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*Cirolana narica* n. sp., a New Zealand isopod (Crustacea)  
found in the nasal tract of the dolphin *Cephalorhynchus hectori*

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## ABSTRACT

A new cirolanid isopod, *Cirolana narica*, is described from the vestibular diverticulum of the blowhole complex of the dolphin, *Cephalorhynchus hectori*. The isopod is believed to be a scavenger that entered the blowhole post mortem.

While dissecting a male dolphin, *Cephalorhynchus hectori* (van Beneden, 1881), Peter J. H. van Bree (Zoological Museum, University of Amsterdam) and his colleagues, Erik J. Schenckkan and Willem L. van Utrecht of the Zoological Laboratory of the same University, discovered 3 isopods in the blowhole complex. These isopods were sent to me for study by Drs. van Bree, and I have found them to represent a new species which is described below.

## *Cirolana narica* new species. Figs. 1—22

Material examined. ♂ 21.8 mm (holotype, ZMA Is. 100.527), ♂ 21.9 mm (paratype, USNM 139048), ? ♀ 17.3 mm (paratype, ZMA Is. 100.528). From vestibular diverticulum of *Cephalorhynchus hectori* (ZMA 14.001), caught off Banks Peninsula, South Island, New Zealand, first week of December 1970.

Description. Body narrow, with subparallel sides, about 3.5 times as long as wide (but specimens appear to have been compressed — see below). Head slightly more than half as long as wide; anterior margin with median triangular process curving only slightly downward, not meeting frontal lamina and not separating bases of antenna 1; anterior margin raised into slight ridge; 2nd ridge crosses head parallel to anterior margin between dorsal margins of eyes. Eyes moderately large but poorly pigmented. Frontal lamina about 3.5 times as long as wide, not carinate, slightly widened anteriorly. Clypeus about  $\frac{2}{3}$  as long as labrum in midline. Pereonite 1 much longer

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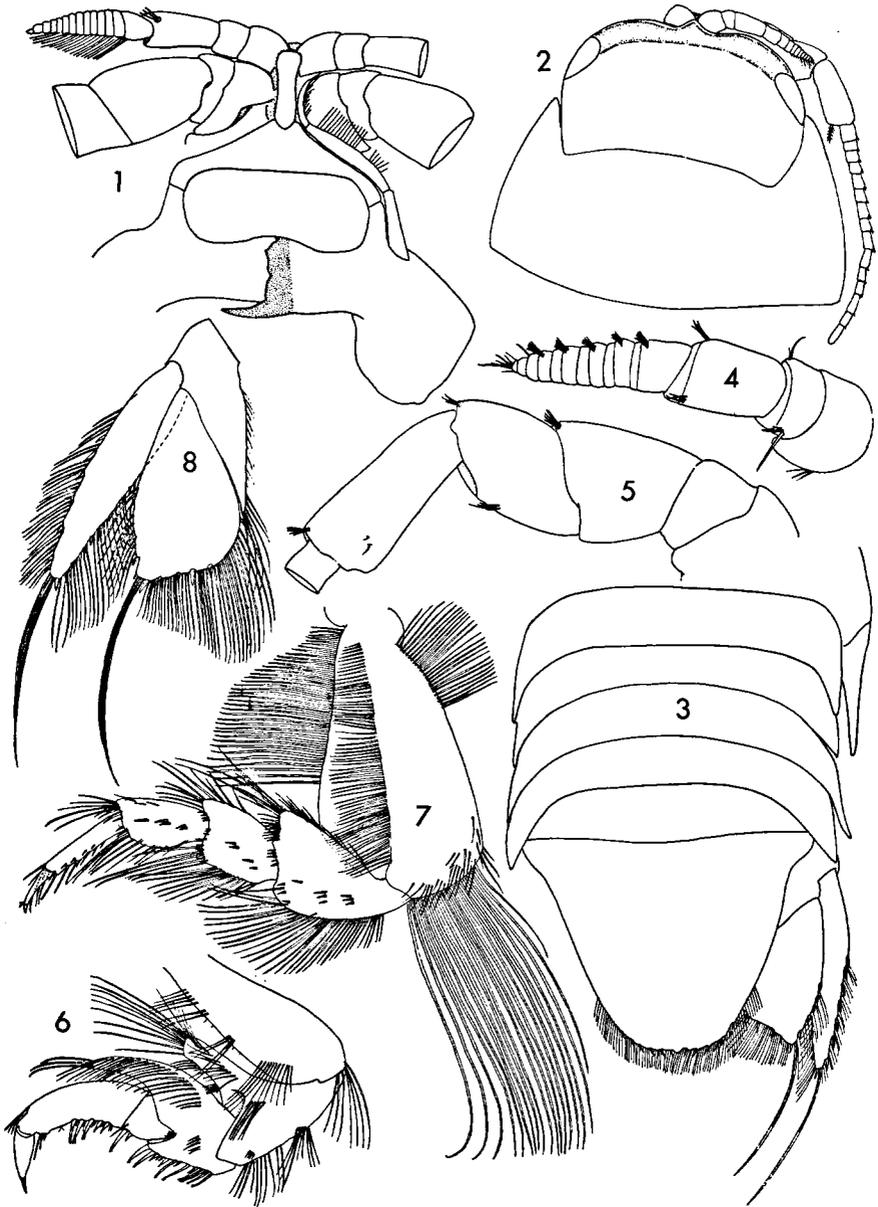


FIG. 1—8. *Cirolana narica* n. sp. ♂: 1, head, ventral; 2, head and 1st pereonite, dorsal; 3, pleon and pleotelson, dorsal; 4, antenna 1, dorsal; 5, antenna 2, dorsal; 6, 1st pereopod, lateral; 7, 7th pereopod, lateral; 8, uropod, dorsal.

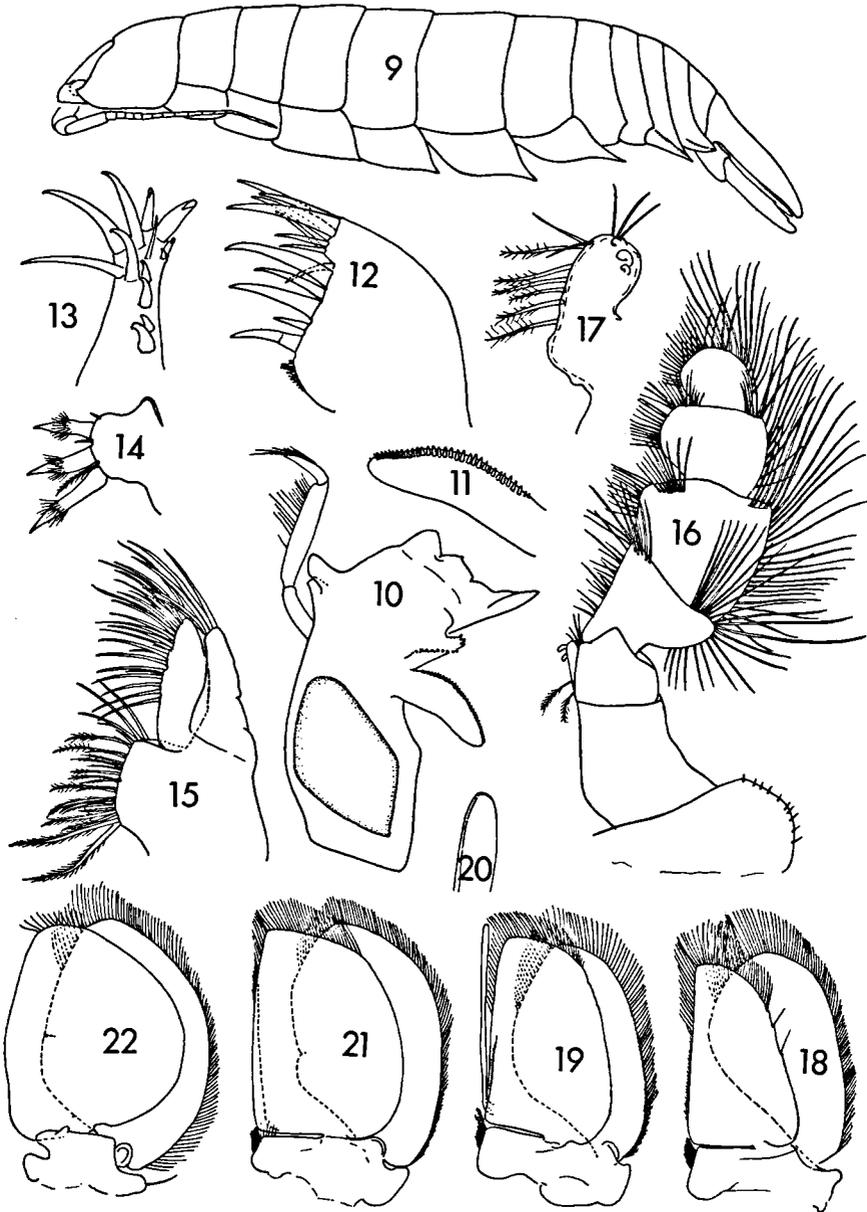


FIG. 9—22. *Cirolana narica* n. sp. ♂: 9, lateral view; 10, left mandible; 11, molar of left mandible; 12—13, 1st maxilla, exopod, posterior and medial views; 14, 1st maxilla, endopod; 15, 2nd maxilla; 16, maxilliped, posterior; 17, endite of maxilliped, medial; 18, 1st pleopod, posterior; 19, 2nd pleopod, posterior; 20, 2nd pleopod, apex of stylus; 21, 4th pleopod, posterior; 22, 5th pleopod, posterior.

than other pereonites; pereonites 2—6 gradually increasing in length; pereonite 7 shorter than pereonite 6. Coxae without oblique furrows; those of pereonites 2—3 rounded posteriorly, those of pereonites 4—7 produced into progressively longer and sharper processes. Epimera of pleonites 1—2 not produced posteriorly, those of pleonites 3—4 produced into pointed processes, that of pleonite 3 sharper. Telson linguiform; length slightly more than  $\frac{2}{3}$  width at base; posterior third armed with plumose setae and about 12 spines.

Antenna 1 short, not quite reaching posterior margin of 4th peduncular segment of antenna 2; 1st segment of peduncle longer than 2nd segment, 3rd segment longer than segments 1—2 combined; flagellum composed of about 12 short segments. Antenna 2 reaching slightly beyond anterior margin of pereonite 4; 5th segment of peduncle longer and narrower than others; flagellum about 24-segmented.

Incisor of left mandible overlapping that of right; teeth of left incisor less deeply divided than those of right; lacinia mobilis with about 13 marginal teeth; 2nd segment of palp about twice as long as 3rd, bearing setae along most of outer margin. Outer lobe of 1st maxilla with 13 spines on gnathal surface arranged as in fig. 13 and a group of close-set spinules proximal to gnathal surface; inner lobe with 3 stout spines plumose only in region of midlength, 2 short naked setae and 1 longer plumose seta. 2nd maxilla as in fig. 15. Maxilliped with 3 retinacula on endite; segments of palp densely setose on both margins.

Pereopods 1—3 with ischium and merus produced anterodistally into processes with long marginal setae and central concavity into which succeeding segments fit when pereopod is flexed. Posterior margins of merus and carpus of pereopods 1—3 with robust spines; anterior margin of propus of pereopod 1 also bearing spines.

Pereopods 4—7 with expanded basis bearing rows of long setae on proximal and distal parts of anterior margin, setae of distal group very long; posterior margin and lateral surface of basis also with rows of long setae. Anterior margin and posterodistal corners of ischium, merus and carpus with rows of long setae; ischium, merus, carpus, and propus with groups of spines on lateral surface.

Pleopods all undivided, without pleats; only indication of segmentation is rudimentary incision on medial margin of exopod of pleopods 4—5. Exopods with plumose setae on lateral margin and distal part of medial margin. Endopods with setae limited to distal parts of both margins, least numerous in pleopod 5. Stylet of ♂ pleopod 2 reaching slightly beyond rami; apex evenly rounded.

Uropods reaching slightly posterior to telson. Exopod narrow, gradually tapering distally, distinctly longer but less than half as wide as endopod; both margins armed with long plumose setae and spines; apex with a strong spine and a cluster of close-set very long setae. Endopod pyriform, armed similarly to exopod. Protopod produced medially to midlength of endopod.

Derivation of name. From the Latin “narica” = “of the nostril” referring to its occurrence in the nasal tract.

Relationships. The only comprehensive treatment of the genus *Cirolana* Leach, 1818, is Hansen's (1890) monograph. Hansen described and illustrated 15 species in the collections of the Copenhagen Museum and listed 12 additional species that he considered valid. During the more than 80 years since Hansen's monograph the number of nominal species of *Cirolana* has increased to well over 100, and an up-to-date revision of the genus would be most welcome. Hale's (1926) summary of Australian species is quite useful, but a worldwide treatment is badly needed.

*C. narica* appears to be rather similar to *C. hirtipes* H. Milne Edwards, 1840 but differs in a number of details. If Hansen's (1890) excellent illustrations of *C. hirtipes* are compared with my figures of *C. narica*, the following differences are most obvious: 1. The coxae of pereonites 6—7 and the 3rd and 4th pleonal epinera are more strongly produced and more sharply pointed in *C. narica*. 2. The coxae of *C. hirtipes* have both oblique and submarginal furrows; the coxae of *C. narica* have no furrows. 3. The uropodal rami are about equally long in *C. hirtipes*; in *C. narica* the exopod is distinctly longer than the endopod. 4. The uropodal endopods differ in shape: the medial margin is more convex in *C. narica*, so that the endopod is broadest in its distal part. In *C. hirtipes* the medial margin is less convex, and the endopod is broadest in its proximal part.

Nature of the association. There is little doubt that the isopod does not normally inhabit the dolphin's nasal tract but entered it while the dolphin was dead or dying. The dolphin was drowned after accidentally entering a fishing net, and while it is not known how long the dolphin was in the net, even a short time would have been sufficient for the isopods to have gained entrance thru the open blowhole of the dead or moribund cetacean. In life the blowhole is completely closed while the dolphin is submerged, and is opened for only very brief intervals above water, hence there is virtually no possibility that the isopods could have entered the blowhole of the living dolphin. The possibility that entrance was by way of the mouth when the isopods were young and small enough for this route cannot be ruled out completely, but seems very slight.

The appendages of the *Cirolana* are abundantly adorned with long plumose setae that obviously fit the isopod for a pelagic rather than a parasitic life. All 3 specimens have been compressed laterally and are consequently unnaturally slender. Presumably the compression occurred after they had entered the vestibular diverticulum. As far as is known, species of *Cirolana* are scavengers and are never truly parasitic. The rarity of the present association is further evidence for its fortuitous nature. Drs. van Bree and his colleagues have dissected more than 100 dolphins and until now have not found isopods in the blowhole complex. The records listed for *Cirolana woodjonesi* Hale, 1924 by Hale (1926) include "New South Wales: 'From porpoise' (Austr. Mus. Coll.)". I am not aware of any other published records of isopods collected from cetaceans.

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