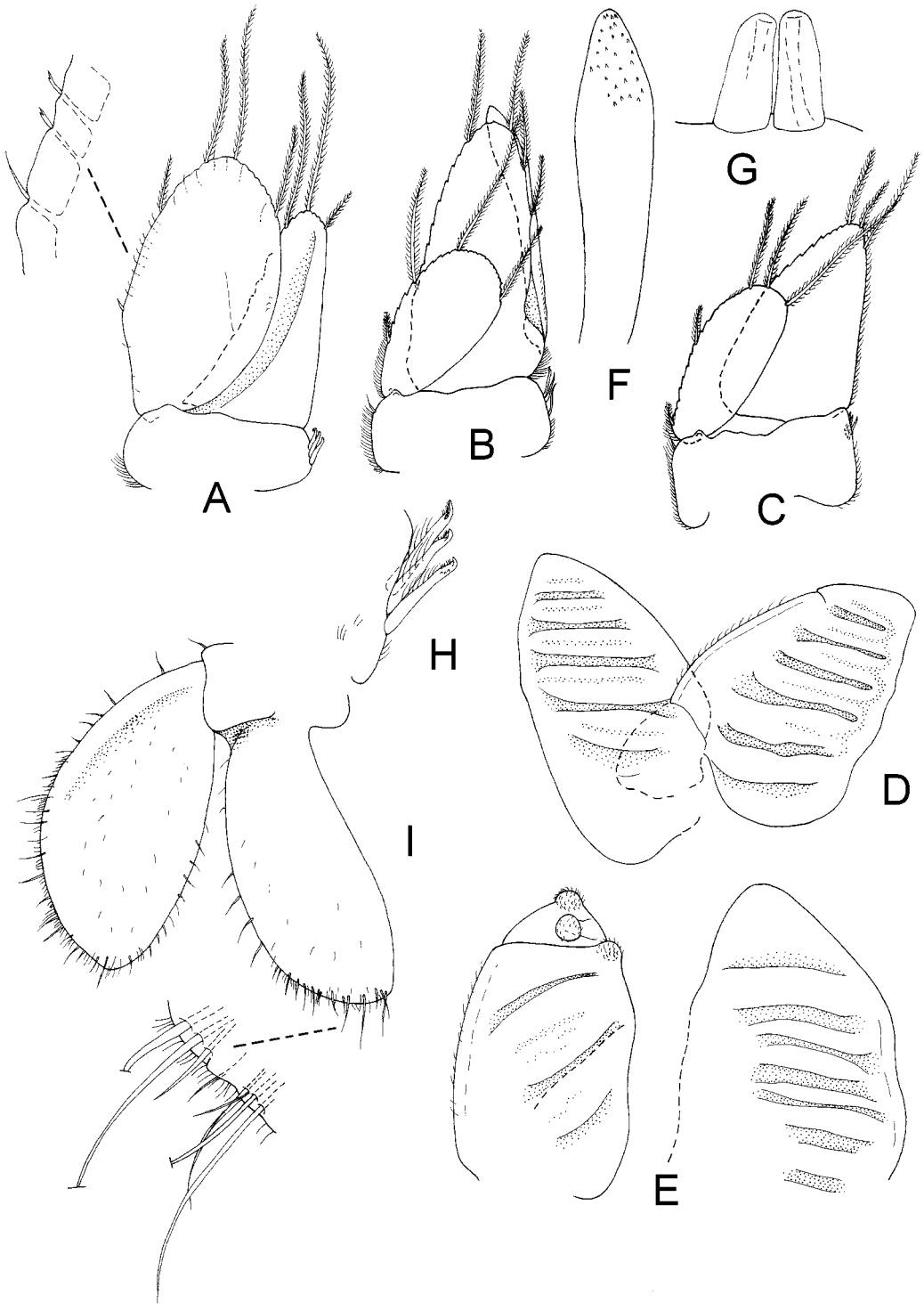

FIGURE 4. *Ischyromene kokotahi* **sp. nov.** Dissected paratype. A–E, pleopods 1–5 respectively; F, appendix masculina apex; G, penes; H, coupling hooks, pleopod 1; I, uropod.

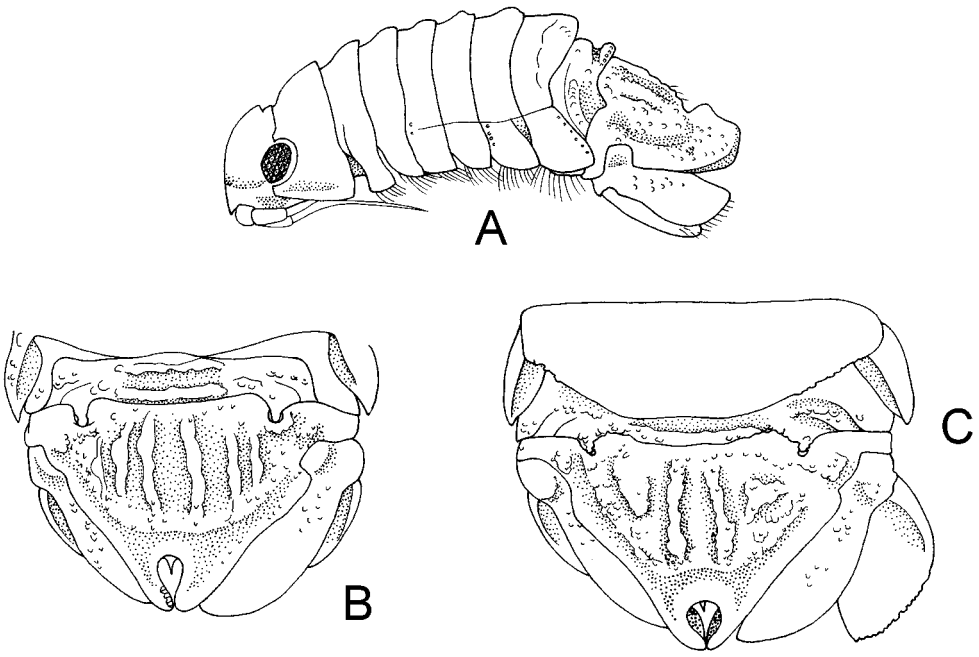

FIGURE 5. *Ischyromene condita* (Hurley & Jansen, 1977). A, lateral view, ♂; B and C, dorsal view of pleon and pleotelson of ♂ and ♀ respectively.

Etymology

Reed (2002) gives the Māori name for Evans Bay (type locality) as kokotahi te taniwha, giving the meaning as 'place of the monstrous seabird'. The epithet uses the noun (noun in apposition).

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