

## A new cumacean (Crustacea) genus from beaches of Golfo de Nicoya, Costa Rica \*

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**Abstract:** *Coricura nicoyensis* gen. et sp. nov. (Crustacea, Cumacea) is described from material collected during 1984 at the Punta Morales intertidal mud flat (> 30% silt + clay), Gulf of Nicoya (10° N, 85° W), Costa Rica. The exact placement of the new genus is problematical and for the present time is assigned to the Bodotriinae. This is the sixth cumacean described from the Pacific coast of the Americas between California and Tierra del Fuego.

The shallow-water cumaceans of the west coast of the Americas are not well known (Jones 1969); specifically, only six species have been described from the Pacific coast of the Americas between California and Tierra del Fuego. The animal described herein was taken during a survey of the tidal flat fauna near Punta Morales on the Golfo de Nicoya, Costa Rica (Vargas 1987), where it shows a seasonal abundance pattern (Vargas 1989). As will be shown below, this new species is especially significant as it has some of the diagnostic features of the both Family Leuconidae and the Subfamily Bodotriinae of the Family Bodotriidae.

Family Bodotriidae  
Subfamily Bodotriinae  
*Coricura* new genus

**Diagnosis:** Body long and slender, pointed anteriorly; pseudorostrum moderately developed, efferent orifice anterior; eyelobe linguiform, pigmented; male and female with serrations on carapace dorsal crest; exopod only on pereopod 1 in both sexes; pereopods 2-5 6-articulate; male with 2 pairs of pleopods; male antenna 2 short, clasping.

Type species: *Coricura nicoyensis*, sp. nov. (by monotypy).

Etymology: Cori-from *Costa Rica* + *cuma*; gender feminine.

Remarks: the exact placement of this new genus is problematical. In many features it appears to be intermediate between the Leuconidae and two of the subfamilies of the Bodotriidae (Table 1). *Coricura* is allied with the Bodotriinae in the possession of a distinct eyelobe and in having only the first pair of pereopods bearing an exopod, and with the Mancocuminae in its reduced number of pleopods. The features of the Leuconidae possessed by *Coricura* are the presence of 2 pairs of pleopods in the male with the inner ramus not possessing an external process (the Vaunthompsoniinae genus *Heterocuma* is also known not to have this external process). One of the strongest distinguishing features that could be used, that of the mandible, is ambiguous. In *Coricura* it appears to be elongate, rather than truncate, but the dorsal portion is incorporated into the

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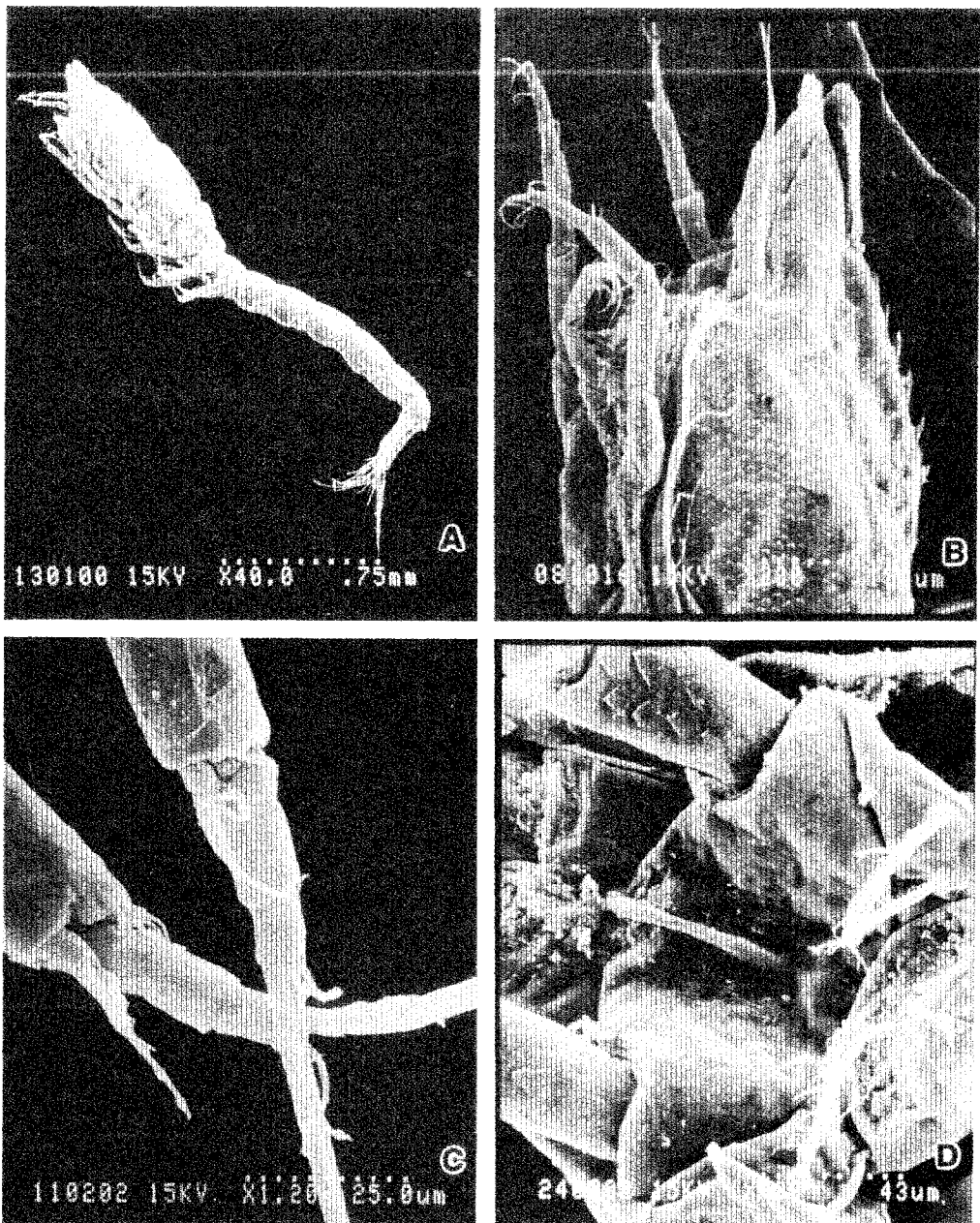


Fig. 1. *Coricuma nicoyensis* female. A, side view; B, view of anterior portion of carapace showing relative lengths of eyelobe and pseudorostral lobes; C, distal portion of antenna 1; D, ventral view of epistome and proximal article of antenna 1 and lobes representing remnants of antenna 2. Dotted line at bottom of each photograph indicates scale. Magnification is indicated at the start of dotted line.

side of the head. Further, a molar is not present and the number of spines dorsal to the incisor is limited to three.

For the present time *Coricuma* is assigned to the Bodotriinae, chiefly on the basis of its general body shape, the reduced number of exopods,

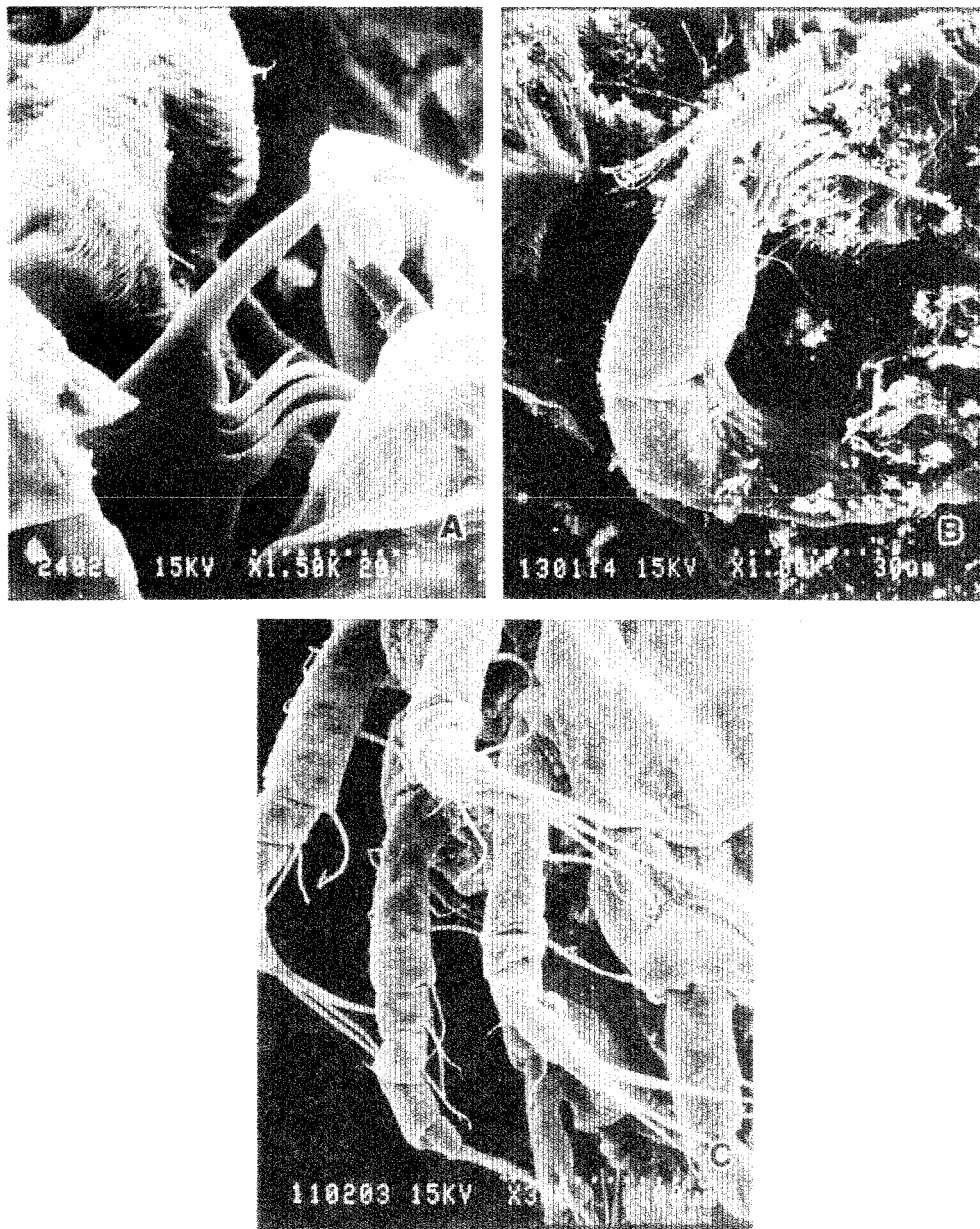


Fig. 2. *Coricumia nicoyensis*, female. A, ventrolateral view of mandible in relation to upper lip, note lack of lacinia on right mandible; B, right mandible with carapace removed showing incorporation of mandible into side of head; C, pereopods 3-5.

the reduction in number of pereopod 2 articles, and the strongly developed eyelobe. Within the Bodotriinae, the closest affinities appear to be with the genus *Iphinoe*, which differs from

*Coricumia* in having a full complement of pleopods and a molar on the mandible. Concomitant with the reduction of the pleopods there is a significant change also in the nature

of the male antenna 2 which appears to be modified for grasping the female. This type of male antenna 2 has been seen in the Mancocuminae genus *Spilocuma* (Watling 1977), also an inhabitant of sandy shores.

*Coricuma nicoyensis* n. sp.

Material: Holotype USNM 241875; Paratypes USNM 241876, UCR-PM 038.

Etymology: Named for the location where it was first found, the Golfo de Nicoya.

Description: Adult female. Length, 2.5 mm. Carapace with pseudorostral lobes not extending beyond enlarged ocular lobe; infero-lateral edge smooth with slight antennal sinus; two to four teeth ventral to antennal sinus; middorsal crest with 4-5 serrations on anterior half. First free thoracic somite very narrow ventrally; second thoracic somite half again as long as third through fifth; fifth pedigerous somite to fifth abdominal somite approximately equal in size and nearly cylindrical in cross-section (Fig. 1A, B.)

Antenna 1 first peduncle article very short, fused to epistome (Fig. 1D); third peduncle article longer than second (Fig. 3A); main flagellum of three articles; uniaarticulate accessory flagellum minute (Fig. 1C). Antenna 2 a small lobe with 2 plumose setae (Fig. 1D).

Mandible apparently elongated but dorsal part appears incorporated into side of head; molar absent: with three spines dorsal to incisor; lacinia present only on left mandible (Fig. 2A, B).

Third maxilliped 7-articulate; basis distal margin extended one-third along article 4, armed with long plumose setae, outer margin bare; articles 4-6 subequal in length, inner and outer margins with few setae; dactyl with three terminal setae (Fig. 3B).

Pereopod 1 basis shorter than rest of appendage, with single terminal plumose seta; remaining articles nearly devoid of setae; articles 5-7 subequal in length; article 7 with terminal cluster of 4 long setae (Fig. 3C).

Pereopods 2-5 of 6 articles (article 3 presumed missing), subequal in length; article 7 of pereopod 2 twice length of article 6 (Fig. 3D); article 7 of pereopods 3-5 nearly half length of article 6 (Fig. 2C).

Uropod peduncle as long as outer ramus, armed with moderately spaced row of 6-8 setae; outer ramus slightly longer than inner, truncate

terminally, with 1 subterminal and 4 terminal long setae; inner ramus distal article longer than basal. with strong serrations on distal half of inner margin, armed with three terminal setae (Fig. 3E).

Adult male. Length, 2.0 mm. Similar to female in general body shape and details of appendages, although smaller and with less elongate pseudorostral lobes (Fig. 4A). Eyelobe more truncate. Carapace dorsal crest with only two or three serrations (Fig. 4B). Antenna 1 similar to that of female (Fig. 3F). Antenna 2 highly modified into clasping structure; article three longest; distal articles with several short setae along ventral margin and armed distally with two recurved setae; flagellum not distinguishable (Fig. 4C). Exopod present only on pereopod 1. Two pairs of pleopods, each with elongate peduncle and very short rami; inner ramus without external process. Pleopod two with several rows of outwardly-directed setae on posterior surface of peduncle (Fig. 4D).

Type locality: The specimens were collected by Dr. José Vargas from the upper part of a tidal flat near Punta Morales, Costa Rica (10° 04' N, 84° 58' W). Sediments at this site were determined to consist of 65% sand (fine to very fine), 31% silt & clay, and less than 3% organic matter. Overlying waters ranged in salinity from 27 to 34 ‰, and temperature from 27° C to 40° C. Little or no wave action was observed at this site, thus the tidal flat had essentially no relief (Vargas, 1987).

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#### RESUMEN

Se describe a *Coricuma nicoyensis* gen. et sp. nov. (Crustacea, Cumacea) con base en material recolectado en 1984 en la playa fangosa (> 30% de limo + arcilla) de Punta Morales,

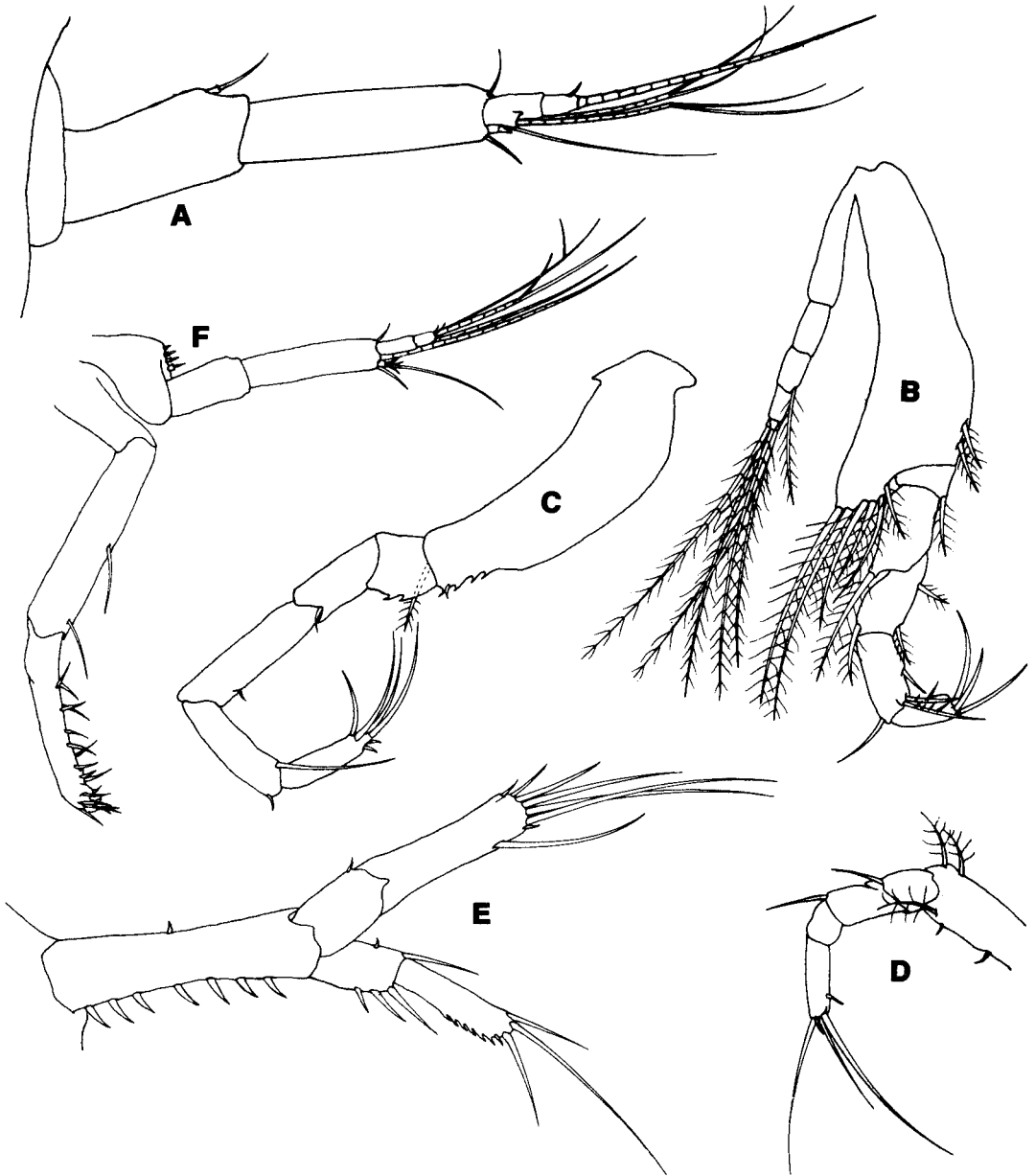


Fig. 3. *Coricura nicoyensis*, female. A, antenna 1; B, maxilliped 3; C, pereopod 1 (exopod not shown); D, pereopod 2; E, uropod. Male, F, antennae 1 and 2.

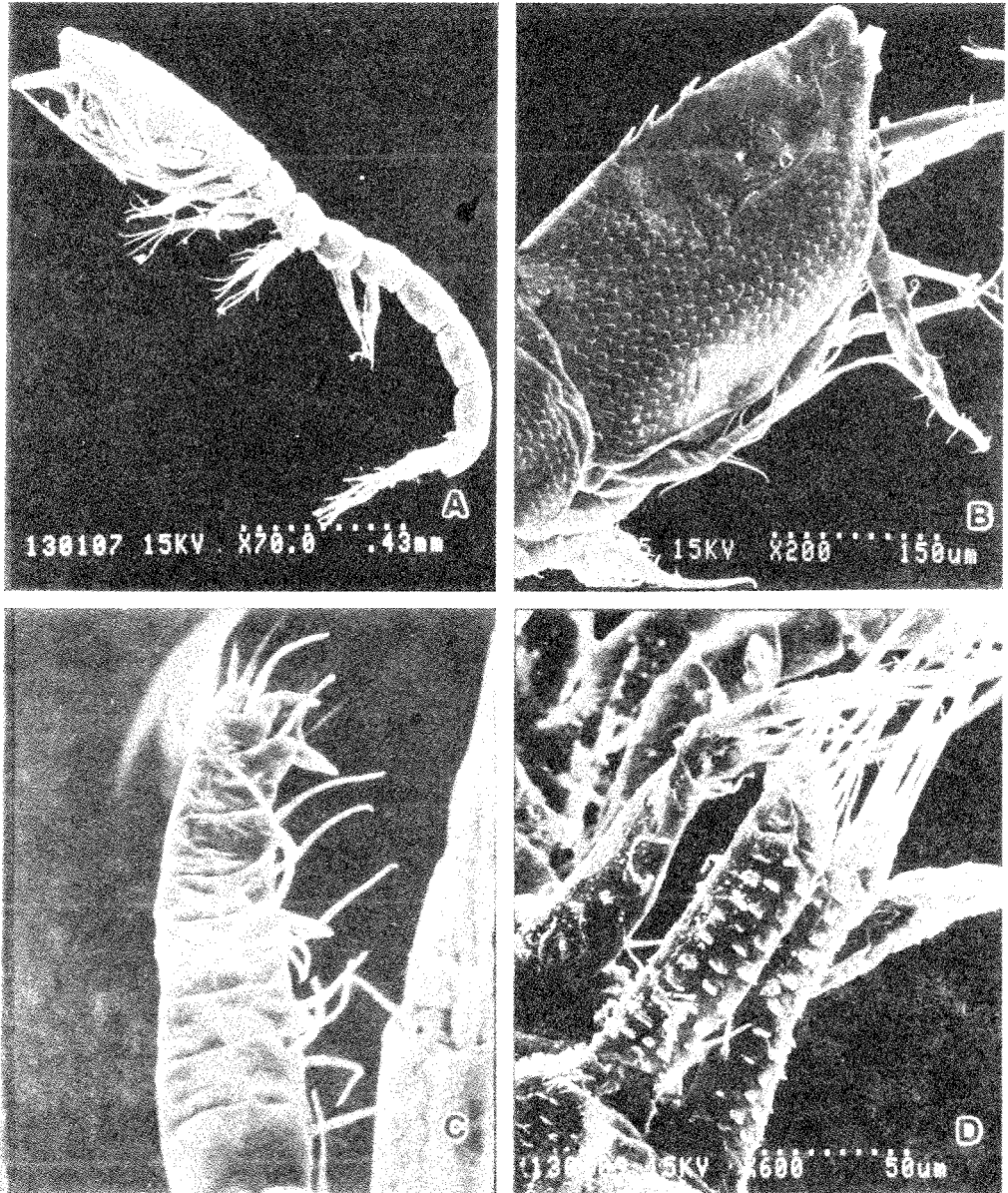


Fig. 4. *Coricuma nicoyensis*, male. A, body, side view; B, side view of carapace. C, dist portion of antenna 2, note strong recurved setae at tip; D, posterior view of pleopods.

TABLE 1

*A comparison of features of Coricura with two subfamilies of the Family Bodotriidae and with the Leuconidae*

Feature	Leuconidae	Mancocuminae	Bodotriinae	<i>Coricura</i>
1. Mandibles	truncate, molar usually present	elongate, with molar, few spines	elongate, molar usually present	elongate, molar absent, few spines
2. Number free thoracic somites	5	5	4-5	5
3. Pereopods with (male) exopods (female)	2-3 2-4	3 + 1r 3 + 1r, 4	1 1	1 1
4. Pereopod 2, articles	7	7	6-7	6
5. Pereopod 3-5, articles	7	7	7	6
6. Pleopod number, male	0-2	0-3	5	2
7. Pleopod inner ramus with process	no	yes when present	yes	no
8. eyelobe present	no	yes	yes	yes
9. Uropod endopod, number of articles	2	2	1-2	2

Golfo de Nicoya (10° N, 85° W), Costa Rica. La clasificación exacta de este nuevo género es problemática y por el momento se le asigna a Bodotriinae. Este es el sexto cumáceo descrito de la costa Pacífica de las Américas entre California y la Tierra del Fuego.

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