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DOI:
http://dx.doi.org/10.1163/15685403-bja10193

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Crustaceana 95 (3) 353-371

CRUSTACEANA

A NEW SPECIES OF *CUAPETES* (DECAPODA, CARIDEA, PALAEMONIDAE) FROM THE CANARY ISLANDS

BY

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ABSTRACT

A new species of *Cuapetes*, *C. canariensis* sp. nov., is described on the basis of a single specimen from Tenerife, Canary Islands. This is the first record of a species in the genus *Cuapetes* from the eastern Atlantic. It belongs to a group of previously exclusively Indo-West Pacific species possessing a supraorbital spine and a distoventral tooth on the merus of the second pereiopods. A morphological comparison with members of this group of species is provided. A molecular analysis based on the mitochondrial 16S gene of available sequences of *Cuapetes* species and species of related genera reveals its close affinity with *Cuapetes amymone*.

Key words. — Crustacea, Decapoda, Caridea, *Cuapetes*, new species, Canary Islands

RESUMEN

Se describe una nueva especie de *Cuapetes*, *C. canariensis* sp. nov., a partir de un sólo ejemplar colectado en Tenerife, Islas Canarias. Este es el primer registro del género *Cuapetes* en el Atlántico Este. Pertenece a un grupo de especies del Indo-Pacífico occidental que caracterizado por la presencia de una espina supraorbitaria y un diente distoventral en el mero del segundo pereiópodo. Se proporciona una comparación morfológica con miembros de este grupo de especies. Un análisis molecular basado en el gen mitocondrial 16S de las secuencias disponibles de especies de *Cuapetes* y de géneros relacionados revela su estrecha afinidad con *Cuapetes amymone*.

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INTRODUCTION

To date, the marine palaemonid shrimp genus *Cuapetes* Clark, 1919 comprises 29 species (De Grave & Fransen, 2011; Bruce, 2012, 2013; Okuno, 2012; Okuno & Chan, 2012). Members of the genus are known from subtropical to tropical regions. Most species of *Cuapetes* are free-living, only a few are known as associates of cnidarians. *Cuapetes americanus* (Kingsley, 1878) is the only species recorded in the Atlantic, distributed in the tropical and subtropical western Atlantic from North Carolina to southeastern Brazil (Holthuis, 1951; Moraes et al., 2021). The genus has not yet been recorded from the eastern Atlantic.

In 2011, a specimen of *Cuapetes* was collected at a depth of 15 m at Punta Prieta, Tenerife, Canary Islands. The specimen possesses a supraorbital spine on the carapace and a distoventral tooth on the merus of the second pereiopod. These features are not present in the other Atlantic species, *C. americanus*. Indo-Pacific species of *Cuapetes* with a supraorbital spine and a distoventral tooth on the merus of the second pereiopods are: *C. agag* (Kemp, 1922), *C. amymone* (De Man, 1902); *C. andamanensis* (Kemp, 1922); *C. demani* (Kemp, 1915); *C. elegans* (Paulson, 1875); *C. ensifrons* (Dana, 1852); *C. grandis* (Stimpson, 1860); *C. longirostris* (Borradaile, 1915); and *C. suvadivensis* (Borradaile, 1915). In the present study, the Canary Islands specimen is described as a new species and compared with the above-mentioned members of the genus. A molecular analysis based on the 16S gene was carried out to reconstruct its putative phylogenetic position in the genus.

The type material is deposited in the collection of Naturalis Biodiversity Center, Leiden, The Netherlands.

MATERIAL AND METHODS

Specimens were studied with a dissecting stereomicroscope (Zeiss DiscoveryV8, Zeiss, Oberkochen, Germany) and a compound microscope (Olympus BX53, Olympus, Tokyo, Japan) both provided with a drawing tube. Drawings were scanned (Canon Canoscan 9000F, Canon, Tokyo, Japan) with a resolution of 600 dpi and subsequently mounted into plates using Adobe Photoshop software (Adobe Systems, San Jose, CA, U.S.A.). Post-orbital carapace length (pocl) was measured from the posterior margin of the orbit to the posterior margin of the carapace.

Genomic DNA was isolated from pleon tissue using a modified Puregene method (Gentra Systems, Minneapolis, MN, U.S.A.). The mitochondrial gene encoding the rRNA of the large 16S ribosomal subunit (16S) was partially amplified via polymerase chain reactions (PCR) with the primers 16L29 (5′-YGCCTGTTTATCAAAAACAT-3′) and 16H11 (5′-AGATAGAAACCRACC TGG-3′) (Schubart, 2009) and the following profile: 4 min at 94°C; 40 cycles with

45 s at 95°C for denaturing, 60 s at 48°C for annealing, 60 s at 72°C for extension; and final extension with 5 min at 72°C.

A 468 bp 16S DNA sequence of the new *Cuapetes* species was compared with 9 sequences of other *Cuapetes* species and 17 sequences of species from related genera comprising Clade 1 in Horka et al. (2016, fig. 3) and Clade IIIA in Chow et al. (2021) (their fig. 2) (table I). The *Exoclimenella* species were used as outgroup.

A multiple sequence alignment was obtained using the MUSCLE (Edgar, 2004) algorithm (default settings), and were trimmed manually in MEGA v10.2.5 (Kumar et al., 2018). The alignment was examined for highly divergent blocks with the aid of Gblocks v0.91b (Talavera & Castresana, 2007) using default parameters. This resulted in the retention of 311 positions. The model for sequence evolution was calculated in MEGA v10.2.5 (Kumar et al., 2018) using default settings. The best model (TN93+G) was chosen based on values for the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC).

Phylogenetic analyses were performed under the maximum likelihood (ML) and Bayesian Inference (BI) criteria using RAxML via the on-line CIPRES (Miller et al., 2010) with the RAxML-NG BlackBox v1.0.0 tool (Kozlov et al., 2019) and MrBayes v3.2.7 (Ronquist & Huelsenbeck, 2003), respectively. The BI analysis was conducted using a Markov Chain Monte Carlo (MCMC) method with two independent runs and four chains. The analysis was run for 10 000 000 generations reaching an average standard deviation of split frequencies (ASDSF) value of 0.007896, burnin was set to 0.25. Trees were visualized in FigTree v1.4.4 (Rambaut, 2009).

SYSTEMATIC ACCOUNT

PALAEMONIDAE Rafinesque, 1815

Genus *Cuapetes* Clark, 1919

Cuapetes canariensis sp. nov.

(figs. 1-6)

Material examined.— Holotype male, pocl. 3.1 mm, RMNH.CRUS.D.58025: Canary Islands, Tenerife, Punta Prieta, 28°11′37.1″N 016°25′16.5″W, 15 m depth, 27.iii.2011, collected by Leopoldo Moro, T467-6.

Description.— Medium sized, rather slender shrimp, with slender pereiopods (fig. 1).

Carapace smooth. Rostrum (fig. 1) well developed, reaching beyond scaphocerite, almost straight, slightly upcurved in distal half; dorsal margin not elevated, with nine subequal teeth of which posteriormost (epigastral) tooth postorbital, at somewhat larger distance to anterior teeth than distance between teeth on rostrum proper, 2-4 plumose setae just in front of each dorsal tooth; ventral margin

TABLE I

Specimens used for phylogenetic analysis with information on sampling location, host, voucher ID, and GenBank 16S accession number

Analysed taxa	Sampling location	Host	Voucher ID	GenBank 16S accession number
Anapontonia Bruce, 1966				
A. denticauda Bruce, 1966	Papua New Guinea	Cnidaria: Scleractinia: *Galaxea* sp.	MNHN IU-2013-11056	MH286364
Cuapetes A. H. Clark, 1919				
C. americanus (Kingsley, 1878)	Bocas del Toro, Panama	free-living	ULLZ13713	MK971430
C. amymone (De Man, 1902)	Lizard Island, Australia	Cnidaria: Scleractinia: *Acropora* sp.	MTQ W-33116	KU064812
C. amymone (De Man, 1902)	Moreton Bay, Australia	Cnidaria: Scleractinia	MBM A2005-I	JX025216
C. canariensis sp. nov.	Tenerife, Canary Islands	free-living	RMNH.CRUS.D.58025	ON007024
C. elegans (Paulson, 1875)	Moreton Bay, Australia	free-living	NTOUM00938	JX025213
C. ensifrons (Dana, 1852)	Hainan, China	free-living	MBM Llab007	JX025212
C. grandis (Stimpson, 1860)	Aqaba, Jordan	free-living	UO Aq09-58A	KU064813
C. kororensis (Bruce, 1977)	Aquariumtrade, Hong Kong	Cnidaria: Scleractinia: *Heliofungia*	CUHK-LMT-CAR0139	MN993985
C. platycheles (Holthuis, 1952)	Aquariumtrade, Hong Kong	free-living	CUHK-LMT-CAR0162	MW843311
C. tenuipes (Borradaile, 1898)	Nhatrang Bay, Vietnam	Cnidaria: Actiniaria: *Actinodendron* sp.	UO V08-48	KU064814
Eupontonia Bruce, 1971				
E. nudirostris Marin, 2014	Hopei Island, Solomon Islands	in burrow of unidentified echiuran	OUMNH.ZC.2018-06-001	MW843314
Exoclimenella Bruce, 1995				
E. maldivensis Ďuriš & Bruce, 1995	Lizard Island, Australia	coral rubble	MTQ W-33394	KU064816
E. sudanensis Ďuriš & Bruce, 1995	Eilat, Israel	free-living	OUMNH.ZC.2011-05-047	MN9993986

TABLE I
(Continued)

Analysed taxa	Sampling location	Host	Voucher ID	GenBank 16S accession number
Harpilius Dana, 1852				
H. lutescens Dana, 1852	Aqaba, Jordan	Cnidaria: Scleractinia: *Acropora* sp.	UO Aq09-77	KU064822
Ischnopontonia Bruce, 1966				
I. lophos (Barnard, 1962)	Lizard Island, Australia	Cnidaria: Scleractinia: *Galaxea* sp.	MTQ W-33360	KU064824
Palaemonella Dana, 1852				
P. disalvoi Fransen, 1987	Taiwan	free-living	NMMBCA4117	KJ019655
P. pottsi (Borradaile, 1915)	Panglao, Philippines	Echinodermata: Crinoidea	NTOUM01548	JX025198
P. rotumana (Borradaile, 1898)	Lizard Island, Australia	Cnidaria: Scleractinia: *Acropora* sp.	MTQ W-33176	KU064830
P. spinulata Yokoya, 1936	China	free-living	MBM108225	KJ019656
Periclimenella Bruce, 1995				
P. spinifera (De Man, 1902)	Nhatrang Bay, Vietnam	coral rubble	UO V10-15A	KU064848
Philarius Holthuis, 1952				
P. condi Marin, 2012	Taiwan	Cnidaria: Scleractinia: *Acropora* sp.	NMMBCA4105	KJ019663
P. gerlachi (Nobili, 1905)	Hainan, China	Cnidaria: Scleractinia: *Acropora* sp.	MBM108148	JX025177
P. imperialis (Kubo, 1940)	Hainan, China	Cnidaria: Scleractinia: *Acropora* sp.	MBM108150	JX025176
Vir Holthuis, 1952				
V. euphyllius Marin & Anker, 2005	Nhatrang Bay, Vietnam	Cnidaria: Scleractinia: *Euphyllia* sp.	UO V10-46	KU064864

TABLE I
(Continued)

Analysed taxa	Sampling location	Host	Voucher ID	GenBank 16S accession number
V. orientalis (Dana, 1852)	Lizard Island, Australia	Cnidaria: Scleractinia: *Pocillopora* sp.	MTQ W-33130	KU064865
V. philippinensis Bruce & Svoboda, 1984	Nhatrang Bay, Vietnam	Cnidaria: Scleractinia: *Plerogyra* sp.	UO V10-48	KU064866

Used abbreviations and symbols: CUHK, Simon F. S. Li Marine Science Laboratory, The Chinese University of Hong Kong, Hong Kong; MBM, Marine Biological Museum of the Chinese Academy of Sciences, P.R. China; MNHN, National Museum of Natural History, France; MTQ, Museum of Tropical Queensland, Australia; NMMB, National Museum of Marine Biology & Aquarium, Taiwan; NTOU, National Taiwan Ocean University, Taiwan; OUMNH.ZC, Oxford University Museum of Natural History, U.K.; PNG, Papua New Guinea; RMNH, Naturalis Biodiversity Center, The Netherlands (fomerly Rijksmuseum van Natuurlijke Historie); UO, University of Ostrava, Czech Republic; ULLZ, University of Louisiana at Lafayette Zoological Collection, U.S.A; USVI, U.S. Virgin Islands.

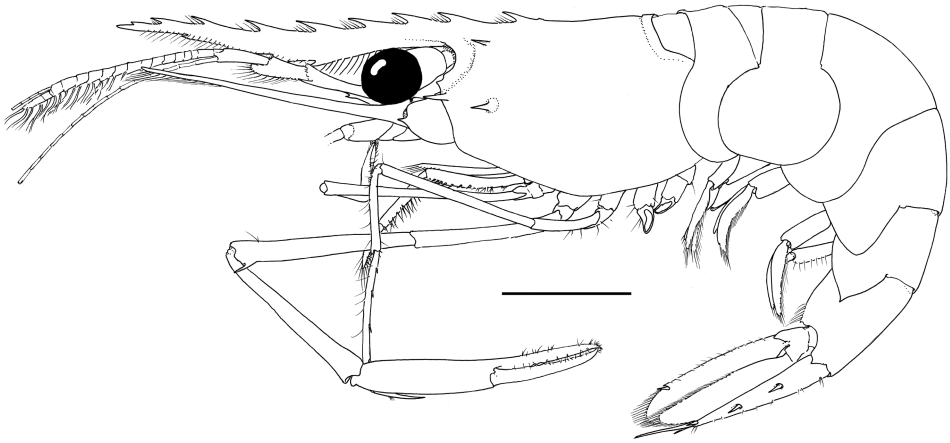

Fig. 1. *Cuapetes canariensis* sp. nov. holotype male, pocl 3.1 mm, RMNH.CRUS.D.58025, habitus lateral. Scale = 2 mm.

with four shallow teeth in distal 2/3rd; posterior half of ventral margin with single row of plumose setae, distal half with double row of plumose setae. Supra-orbital spines acute. Inferior orbital angle well developed, slightly produced, rounded in lateral view. Antennal spine robust and elongate, submarginal, situated below inferior orbital angle. Hepatic spine about as large as antennal spine, situated well behind level of posterior orbital margin and slightly below level of antennal spine. Anterolateral angle of carapace rounded, not produced.

Abdominal somites (fig. 1) smooth. Third somite not produced posterodorsally. Pleura of first four somites broadly rounded, that of fifth with posteroventral tooth. Sixth abdominal somite 1.6 times as long as fifth with posteroventral angle feebly produced, acute, posterolateral angle acute.

Telson (fig. 2B) 1.3 times as long as sixth abdominal somite and 2.9 times as long as anterior width; lateral margins converging posteriorly; two pairs of submarginal dorsal spines present at 0.33 and 0.66 of telson length; posterior margin triangularly produced, 0.35 of anterior width, ending in acute tip, with three pairs of spines. Lateral spines short, slightly shorter than dorsal spines. Intermediate spines very long, about 0.39 of telson length, 3.0 times length of submedian spines.

Eyes (fig. 2A) well developed. Cornea globular, with distinct accessory pigment spot dorsally. Eyestalks slightly longer than proximal width.

Antennular peduncle (fig. 2C) reaching 0.75 of rostrum length. Basal segment long, slender, 2.5 times as long as wide; stylocerite short, acute, reaching to 0.45 of basal segment; lateral margin straight, anterolateral margin slightly produced, with distolateral acute tooth and rows of setae; medial ventral margin with tooth at 0.45 of length. Statocyst containing granular statolith. Intermediate and distal segments

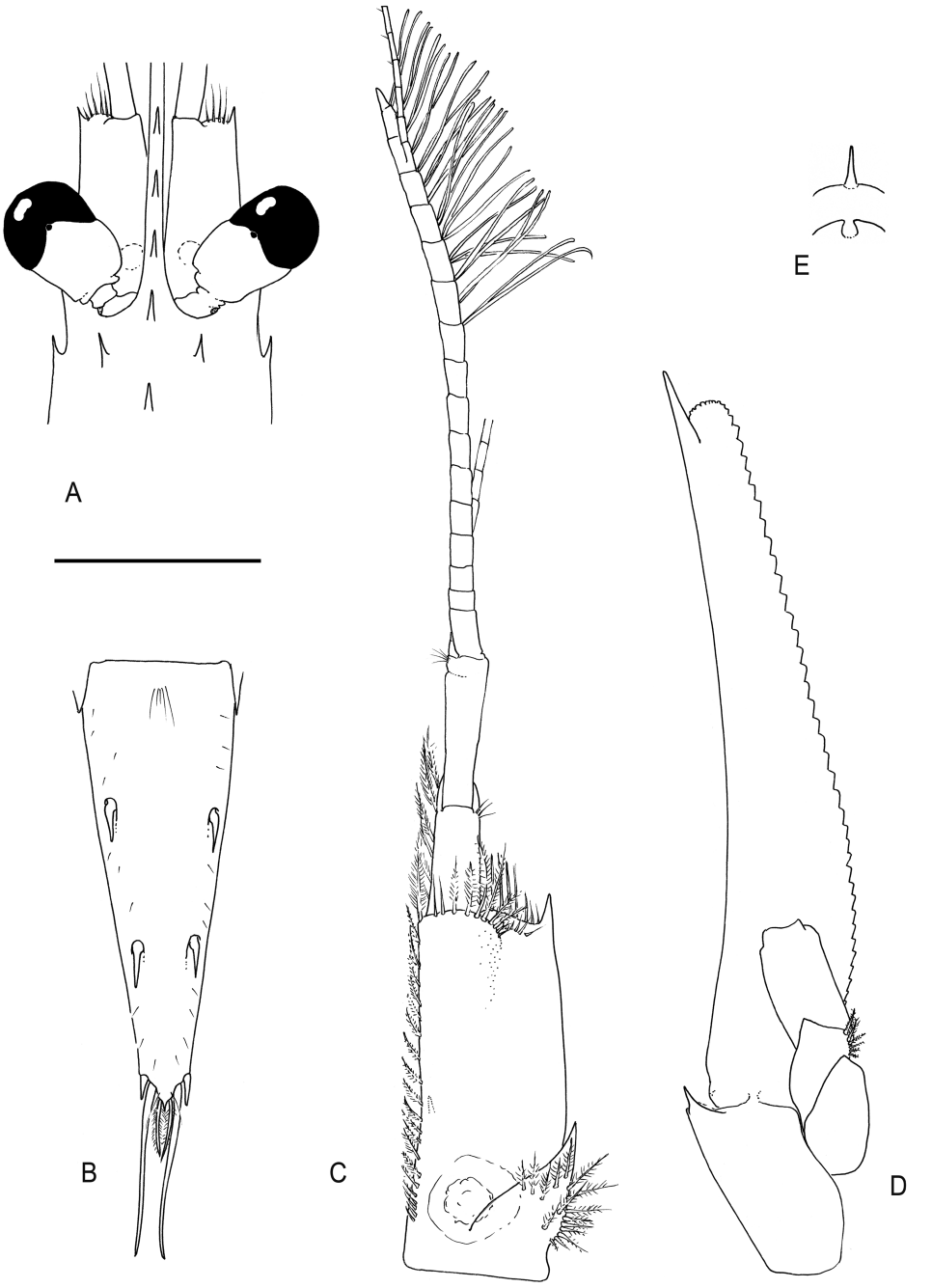

Fig. 2. *Cuapetes canariensis* sp. nov. holotype male, pocl 3.1 mm, RMNH.CRUS.D.58025. A, Anterior part of carapace and anterior appendages, dorsal view; B, telson; C, antennule, dorsal view; D, antenna, ventral view; E, fourth and fifth thoracic sternites. Scale A, B, E = 2 mm; C, D = 1 mm.

short, together equal to 0.7 of basal segment length. Upper outer flagellum biramous, with first 14 segments fused. Aesthetascs present on distal 5 segments of fused part and short free ramus. Shorter free ramus three-segmented, longer free ramus with few segments. Lower inner flagellum slender, slightly longer than upper flagellum.

Antennal basicerite (fig. 2D) with acute lateroventral tooth. Ischiocerite and merocerite normal. Carpocerite slender, reaching 0.25 of length of scaphocerite. Scaphocerite long, slender, 5.6 times as long as broad, with greatest width at 0.25 of its length; lamella not overreaching distolateral tooth; lateral margin slightly concave, ending in acute, large distolateral tooth.

Epistome and labrum normal.

Second and third thoracic sternites unarmed.

Fourth thoracic sternite (fig. 2E) with long finger-like medial process, slightly curved forward.

Fifth thoracic sternite (fig. 2E) with distinct lateral plates posteromedial of second pereiopods.

Sixth to eighth thoracic sternites unarmed.

Mandible (fig. 3A) with cylindrical molar process bearing five blunt teeth and a brush of setae distally. Incisor process slender, with three well developed teeth distally, of which lateralmost slightly enlarged. Mandible without palp.

Maxillula (fig. 3B) with upper lacinia rectangular with row of few spines and slender setae medially; lower lacinia lost in dissection; palp bilobed, medial lobe with single short recurved simple seta.

Maxilla (fig. 3C) with short tapering palp with few plumose setae laterally. Basal endite well developed, deeply bilobed, both lobes with many long simple setae distally. Coxal endite obsolete, median margin convex, without setae, medial region slightly convex. Scaphognathite normal, widest centrally, about 2.6 times as long as central width, with marginal plumose setae.

First maxilliped (fig. 3D) with short, slender, tapering palp with one long plumose seta subdistally. Basal endite broad, distinctly separated from coxal endite. Median margin of both endites provided with many setulose and slender simple setae. Caridean lobe distinct, with plumose marginal setae. Flagellum of exopod well developed with long plumose setae in distal fourth. Epipod very large, indistinctly bilobed.

Second maxilliped (fig. 4A) with dactylar segment narrow, 3.0 times as long as wide, straight medially, densely fringed with numerous coarsely serrulate, spiniform, and long curled finely serrulate setae medially. Propodal segment longer than dactylar segment, with distomedial angle produced, with several long robust serrulate and slender simple setae. Carpus short, unarmed. Meral segment short, not excavate, without setae. Ischium fused to basis. Basis with long slender exopod

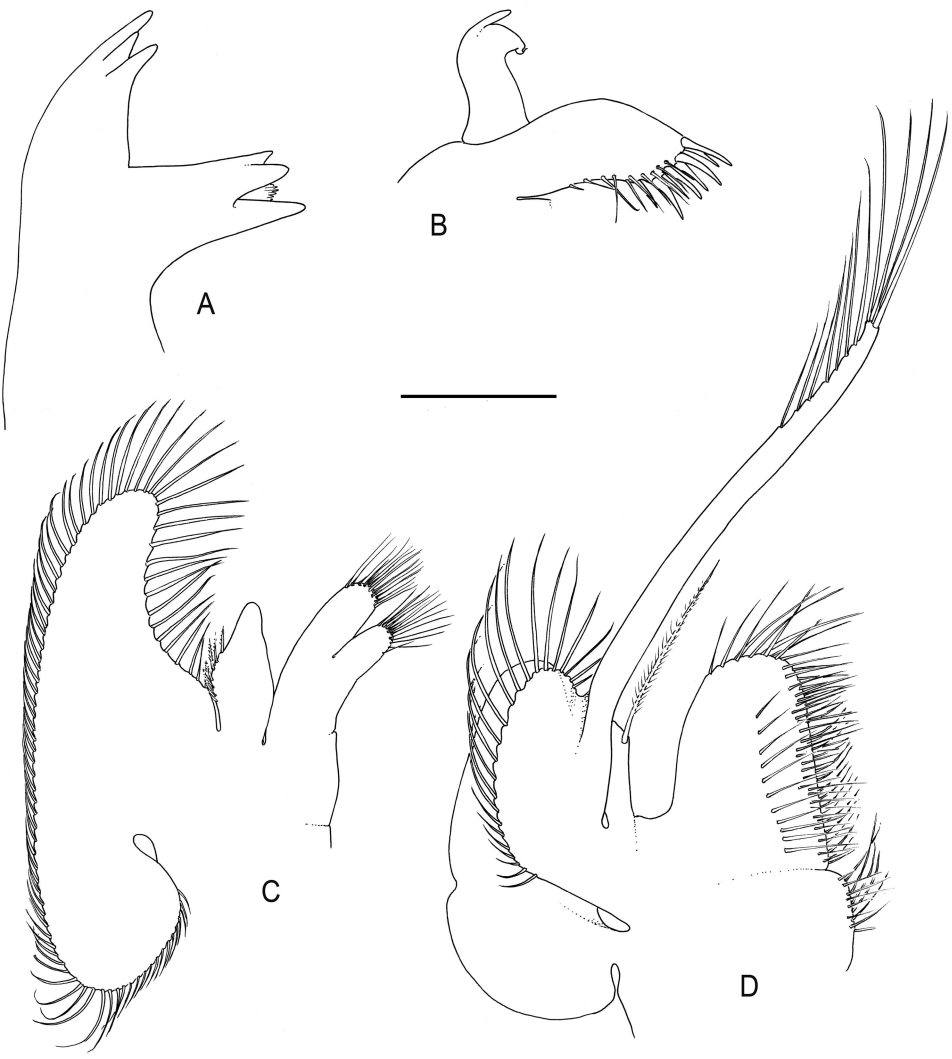

Fig. 3. *Cuapetes canariensis* sp. nov. holotype male, pocl 3.1 mm, RMNH.CRUS.D.58025. A, Mandible; B, maxillula (lower lacinia not figured); C, maxilla; D, first maxilliped; E, second maxilliped. Scale = 0.5 mm.

exceeding length of endopod, with long plumose setae distally and subdistally. Coxa slightly produced medially, rectangular small oblong epipod laterally.

Third maxilliped (fig. 4B) slender. Terminal segment 5.2 times as long as proximal width, slightly shorter than length of penultimate segment, with many serrulate and simple setae medially. Penultimate segment slender, 6.0 times as long as distal width. Antepenultimate segment long, strongly bowed, 1.2 times length

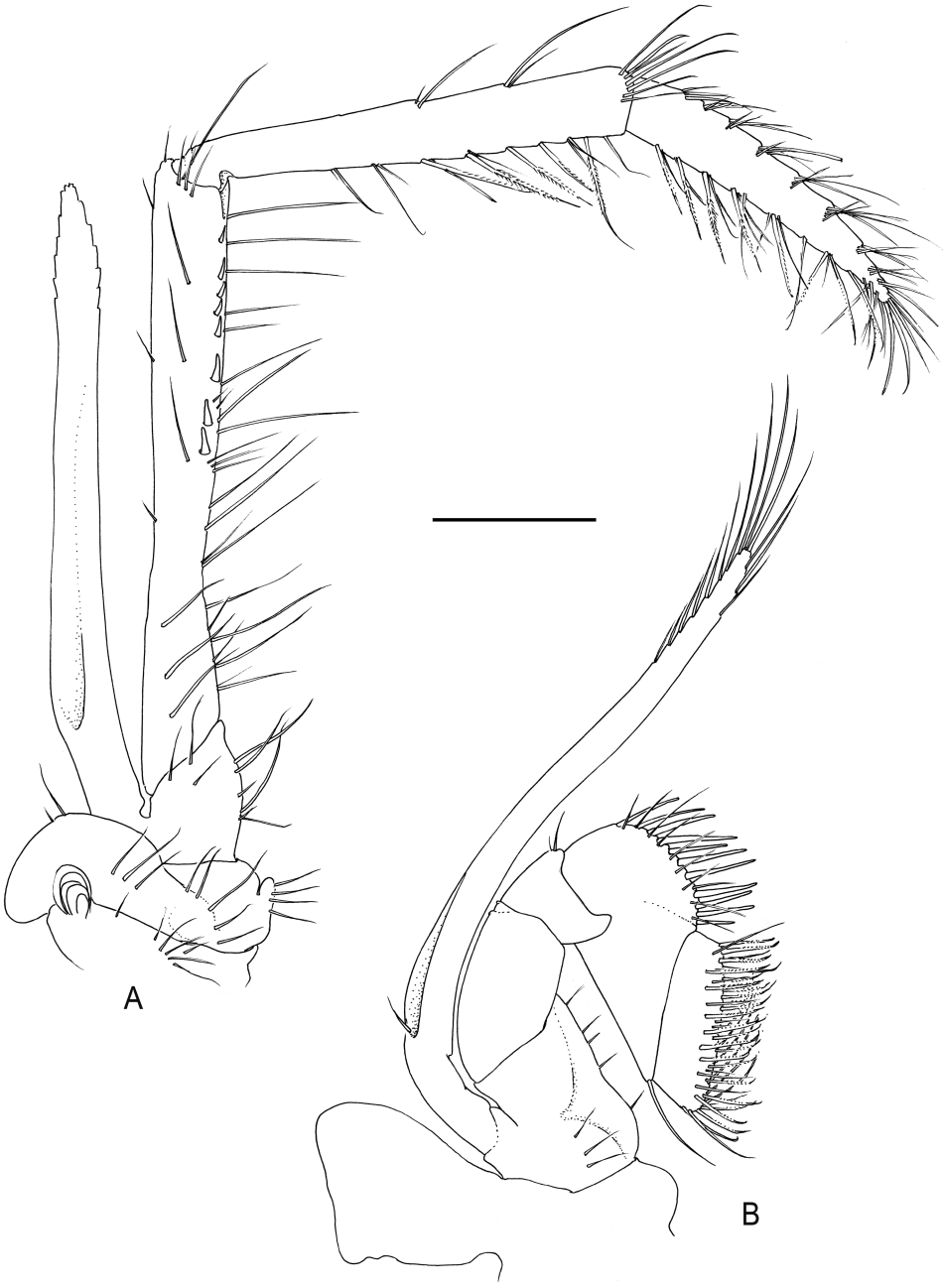

Fig. 4. *Cuapetes canariensis* sp. nov. holotype male, pocl 3.1 mm, RMNH.CRUS.D.58025. A, Second maxilliped; B, third maxilliped. Scale = 0.5 mm.

of penultimate segment, with row of 8 mobile spines in distal half of ventrolateral margin. Basal segment short, exopod reaching distal margin of antepenultimate segment, with distal and subdistal plumose setae. Coxa with small setose median process, with rounded lateral plate and small arthrobranch.

First pereiopod (fig. 5A) slender, reaching distal margin of scaphocerite. Chela with palm subcylindrical, straight, 3 times as long as wide. Fingers almost as long as palm, straight not subspatulate, with brushes of setae in distal part, cutting edges entire, tips of fingers hooked. Cleaning setae present on palm and distoventral part of carpus. Carpus twice length of chela, 12 times as long as distal width. Merus almost as long as carpus, almost twice length of ischium. Basis and coxa without special features.

Second pereiopods (fig. 5B), equal in length, similar, extending beyond scaphocerite with chela and half of carpus. Chela with palm subcylindrical, straight, about 4 times as long as wide. Fingers (fig. 5D) 0.80 of palm length. Dactylus as wide as fixed finger, fingers with brushes of short setae in distal part, tips strongly hooked, cutting edges with about 8 slightly rounded teeth proximally, distally entire. Carpus 1.3 times as long as palm length, expanded distally, disto-lateral margin bearing broad blunt tooth, distal medial margin with long slender acute subdistal spine (fig. 5C). Merus as long as carpus, with subdistal ventral acute spine. Ischium slightly shorter than merus, unarmed. Basis and coxa without special features.

Ambulatory pereiopods (fig. 5E-H) slender, similar in form and length. Dactylus (fig. 5F) slender, uniformly tapering, unarmed, about 0.37 of propodus length, 8.0 times as long as proximal width, with slender unguis almost half as long as corpus. Propodus about 20 times as long as wide, with 4-5 ventral spines and two distoventral spines. Carpus, merus and ischium 0.50, 1.1 and 0.47 of propodus length, respectively, unarmed. Basis and coxa normal.

Endopod of first pleopod in male (fig. 5I, J) short, half-length of exopod, distally broad, rounded, with long plumose setae along lateral and distal fourth of medial margin; proximal part of medial margin with row of short serrate setae increasing in length proximally. Endopod of second pleopod in male (fig. 5K), 0.78 times length of exopod. Appendix masculina (fig. 5L) long and slender, 1.35 times as long as appendix interna, with many long simple setae; distalmost setae serrate.

Uropods (fig. 1) extending beyond tip of telson. Protopodite unarmed laterally. Exopod with lateral border almost straight, entire, slightly longer than endopod, terminating in a small tooth with mobile spine medially.

Size.— Holotype pocl. 3.1 mm.

Colour (fig. 6).— Body and appendages generally translucent. Carapace with laterally oblique and dorsally longitudinal lines of red chromatophores, alternating with lines and patches of light blue chromatophores; more prominent oblique red

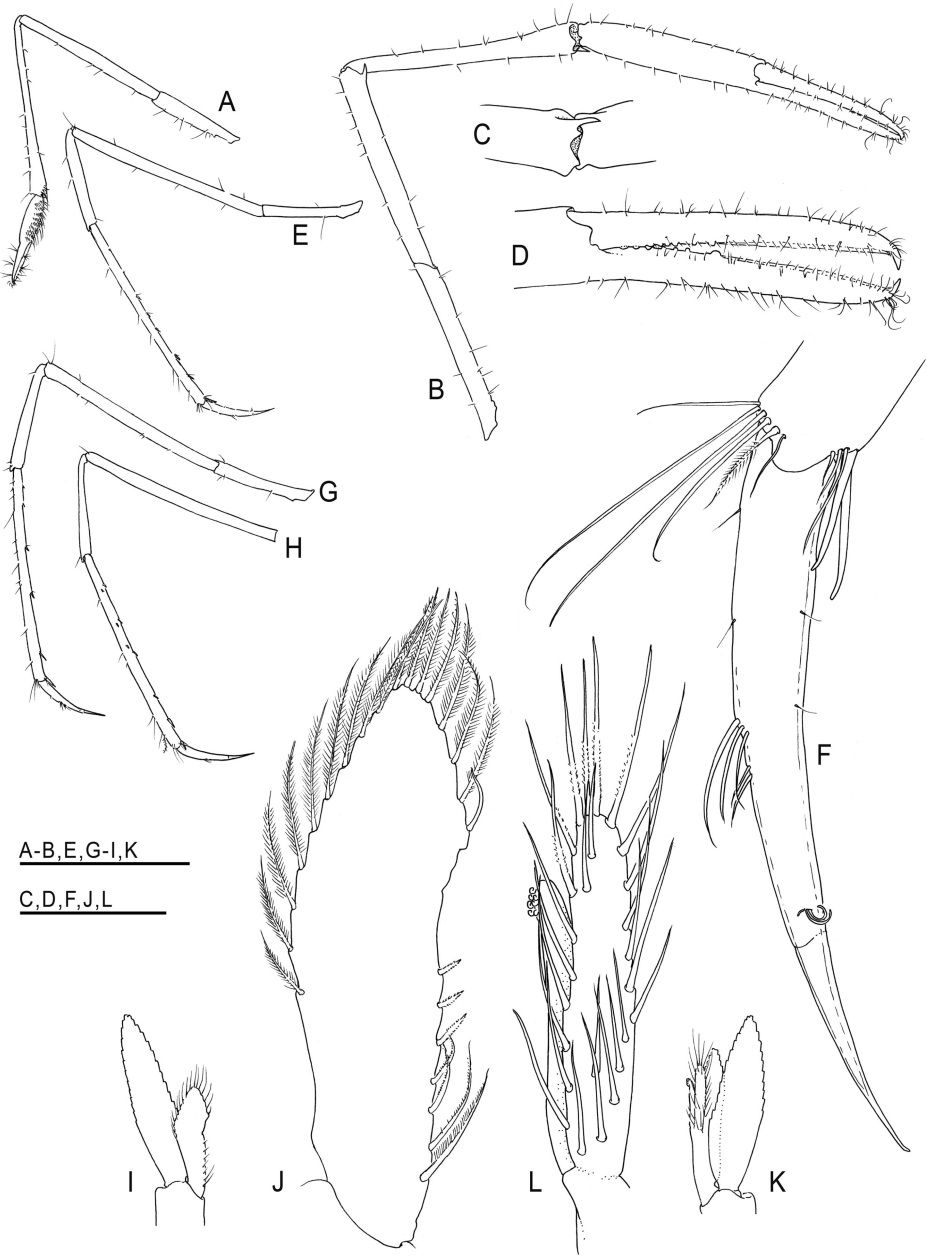

Fig. 5. *Cuapetes canariensis* sp. nov. holotype male, pocl 3.1 mm, RMNH.CRUS.D.58025. A, First pereiopod; B, second pereiopod, dorso-lateral view; C, idem, carpo-propodal joint, ventro-medial view; D, idem, fingers of chela, medial view; E, third pereiopod; F, idem, dactylus; G, fourth pereiopod; H, fifth pereiopod; I, first pleopod; J, idem, endopod; K, second pleopod; L, idem, appendix masculina and appendix interna. Scale A, B, E, G, H = 2 mm; C, D, I, K = 1 mm; F, J, L = 0.25 mm.

lines departing from basal and coxal segments of third pereiopods and third maxillipeds. Tip of rostrum and scaphocerite with few bright yellow chromatophores. Abdomen with patches of light blue chromatophores, dorsally and laterally interspersed with scattered red chromatophores, most prominent ventrolaterally. Telson and uropods translucent except for some bright yellow chromatophores at distal margins. Eyestalks with faint dorsal longitudinal reddish stripes and scattered red chromatophores ventrally. Joints between basis, coxa, ischium of pereiopods 1, 2, 4 and 5 with bright blue chromatophores, that of third pereiopods with red chromatophores. All pereiopods with ischial-meral joint with bright blue chromatophores. First two pereiopods reddish; joints between merus and carpus and between carpus and propodus with some bright blue chromatophores. Chela of second pereiopods with fingers reddish with yellow chromatophores at base of fingers.

Etymology.— The species name '*canariensis*' refers to the Canary Islands, the region where the species was discovered. It is an adjective referring to a geographical location, and agreeing in gender with the (masculine) generic name.

PHYLOGENETIC ANALYSIS

The result of the phylogenetic analysis based on the mitochondrial gene 16S rRNA shows (fig. 7) that *Cuapetes canariensis* sp. nov. clusters together as sister species with *C. amymone* (De Man, 1902).

DISCUSSION AND CONCLUSIONS

The currently known *Cuapetes* species with a supraorbital spine and a distoventral tooth on the merus of the second pereiopods are: *C. agag* (Kemp, 1922), *C. amymone* (De Man, 1902), *C. andamanensis* (Kemp, 1922), *C. demani* (Kemp, 1915), *C. elegans* (Paulson, 1875), *C. ensifrons* (Dana, 1852), *C. grandis* (Stimpson, 1860), *C. longirostris* (Borradaile, 1915) and *C. suvadivensis* (Borradaile, 1915). *C. canariensis* sp. nov. shares the possession of one acute tooth on the distal margin of the carpus of the second pereiopods with *C. amymone*, *C. andamanensis*, *C. demani*, *C. elegans* and *C. grandis*.

Cuapetes amymone differs from the new species in having: (1) the carpus of the second pereiopod with two acute distal teeth, whereas the new species has only one distal acute tooth in the distal part of the carpus; (2) the ambulatory pereiopods being rather short and stout whereas long and slender in the new species; (3) the propodi of the ambulatory pereiopods only with one small distoventral spine whereas several spines are present along the ventral margin in the new species; (4)

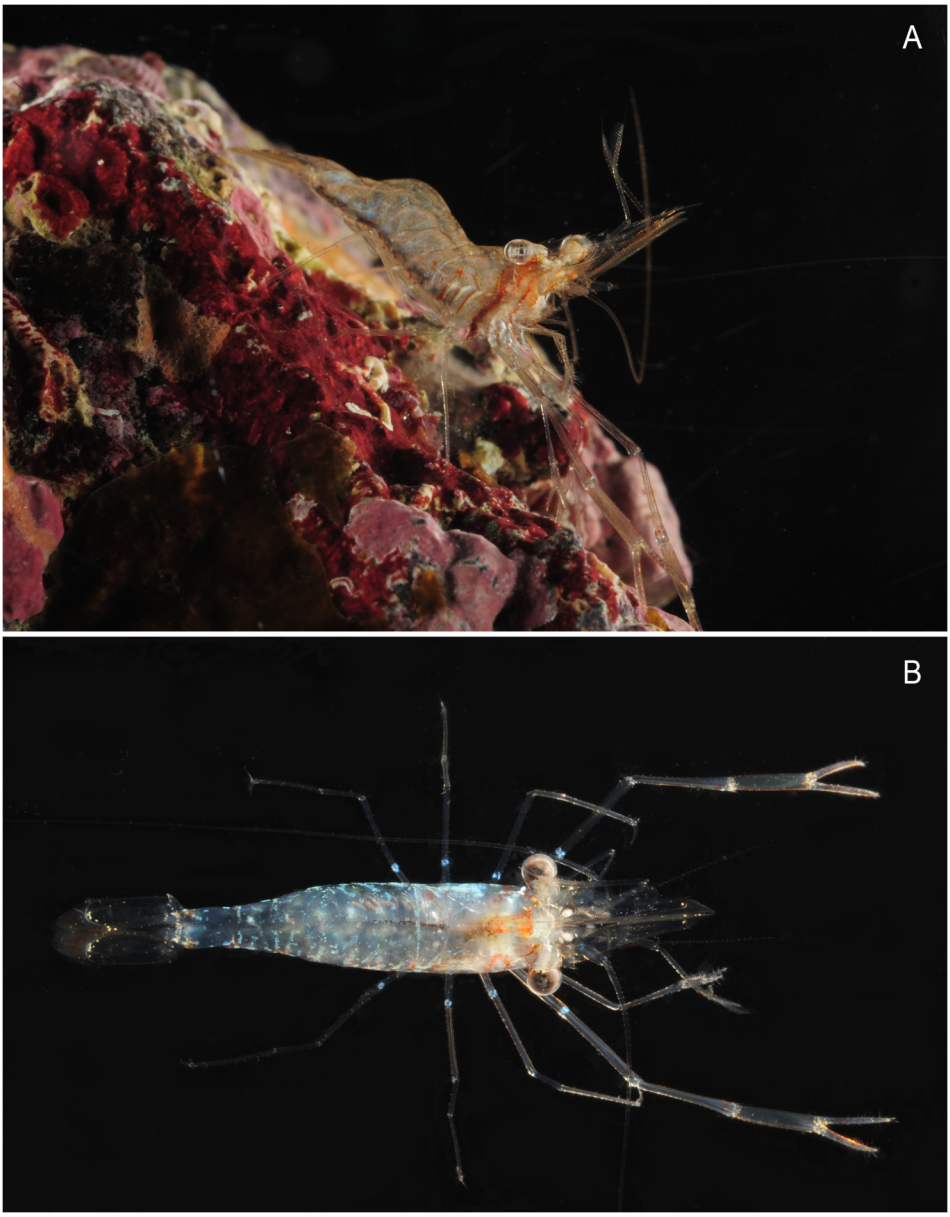

Fig. 6. *Cuapetes canariensis* sp. nov. holotype male, pocl 3.1 mm, RMNH.CRUS.D.58025, colour photographs taken, A, under water; and, B, in the laboratory. [Photographs by Leopoldo Moro.].

and in having the dactyli of the ambulatory pereiopods short and stout, about 2.2 times as long as their proximal width (see Bruce, 1980, fig. 1I), whereas they are long and slender, about 8 times as long as their proximal width, in the new species.

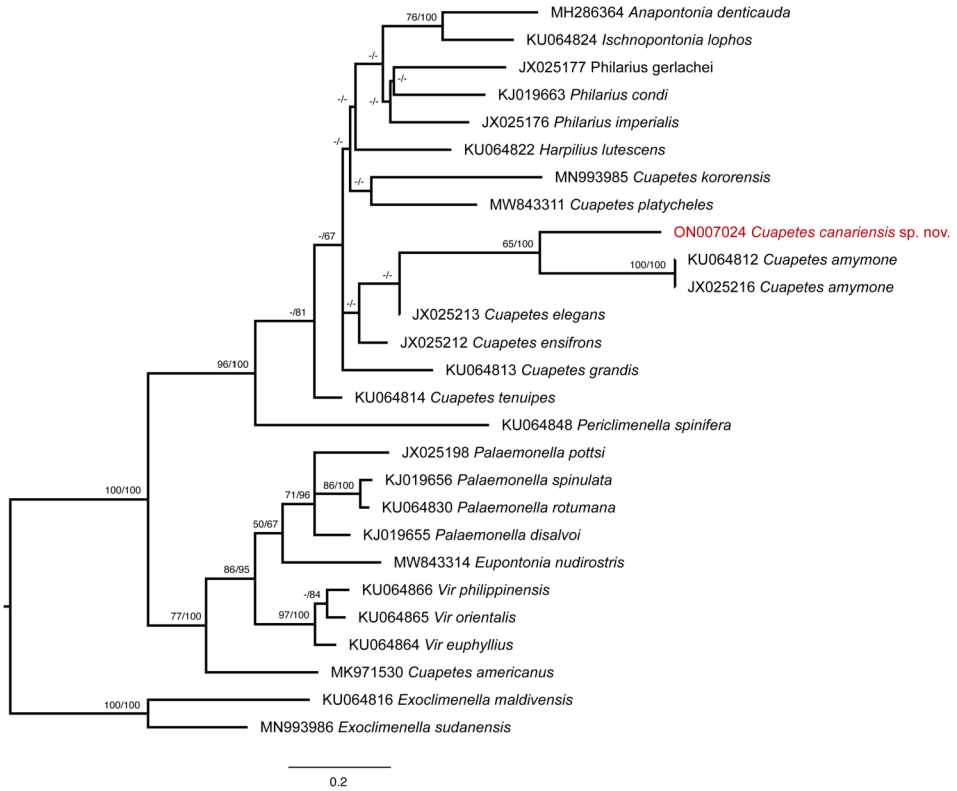

Fig. 7. Phylogenetic tree for *Cuapetes canariensis* sp. nov. and related species (Clade 1 of Horka et al. (2016) and Clade IIIA of Chow et al. (2021)) resolved by Maximum Likelihood based on 16S DNA sequences retrieved from GenBank. RAxML bootstrap support and Bayesian posterior probabilities expressed as percentages indicated. Dash (−) indicates support value lower than 50%. See text for further explanation; see also table I.

Cuapetes andamanensis is very similar to the new species, both in morphology as well as coloration (see Ashrafi et al., 2020; their fig. 2A). It differs in having: (1) 2, rarely 3, teeth on the ventral margin of the rostrum while the new species has 4 ventral teeth; (2) and the palm of the second pereiopod chelae being 1.8-2.1 times as long as the fingers, whereas 1.1 times as long as the fingers in the new species.

Cuapetes demani differs from the new species in having the distolateral tooth of the scaphocerite not, or scarcely, exceeding the lamella, whereas it is distinctly exceeding the lamella in the new species.

Cuapetes elegans differs from the new species in having: (1) the carpus of the second pereiopod with two acute distal teeth, whereas the new species has only one distal acute tooth in the distal part of the carpus; (2) the ambulatory pereiopods being rather short and stout whereas long and slender in the new species; (3) and in having the dactyli of the ambulatory pereiopods short and stout, 4.0-4.5 times

as long as their proximal width (see Kemp, 1922: 217, their fig. 62e), whereas they are long and slender, about 8 times as long as their proximal width, in the new species.

Cuapetes grandis differs from the new species in having: (1) the palm of the second pereiopod chela much longer than the fingers (1.6-2.0 times as long), whereas it is about as long as the fingers in the new species; (2) and in having the dactyli of the ambulatory pereiopods 6.0-6.5 times as long as their proximal with, whereas 8 times their proximal width in the new species.

Finally, with regard to the results of the phylogenetic analysis performed, according to the data derived from the 16S mitochondrial gene, the systematic position of *Cuapetes canariensis* can be characterized as being most closely related to *C. amymone*, as apparent from the cladogram represented in fig. 7. This phylogenetic reconstruction is based on 16S mitochondrial gene sequences of *Cuapetes* species available on GenBank, covering 26% of the *Cuapetes* species currently known. More robust multi-gene phylogenetic reconstructions including species of *Cuapetes* have recently been published by Horka et al. (2016) and Chow et al. (2021). These reconstructions show that the Indo-West Pacific *Cuapetes* form a monophyletic group (not confirmed in our single gene analysis) as well as the isolated position of the western Atlantic *Cuapetes americanus* (as confirmed in our analysis).

ACKNOWLEDGEMENTS

This publication is part of the results of the project "Monitoring, control and mitigation of proliferations of marine organisms associated with human disturbances and climate change in the Macaronesian region (MIMAR)", co-financed by ERDF through the INTERREG V-A MAC 2014-2020 Program. Laboratory work was carried out with the help of the student Fenja Hüttinger (University of Regensburg, Regensburg, Germany) and financed with the budget of the Department of Zoology and Evolutionary Biology of the University of Regensburg. Sammy De Grave (Oxford University Museum of Natural History, Oxford, U.K.) is acknowledged for providing valuable feedback during the reviewing process.

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First received 14 March 2022.
Final version accepted 29 March 2022. Published online 18 May 2022.