A new species of freshwater crab, genus *Kingsleya* Ortmann, 1897 (Decapoda: Brachyura: Pseudothelphusidae), from the remote southern Guyana

Uma nova espécie de caranguejo de água doce do gênero *Kingsleya* Ortmann, 1897 (Decapoda: Brachyura: Pseudothelphusidae) do extremo sul da Guyana

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Abstract: Only one species of the genus *Kingsleya* Ortmann, 1897, was known from Guyana. An expedition of the Rapid Biological Assessment Program conducted in the Konashen Community Owned Conservation Area in the upper Essequibo River basin in the southern tip of the country, resulted in the discovery of an undescribed species of this genus, which is described, illustrated and phylogenetic contextualized herein. The new species, supported by morphological and molecular evidences, belongs to *Kingsleya* mainly due to distinctive features of the first male gonopod (G1). The new species is molecularly compared with sequences of some congeners and, based on a single marker and reduced set of samples, is positioned close to *K. attenboroughi*. When compared with its closest congeners, the new species can be distinguished by a suite of characters of the G1, especially the narrow proximal portion of the apical plate's mesial margin, the apical plate's mesial lamella much shorter than the lateral lamella and strongly recurved apically at about 90° in lateral view, and the transverse positioning of the short field of apical spines. A comparative analysis of the new species with congeners is made and zoogeographic aspects concerning the *Kingsleya* species from northern South America are briefly discussed.

Keywords: Amazon region. Essequibo River basin. Kingsleyinae. Molecular markers. Neotropical region. Taxonomy.

Resumo: Apenas uma espécie de *Kingsleya* Ortmann, 1897 era conhecida na Guiana. Uma expedição do Programa de Avaliação Biológica Rápida conduzida na Área de Conservação Comunitária de Konashen, no alto rio Essequibo, no sul do país, resultou na descoberta de uma nova espécie, que é descrita, ilustrada e filogeneticamente contextualizada. A nova espécie, reconhecida com base tanto em evidências morfológicas quanto moleculares, pertence a *Kingsleya* principalmente devido a caracteres distintivos do primeiro gonópode do macho (G1). A nova espécie foi comparada molecularmente com algumas congêneres e, com base em apenas um marcador e com reduzido conjunto de amostras, está relacionada a *K. attenboroughi*. Quando comparada morfologicamente com seus congêneres mais próximos, a nova espécie pode ser distinguida por um conjunto de caracteres do G1, especialmente pela porção proximal da margem mesial da placa apical estreita, pela lamela mesial da placa apical muito mais curta do que a lamela lateral e fortemente recurvada apicalmente em cerca de 90° em vista lateral e pelo posicionamento transversal do pequeno campo de espinhos apicais. Uma análise comparativa da morfologia do G1 da nova espécie com as congêneres é feita e aspectos zoogeográficos referentes às espécies de *Kingsleya* do norte da América do Sul são brevemente discutidos.

Palavras-chave: Região amazônica. Bacia do rio Essequibo. Kingsleyinae. Marcadores moleculares. Região Neotropical. Taxonomia.

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INTRODUCTION

The Guyanese fauna of pseudothelphusid freshwater crabs is fairly well known and currently comprises ten species belonging to four genera: *Fredius* Pretzmann, 1967 (five species), *Microthelphusa* Pretzmann, 1968 (three species), *Kingsleya* Ortmann, 1897, and *Kunziana* Pretzmann, 1971, with one species each (Rodriguez, 1982; Magalhães & Rodríguez, 2002; Cumberlidge, 2007; Magalhães et al., 2009; Pedraza & Tavares, 2015; Magalhães & Wehrtmann, 2025). Although *Kingsleya* has a wide geographic distribution in northern South America, encompassing a large portion of the Amazon basin, the upper Orinoco basin, and some coastal river basins of the northern and northeastern South America (Holthuis, 1959; Rodriguez, 1982; Magalhães & Türkay, 2008; Pedraza & Tavares, 2015; Pedraza et al., 2015; Pinheiro & Santana, 2016; Pralon et al., 2020), the only species of this genus so far known from Guyana was *Kingsleya latifrons* (Randall, 1840) (Rodriguez, 1982; Magalhães & Türkay, 2008).

In October 2006, a team coordinated by the Conservation International (n.d.) conducted an expedition of the Rapid Biological Assessment Program (RAP) to carry out an inventory of the natural resources of the Konashen Community Owned Conservation Area, an area of undisturbed forest in the remote southern region of Guyana that encompasses the headwaters of the Essequibo River and its tributaries, including the Sipu River (Alonso et al., 2008). The crustaceans collected in the inventory of the aquatic fauna were deposited in the natural history museum of the Fundación La Salle de Ciencias Naturales (Caracas, Venezuela) and, during a visit in March 2008 to the museum's crustacean collection to study this material, the senior author found specimens that proved to be an undescribed species of the genus *Kingsleya*, which is described and illustrated herein.

MATERIAL AND METHODS

SAMPLING AND MORPHOLOGICAL ANALYSIS

The specimens were hand-collected. The specimens examined, both type and comparative material, are deposited in the following institutions: *Coleção de Crustáceos do Departamento de Biologia* (CCDB), *Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto*, *Universidade de São Paulo*, Ribeirão Preto; *Instituto Nacional de Pesquisas da Amazônia* (INPA), Manaus; *Fundación La Salle de Ciencias Naturales, Museo de Historia Natural* (MHNLS), Caracas; *Museu de Zoologia da Universidade de São Paulo*, São Paulo (MZUSP); Naturalis Biodiversity Center, Leiden (RMNH). Line drawings were made by C.M. with the aid of a stereoscopic microscope (Wild M8) equipped with a drawing tube, then scanned at 600 dpi and edited in Adobe Photoshop© CS 2 software at 600 dpi. Computerized photographs of the first gonopod were taken using a Leica© M205 C stereomicroscope equipped with a Leica© DFC295 digital camera, along with image capture software (Leica Application Suite v. 3.8.0). The plates were mounted in CorelDraw© X3 software. Geographic coordinates in square brackets represent data that were not originally acquired in the field but obtained from subsequent georeferencing using online gazetteers (e.g., GeoNames, n.d.) and/or Google Earth®. The geographic distribution map was made using the software QGIS 3.34 Prizren.

The following measurements, in millimeters, were taken: carapace length (cl, measured along the midline, from the frontal to the posterior margin); carapace width (cw, measured at the level of its widest point); chelae length (chl, measured along the ventral margin of the propodus); maximum width of sternum (sw); and minimum distance between female vulvae (vd). Measurements for the female sternum and vulvae follow Pati (2021). Measurements of carapace length and width are presented as (cw × cl). Other abbreviations used in the text are: coll. = collector(s); G1 and G2 = male first and second gonopods, respectively; Mxp3, third maxilliped; P1, pereiopod 1 or cheliped; P2–P5, pereiopods 2 to 5; s = sternal sulcus between adjacent thoracic sternites (e.g., s5/s6); bp = base pairs. Terminology used in the morphological description of the G1 and G2 was adapted from Smalley (1964) and

Pedraza et al. (2016), with "sternal" and "pleonal" for the surfaces and views facing, respectively, the thoracic sternum and the pleon are used instead of "cephalic" or "dorsal" and "abdominal" or "ventral".

The taxonomic determination was based on the G1 morphology with particular attention to the examination of the following character: shape of apical plate; presence, situation and position of the apical lamellae; shape and situation of the marginal process; shape, situation and position of the mesial process; and shape and position of the field of apical spines.

DNA EXTRACTION, AMPLIFICATION, AND SEQUENCING

Genomic DNA extraction was performed using a QIAamp DNA Micro Kit (QIAGEN®) following the manufacturers' instruction. In general, the protocol followed the methodology established by Mantelatto et al. (2007, 2018) and Álvarez et al. (2020), including appropriate modifications (adjustments in the concentration of DNA sample and temperature of annealing) for specific material. DNA concentration was measured with a NanoDrop™ 2000/2000c spectrophotometer (Thermo Scientific™).

A fragment of the mitochondrial cytochrome c oxidase subunit I gene (COI, approximately 600 bp) was amplified using the primers LCOI and HCOI (Folmer et al., 1994). PCR conditions consisted of an initial denaturation at 96 °C for 3 min, followed by 40 cycles of 95 °C for 1 min, 48 °C for 1 min, and 72 °C for 1 min, and a final extension at 72 °C for 5 min. PCR products were visualized on a 1.5% agarose gel, and the results were photographed under ultraviolet light using an L-Pix EX photodocumentation system (Loccus®). The amplified products were purified with the Universal DNA Purification Kit (TIANGEN®) according to the manufacturer's protocol, and their concentrations were measured using a Qubit™ 4 fluorometer (Invitrogen™) [20 ng/μl]. Sequencing reactions were performed independently for both strands using the Big Dye Terminator v3.1 kit (Applied Biosystems), and the resulting products were analyzed on an ABI 3500 XL automated sequencer (Applied Biosystems Inc., CA, USA). Sequences were aligned and edited in Geneious Prime version 2024.0.4 (Geneious, n.d.) (Kearse et al., 2012). Low-quality ends were trimmed, and consensus sequences were generated from forward and reverse reads (de novo assembly). The final sequences were compared against the GenBank database using the Basic Local Alignment Search Tool (BLAST) implemented on the National Center for Biotechnology Information (NCBI) website.

MOLECULAR DATA ANALYSES

The outgroup was selected according to the phylogenetic hypothesis proposed by Álvarez et al. (2020). All sequences generated in this study were deposited in GenBank and made publicly available (Table 1). To test the hypothesis of a new species, three species delimitation methods were applied: the Bayesian Poisson Tree Processes method (bPTP; Zhang et al., 2013), the Generalized Mixed Yule–Coalescent model (GMYC; Pons et al., 2006), and the Assemble Species by Automatic Partitioning (ASAP; Puillandre et al., 2021) method, performed on the online platform (https://itaxotools.org; Vences et al., 2021) using Kimura (K80) distance matrices, with all other parameters set to default.

Sequences were aligned (MUSCLE) implemented in MEGA version 12 (Kumar et al., 2024). For bPTP and GMYC analyses (Zhang, 2013-2015), an ultrametric tree was inferred using Bayesian inference implemented in BEAST v. 2.6.2 (Bouckaert et al., 2019) under a Relaxed Lognormal Clock and a Birth–Death model (Heled & Drummond, 2010). The best-fit evolutionary model was GTR (proportion of invariant sites = 0.5760; substitution rates: AC and CG = 2.6609, AG and CT = 15.4853, AT and GT = 1.0), as determined by the Bayesian Information Criterion (BIC) in jModelTest2 (Darriba et al., 2012).

Table 1. Species of Pseudothelphusidae included in the molecular analyses. For each species, collection number, its locality, GenBank number to the accessed COI sequence are presented. Abbreviations: CCDB = *Coleção de Crustáceos do Departamento de Biologia*, *Faculdade de Filosofia Ciências e Letras de Ribeirão Preto*, *Universidade de São Paulo*, Ribeirão Preto, Brazil; INPA = *Instituto Nacional de Pesquisas da Amazônia*, Manaus, Brazil; MHNLS = *Fundación La Salle de Ciencias Naturales*, *Museo de História Natural*, Caracas, Venezuela; RMNH = Naturalis Biodiversity Center, Leiden, The Netherlands; UCR-MZ = *Museo de Zoología de la Universidad de Costa Rica*, Costa Rica.

Species	Collection number	Locality	GenBank Number (COI)	Reference
Kingsleya marthacamposae sp. nov.	MHNLS 2392	Guyana	PX913411	Present study
K. attenboroughi	INPA 2208	Brazil, Ceará	PX913413	Present study
K. latifrons	RMNH 41765	Dadanawa, Guyana	KU578938	Álvarez et al. (2020)
K. latifrons	INPA 329	Brazil, Pará	PX913413	Present study
K. ytupora	INPA 1269	Brazil, Pará	PX913412	Present study
Fredius fittkaui	INPA 1330	Brazil, Amazonas	MZ462184.1	Mantelatto et al. (2022)
F. fittkaui	INPA 1546	Brazil, Amazonas	MZ462185.1	Mantelatto et al. (2022)
F. buritizatillis	CCDB 2951	Brazil, Rondônia	MZ462207.1	Mantelatto et al. (2022)
F. buritizatillis	CCDB 342	Brazil, Rondônia	MZ462212.1	Mantelatto et al. (2022)
Achlidon agrestis	CCDB 4556	Costa Rica, Limón	MZ462213.1	Mantelatto et al. (2022)
Ptychophallus uncinatus	UCR-MZ 170	Costa Rica	MZ462214.1	Mantelatto et al. (2022)

Analyses were run for 50 million generations, sampling one tree every 1,000 generations. TRACER v. 1.5 (part of the BEAST package) was used to assess convergence and ensure sufficient effective sample size (ESS > 200). Trees were summarized and visualized using TREEANNOTATOR 1.5.3 and FIGTREE 1.3.1, respectively (Drummond & Rambaut, 2007; Rambaut, 2009). GMYC and bPTP input files were generated using the online platform (Zhang, 2013-2015).

A genetic distance matrix was calculated to evaluate intra- and interspecific divergence among congeners. The matrix was based on Kimura 2-parameter (K2P) distances (Kimura, 1980), computed in MEGA v. 12.

RESULTS

TAXONOMY

Family Pseudothelphusidae Ortmann, 1893
Subfamily Kingsleyinae Bott, 1970
Genus *Kingsleya* Ortmann, 1897
Kingsleya marthacamposae sp. nov.
(Figures 1-4)

Zoobank: urn:lsid:zoobank.org:act:676F8E4C-B324-40F1-B163-E1F5A0561697

Type material (see note on Taxonomic remarks). Holotype: male (43.3 × 24.6), MHNLS 2392a, Guyana, Upper Takutu/Upper Essequibo, Acarai Mountains, Acarai Creek, tributary of Sipu River, Essequibo River basin, 01° 23' 12.2" N, 58° 56' 45.7" W, elevation 251 m, in marginal pool, collected manually, 17.x.2006, C.A. Lasso, C.J. Señaris & E. Alexander leg.

Paratypes: 2 males (27.7 × 16.5; 40.6 × 23.2) 3 females (33.6 × 19.7; 43.2 × 24.7; 55.0 × 30.4), MHNLS 2392b, same data as holotype.

Comparative material examined. *Kingsleya attenboroughi* Pinheiro & Santana, 2016: 1 male, 1 female, paratypes, INPA 2208, Brazil, Ceará, municipality of de Barbalha, district of Arajara, 07° 20' 07.6" S, 39° 23' 58.8" W, 4.v.2016, A. P. Pinheiro et al. colls. — *Kingsleya besti* Magalhães, 1990: male, holotype, RMNH D 37401, Brazil, Amazonas, Curicuriari Mountains, Upper Negro River basin, elev. 300 m a.s.l., 04.xi.1971, P.J.M. Mars coll. — *Kingsleya castrensis* Pedraza, Martinelli-Filho & Magalhães, 2015: male, holotype, INPA 2010, Brazil, Pará, municipality of Altamira, 51° B.I.S. - Batalhão de Infantaria de Selva camp area, [03° 11' 47" S, 52° 09' 58" W], 16.VIII.2011, J.E. Martinelli-Filho & C. S. de Sousa colls.; 1 male, INPA 2577, Brazil, Pará, municipality of Altamira, local road 5 [03° 19' 01.9" S, 52° 22' 25.0" W], 24.iii.2012, D. A. Bastos coll. — *Kingsleya gustavoi* Magalhães, 2005: male, holotype, INPA 1320, Brazil, Pará, Rio Parauapebas, Canaã dos Carajás [06° 30' S, 49° 50' W], 25.iv.2002, R.P. Ribeiro coll. — *Kingsleya hewashimi* Magalhães & Türkay, 2008: 1 male, paratype, INPA 1534, Venezuela, Amazonas, upper Orinoco River basin, small tributary of Bacón River, 02° 19.570' N, 64° 43.366' W, iv.1996, G. Herzog-Schröder coll. — *Kingsleya junki* Magalhães, 2003: 1 male, INPA 2012, Brazil, Pará, municipality of Vitória do Xingu, Agrovila Lenardo da Vinci [03° 10' 15.5" S, 52° 04' 01.9" W], 26.iii.2012, C. S. de Sousa coll. — *Kingsleya latifrons* (Randall, 1840): 1 male, INPA 389, French Guiana, Trois Sauts [02° 15' 22.1" N, 52° 52' 20.3" W, upper rio Oyapoque], 1985, coll. Grenard; 1 male, INPA 289, Brazil, Amazonas, Uatumã River, cachoeira [= rapids] Balbina, 16.vii.1985, C. Magalhães coll.; 1 male, INPA 329, Brazil, Pará, Trombetas River, Cachoeira Porteira, 4–22.x.1985, C. Magalhães coll.; 2 males, 1 female, INPA 2411, Brazil, Roraima, municipality of São Luiz do Anauá, Peixes River, fazenda [= farm] Água Limpa [00° 41' N, 060° 11' W], 05.ii.2015, F. Zanetti, M.A.L. Santos, I.R. Almeida and S.C. Emidio colls. — *Kingsleya siolii* (Bott, 1967): 1 male, 1 female, RMNH D.5346, Suriname, Sipaliwini, Bakhuis Range, near Coppename River, line V [04° 20' 44" N, 56° 42' 33" W], 11.xii.1943, D.C. Geijskes coll.; 1 male, RMNH D.12117, Suriname, Sipaliwini, Wilhelmina Range, near Linker Coppename River, line I [03° 53' 27" N, 56° 42' 33" W], viii-ix.1943, D.C. Geijskes coll.; 4 males, 2 females, RMNH D.37350, Suriname, Sipaliwini, road from Avanavero to Amotopo (near mouth of Lucie River [03° 32' 56.7" N, 57° 38' 41.3" W]), 212 km of Avanavero, 22.v.1981, M.S. Hoogmoed & D.G. Reeder colls.; 1 male, INPA 391, Brazil, Pará, upper Rio Paru do Oeste, igarapé [= stream] Akahé, Missão Tiriyó, iii–iv.1962, E.-J. Fittkau coll.; 1 male, 1 female, CCDB 8582, Brazil: Amapá, municipality of Laranjal do Jari, Santo Antônio da Cachoeira, 00° 38' 41.7" S, 52° 30' 30.1" W, 5.viii.2011, A. Pes, P. Cruz, A. Fernandes & N. Hamada colls. — *Kingsleya ytupora* Magalhães, 1986: 1 male, INPA 2571, Brazil: Pará, Altamira, Xingu River, cachoeira [rapids] do Tiririca, 03° 22' 56" S, 51° 44' 11" W, 13.x.2012, M. Sabaj, L.M. Souza & M. Arces colls.; 1 male, MZUSP 49064, Brazil: Pará, Altamira, Xingu River, Tapuama, 03° 36' 29" S, 52° 20' 57" W, 08.x.2012, M. Sabaj, L.M. Souza & M. Arces colls.

Diagnosis. G1 straight, with well-developed apical processes; marginal suture on mesial surface; marginal process distinctly long, narrower distally, distal margin rounded in mesial and pleonal views, arched in sternal view, not projecting distally beyond the field of apical spines area; pleonal surface ending distally in subterminal rounded lobe, separated from distosternal lobe along laterosternal surface by deep, wide sulcus; mesial process well developed, approximately 1.9 × longer than apical plate; apical plate well developed, narrow, with 2 distinct apical lobes; mesial (or proximal) lobe stretching diagonally over apical plate, distal portion strongly recurved laterally, distinctly shorter (approximately 0.7 × length) than lateral lobe in mesial view. Field of apical spines short, narrow, situated somewhat transversely along lateral side of apical plate, closed distally by sharp curvature (about 90°) of distal portion of mesial and lateral lobes.

Description of holotype. Carapace outline ellipsoid, widest at middle (cw/cl 1.76); dorsal surface smooth, nearly flat, regions ill-defined; dorsal surface punctuated by minute bristles better seen under magnification, irregularly distributed, denser along metabranchial region (Figure 1A). Gastric pits barely visible, close to each other, on metagastric region. Cervical grooves shallow, rather wide, nearly straight, faint proximally, distal end failing to reach anterolateral margin. Postfrontal lobules small, as very low elevations; median groove wide, shallow. Surface of carapace between front and postfrontal lobules smooth, slightly inclined anteriorly. Upper margin of front angulate, faintly crenated, slightly convex in dorsal view, median notch absent; lower margin carinate, slightly sinuous in dorsal view, with shallow median concavity in frontal view, slightly more projected anteriorly than upper one; frontal surface between upper and lower margins moderately wide, smooth. Orbital contour rhomboid-shaped in frontal view (Figure 1C–1D); supraorbital margin very shallow, slightly concave in dorsal view, faintly crenated, nearly continuous with upper margin of front; infraorbital margin slightly more projected anteriorly than upper one, faintly crenated; exorbital angle low, obtuse. Eyes (Figure 1C, 1D) normal, loosely filling orbital cavity; eyestalk subcylindrical, cornea well developed; internal orbital tooth small, low, subquadrate. Anterolateral margin of carapace lined with set of minute teeth slightly increasing in size from anterior to posterior portion; postorbital notch absent; posterolateral margin smooth, barely defined (Figure 1A). Antennular fossae somewhat wide, deep, subretangular in frontal view, divided by distinct low, longitudinal middle crest (Figure 1D). Epistome narrow, somewhat deep; dorsal margin nearly straight, crested, epistome ventral margins between median epistomial tooth distinctly arched over first article of mxp3's palps, faintly crenated and irregular row of minute bristles; epistomial tooth subtriangular, obliquely directed upwards (Figure 1D). Suborbital and subhepatic regions of carapace sidewall smooth; pterygostomial regions covered by somewhat dense pilose patches along outer borders of buccal frame (Figure 1C, 1D). Aperture of efferent branchial chamber wide, subretangular in frontal view, upper margin glabrous (Figure 1D).

Mxp3 (Figure 1C) endopod with ischium and merus subtrapezoidal, with outer surface with few minute bristles scattered along mostly smooth surface; ischium lateral margin slightly convex, mesial margin mostly straight, bearing row of corneous teeth and setae of varying sizes; merus lateral margin broadly rounded, mesial margin straight, bearing row of corneous teeth and setae of varying sizes and bearing distinct longitudinal sulcus receiving 2nd and 3rd articles of palp; distal margin short, oblique, bearing 3-articulated palp; palp 2nd article inner margin with subdistal tuft of long setae, 3rd article with row of setae increasing size distally. Mxp3 exopod subtriangular, very short (approximately 0.2 × length of ischium lateral margin).

P1 distinctly heterochelous, similarly armed (Figure 1A, 1B). Left cheliped larger. Merus subtriangular in cross section, inner surface somewhat concave, outer surface rounded, smooth; upper margin rounded with irregular row of faint tubercles, fainter distally; mesial margin lined with longitudinal row of tubercles, increasing in size distally; lateral margin marked by row of low tubercles, regular proximally, irregular distally; distal margin with upper and lateral margins smooth, arched; lower margin with straight row of faint tubercles. Carpus inner margin with short row of distinct tubercles proximally, followed by short median conical tooth, distal margin oblique and lined with few faint tubercles; outer surface widely rounded. Palm moderately swollen (length/width = 1.57), smooth on both sides, finely punctuated by minute bristles better seen under magnification (Figure 1F). Fingers slightly gaping, tips not crossing; both fingers ornated with longitudinal parallel rows of faint granules bearing minute bristles along outer, upper and inner surfaces; pollex cutting surface with large triangular teeth sometimes interspaced with small ones, smaller distally. Dactylus slightly arched, approximately 1.4 × longer than palm (measured dorsally) (Figure 1F). P2–5 slender (Figure 1A, 1B), ratios dactylus/propodus, dactylus/carpus, dactylus/merus (left legs measured), respectively, approximately as follows: P2 = 1.72, 1.62, 0.80; P3 = 1.63, 1.70, 0.78; P4 = 1.57, 1.57, 0.83; P5 = 1.70, 1.33, 0.84. P2–5 with dactyli bearing 5 longitudinal rows of sharp, corneous spines, increasing in size distally.

Thoracic sternum nearly as wide as long (width/length 1.08) (Figure 1B, 1E). Thoracic sternites of third maxillipeds and first pereiopods completely fused, except for small notches at lateral edges of sternum;

sulci marking sternal sutures s4/s5, s5/s6, s6/s7, s7/s8 distinct, reaching midline of thoracic sternum. Midline of thoracic sternum wide, flat between s5–s6, marked by deep groove between s7–s8, deeper at s7. Episternites 4–7 subtriangular posteriorly; separation from corresponding sternite barely visible. Sternopleonal cavity subtriangular, somewhat narrow, deep, with dense pubescence along inner walls of s5–s6, few, scattered pubescence along rest of sternopleonal cavity. Pleon locking mechanism as small bud situated on s5 right next to sternal suture s5/s6, near outer edge of sternopleonal cavity. Penis well developed, membranous, emerging from nearby coxo-sternal condyle articulation, located in shallow depression on sternite 8; proximal portion wider and flatter, distal portion narrower, subcylindrical, recurved proximally, tapering.

Pleon+telson set subtriangular (Figure 1A). All pleonites free; pleonite 3 widest, pleonite 6 slightly longer than other pleonites; lateral margins slightly concave, lined with row of short setae. Telson subtriangular, lateral margins slightly concave, weakly crenulate, with row of short setae denser proximally and medially; tip rounded (Figure 1A, 1B).

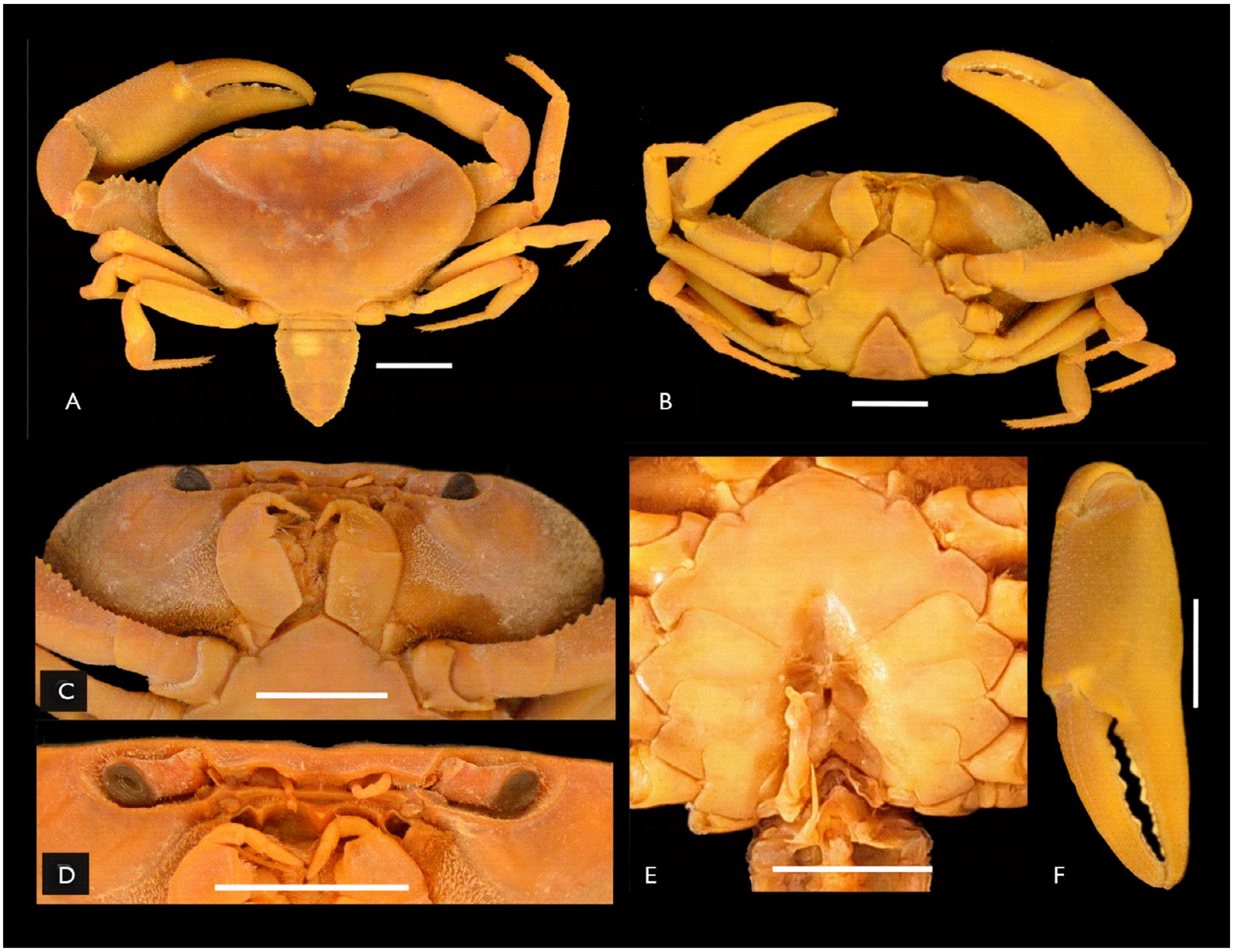

Figure 1. *Kingsleya marthacamposae* sp. nov., holotype, male (cw 43.3: cl 24.6), MHNLS 2392a: A) overall dorsal habitus, showing pleon plus telson open; B) ventral surface of cephalothorax with pleon plus telson closed; C) cephalothorax, detail of the buccal frame and pterygostomial region, ventral-frontal view; D) cephalothorax, frontal view; E) thoracic sternum and sternopleonal cavity, with right first and second gonopods *in situ* (left ones dissected); F) left (larger) chela. Scale bars: 10 mm. Image credits: C. Magalhães (2025).

G1 (Figures 1E, 2A–2G, 3) stout, straight, slightly constricted medially, distal third slightly broader due to well-developed distal processes. Marginal suture on mesial surface, straight on proximal half, somewhat concave on distal half, bearing path of several short and long setae placed along proximal portion of marginal suture and between it and proximal portion of lateral suture. Lateral suture well marked along first ⅔ of stem, deeper proximally, shallower distally, not reaching marginal process. Marginal process distinctly longer than rounded subdistal lobe of pleonal surface; marginal process narrower distally, distal margin rounded in mesial and pleonal views, arched in sternal view, not projected distally beyond the field of apical spines area, surface of subterminal portion with shallow depression on pleonal surface. Pleonal surface distal portion with subterminal rounded lobe, clearly separated from distal lobe of lateral surface by deep, wide sulcus. Mesial process well

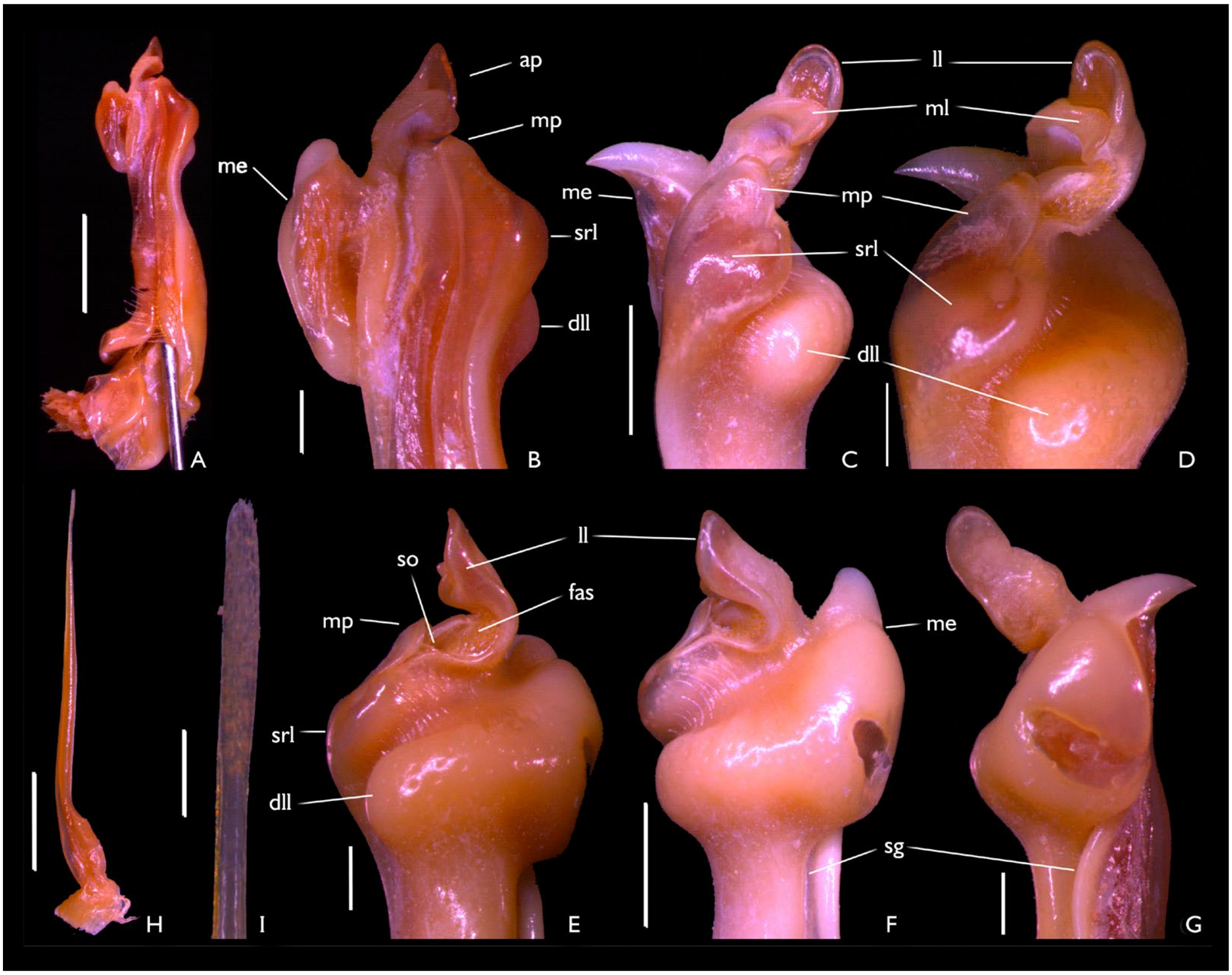

Figure 2. *Kingsleya marthacamposae* sp. nov., holotype, male, MHNLS 2392a, photographs of the left first gonopod: A) whole organ, mesial view; B) distal portion, mesial view; C) distal portion, pleonal view; D) distal portion, lateropleonal view; E) distal portion, lateral view; F) distal portion, laterosternal view; G) distal portion, sternal view. Second left gonopod: H = whole organ; I = detail of the apex. Abbreviations: ap = apical plate; dll = distal lobe of the lateral surface; fas = field of apical spines; ll = lateral lamella; ls = lateral suture; me, mesial process; ml = mesial lamella; mp = marginal process; ms = marginal suture; sg = sternal groove; so = sperm channel terminal opening; srl = subterminal rounded lobe of the pleonal surface. Scale bars: A, H = 2 mm; B–G, I = 500 μm. Image credits: C. Magalhães (2025).

developed, approximately 1.9 × longer than apical plate (measured in mesial view), proximal portion sternal face rounded, pleonal face concave, distal portion produced into sharp conical spine pointing in mesial direction; mesial process well separated from apical plate by deep incision. Sternal and mesial surfaces bearing distinct longitudinal sternal groove, wide and shallow proximally, narrow and deep distally on sternal surface, with its distal portion twisted to mesial surface, ending at base of mesial process. Apical plate well developed, narrow, approximately 2.1 × longer than wide (measured in mesial view), proximal portion of mesial margin narrow, not expanded along mesolateral axis, with 2 distinct apical lamellae; mesial (or proximal) lamella situated subterminally on mesopleonal

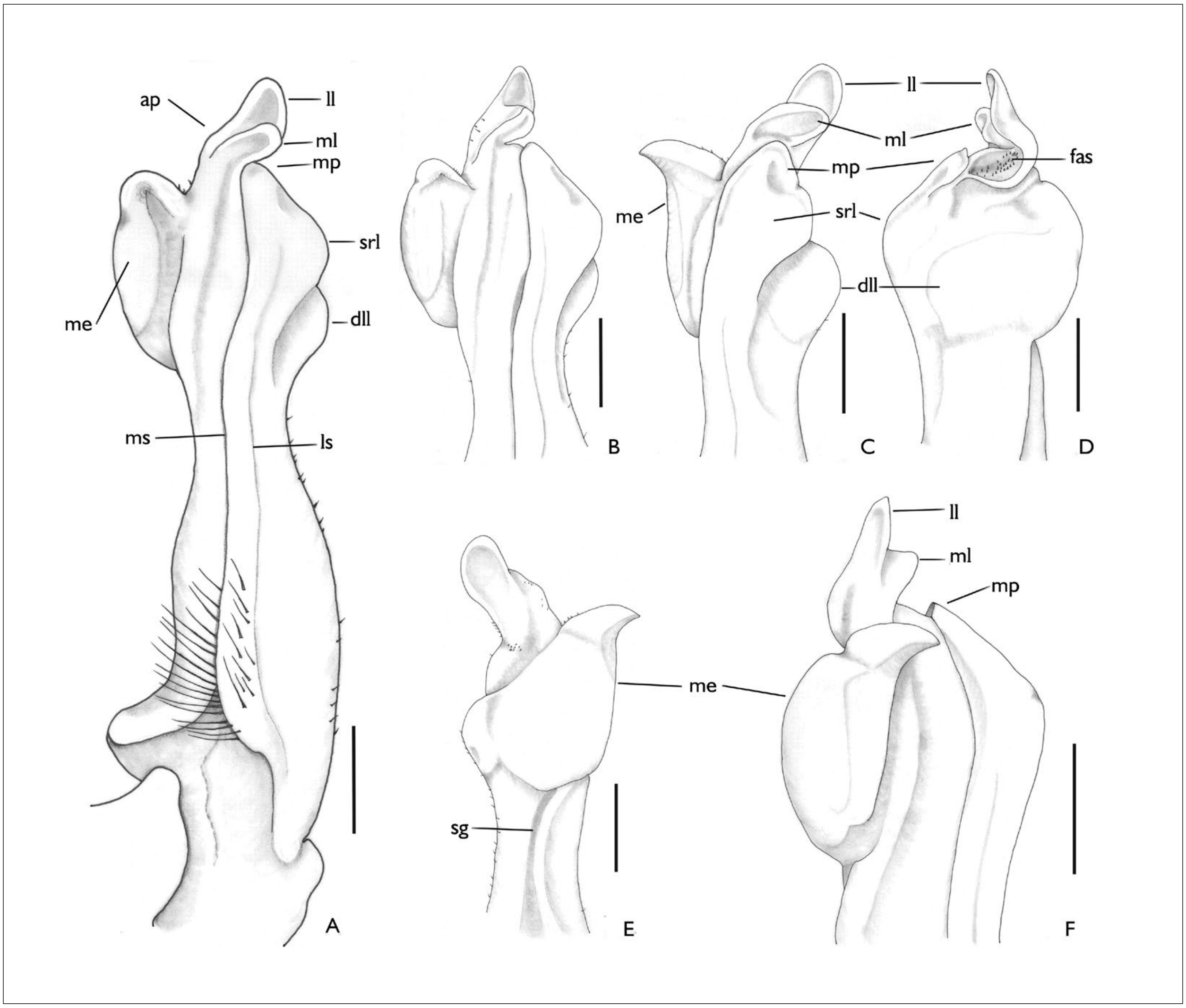

Figure 3. *Kingsleya marthacamposae* sp. nov., holotype, male, MHNLS 2392a, illustrations of left first gonopod: A = whole organ, mesial view; B = distal portion, mesial view; C = distal portion, pleonal view; D = distal portion, lateral view; E = distal portion, sternal view; F = distal portion, sternomesial view. Second left gonopod: H = whole organ; I = detail of the apex. Abbreviations: ap = apical plate; dll = distal lobe of the lateral surface; fas = field of apical spines; ll = lateral lamella; ls = lateral suture; me = mesial process; ml = mesial lamella; mp = marginal process; ms = marginal suture; sg = sternal groove; so = sperm channel terminal opening; srl = subterminal rounded lobe of the pleonal surface. Scale bars = 1 mm. Illustrations: C. Magalhães (2025).

side, stretching diagonally over apical plate with its distal portion strongly recurved laterally and distinctly concave on mesial and pleonal views, nearly as wide as lateral (or distal) lamella proximally, distinctly shorter (approximately 0.7 × length) than lateral lamella in mesial view, distal margin rounded; lateral lamella, in lateral view, strongly arched apically in approximately 90° angle, pleonal surface slightly concave, distal margin broadly rounded in most views, narrow in lateral view. Field of apical spines moderately developed as short, narrow patch of small spines situated somewhat transversely on deep depression along lateral side of apical plate, delimited by proximal portion of lateral margins of apical plate lamellae, closed distally by sharp curvature (about 90°) of distal portion of mesial and lateral lamellae. Spermatic channel terminal opening situated at base of apical field of spine.

G2 (Figure 2H, 2I) slightly shorter than G1; terminal segment as styliform, slender flagellum, proximal ⅓ wider and slightly sinuous, distal two-thirds subcylindrical, tapering; tip flattened, provided with short spinules on sternal surface.

Females. The pleon+telson set of the two larger, spawned females is broadly oval, slightly longer than wide (average length/width ratio 1.08; n = 2)

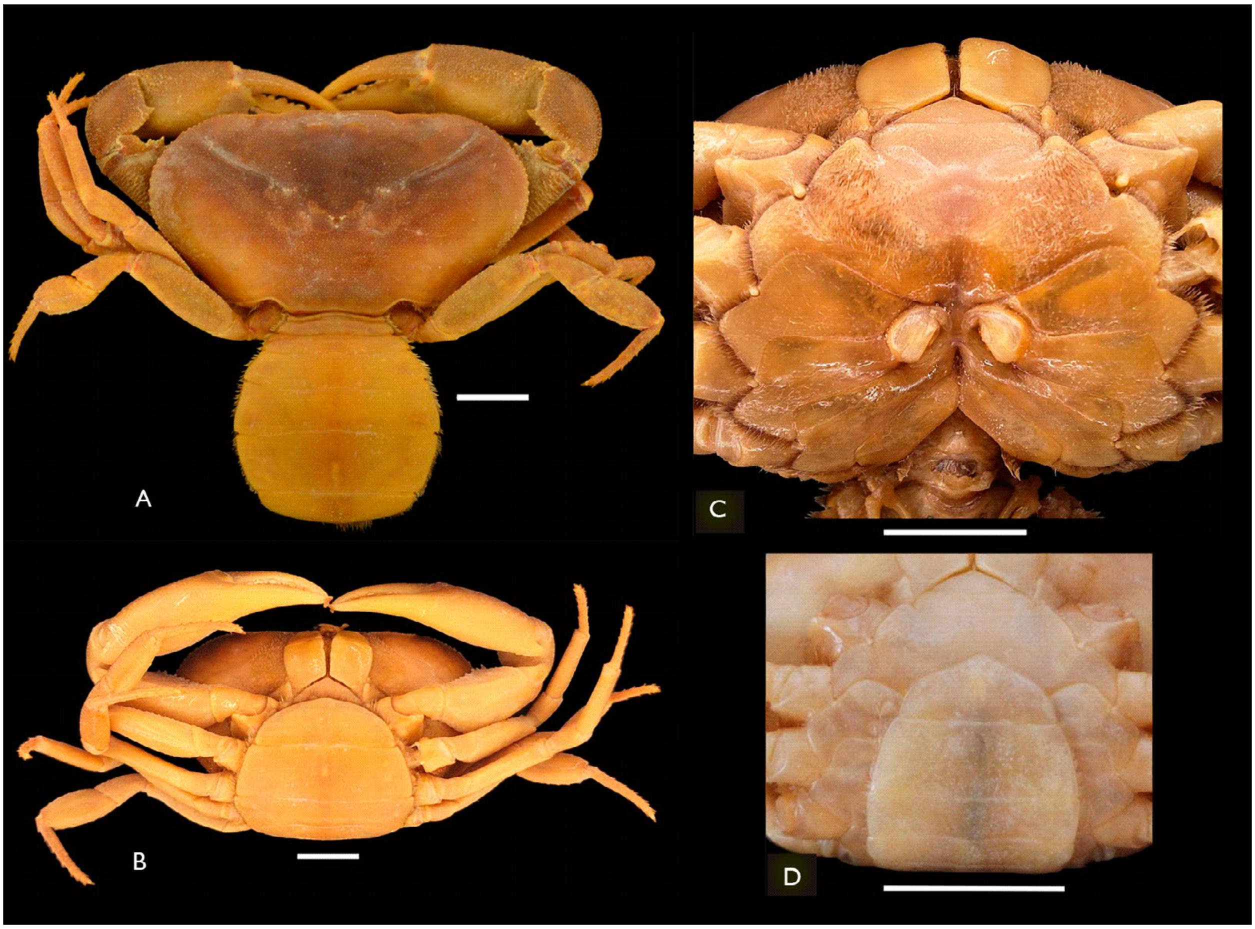

Figure 4. *Kingsleya marthacamposae* sp. nov., female paratypes, MHNLS 2392b. Larger female, spawned (55.0 × 30.4 mm): A) overall dorsal habitus, showing pleon and telson open; B) ventral surface of cephalothorax, with pleon plus telson closed; C) thoracic sternum, sternopleonal cavity, and vulvae. Smaller female (33.6 × 19.7 mm): D) thoracic sternum, with pleon and telson closed. Scale bars: 10 mm. Image credits: C. Magalhães (2025).

and, except for the s1 anterior tip, covers the entire sternum, including the episternites (Figure 4A, 4B), whereas in the smaller female the telson+pleon is narrower (length/width 1.25), not covering the lateral edges of the sternal somites when closed (Figure 2D). Pleonite length increases progressively from pleonite 1 to 6, being pleonite 1 the shortest and pleonite 6 the longest; pleonite 6 distinctly broader than long and slightly longer (1.08 × longer, n = 3) than telson. Telson broadly subtriangular, 2.5 × wider than long (n = 3), with gently rounded lateral margins (Figure 4B, 4C). The vulvae are situated adjacent to the thoracic sternum midline, shaped as a subovate opening obliquely directed mesoposteriorly, slightly longer than wide (length/width approximately 1.1, n = 3), positioned very close to each other (vd/sw 0.05, n = 3) along s5–s6 and spanning the entire length of the inner portion of both somites, with anterior and lateral margins surrounded by a semicircular low rim; about two-thirds of each vulva is covered by a somewhat thick membrane projected from the anterior and lateral margins, with inner portion remaining uncovered (Figure 4C). In the spawned females, the lateral and posterior portion of the s4 has a dense patch of bristles, which is barely visible in the smaller female and the males (Figure 4C, 4D).

Variation. The male paratypes did not exhibit noteworthy modifications in relation to the somatic and gonopodal characters that were described for the holotype. Most of the female paratypes somatic characters also resemble those of the males, except for the sexual characters.

Specimens of both sexes exhibit heterochely, but it is less pronounced in the females. In the two larger females, the right cheliped is slightly larger than the left (Figure 4A, 4B); among the males, the larger specimen (holotype) has the left cheliped distinctly larger than the right (Figure 1A, 1B), whereas in the intermediate-sized male, the larger cheliped is the right one. The rates between the length of both left and right chelae and the carapace width for the specimens examined are presented in Table 2. In the smaller male and female specimens, both chelipeds are absent, so that in these the existence of heterochely could not be assessed.

It's also worth noting a slight allometry in the growth of carapace width relative to carapace length. Considering males and females together, the ratio carapace width/length increases from smaller to larger specimens (cw/cl 1.68–1.81), but the sample size is only six specimens.

Etymology. This new species is dedicated to the distinguished Colombian carcinologist, Martha Rocha de Campos, in honor of her exceptional work that has greatly contributed to increasing knowledge about the Neotropical freshwater decapod fauna.

Type locality. Acarai creek, tributary of Sipu River, headwaters of the Essequibo River, Upper Takutu/Upper Essequibo Region, Guyana. The specimens were collected during the RAP Expedition to the Konashen Community Owned Conservation Areas (COCA), which lies within the Konashen Indigenous District, a remote wilderness area in southern Guyana (Alonso et al., 2008).

Table 2. The rates between the length of both left and right chelae and the carapace width for the examined male and female specimens of *Kingsleya marthacamposae* sp. nov. Measurements are in millimeters. Abbreviations: chl, chela length; cw, carapace width.

Specimen	cw	chl (left)	chl (right)	Rate chl/cw	
				Left chela	Rigth chela
Male holotype	43.3	37.6	25.7	0.87	0.59
Male paratype	40.6	24.4	29.3	0.60	0.72
Female paratype	55.0	36.8	40.3	0.67	0.73
Female paratype	43.2	28.9	31.5	0.67	0.73

Distribution. The species is currently known only from the type locality, in the Acarai Mountains, in southern tip of Guyana, near the border with Brazil (Figure 5).

Ecological notes. According to the data on the collection label and the areas surveyed during the October 2006 Southern Guyana RAP Expedition (Alonso et al., 2008), this species was found within the Site 1, situated at the foothills of the Acarai Mountains, at an elevation of approximately 270 m along the Sipu River (see map in Alonso et al., 2008, p. 21). This area is characterized by sandy, oligotrophic soils, with lowland evergreen, deciduous forests that do not inundate seasonally or throughout the year. The specimens were found in a marginal pool of the Acarai Creek (Figure 6), a small forest stream with clear, nutrient-poor waters, with very low conductivity, barely close to 1 μs/cm, temperature 23.9 °C, acidic waters (pH = 5.34), with 8 mg/l of dissolved oxygen content (C. A. Lasso, personal communication, 2025).

MOLECULAR ANALYSES

The genetic distance matrix showed a range of 0.34–22.6% among the species available for this study (Table 3). When comparing *K. marthacamposae* sp. nov. with its congeners, the smallest distance was 12.6% from *K. latifrons*, and the greatest was 16.1% from *K. attenboroughi*.

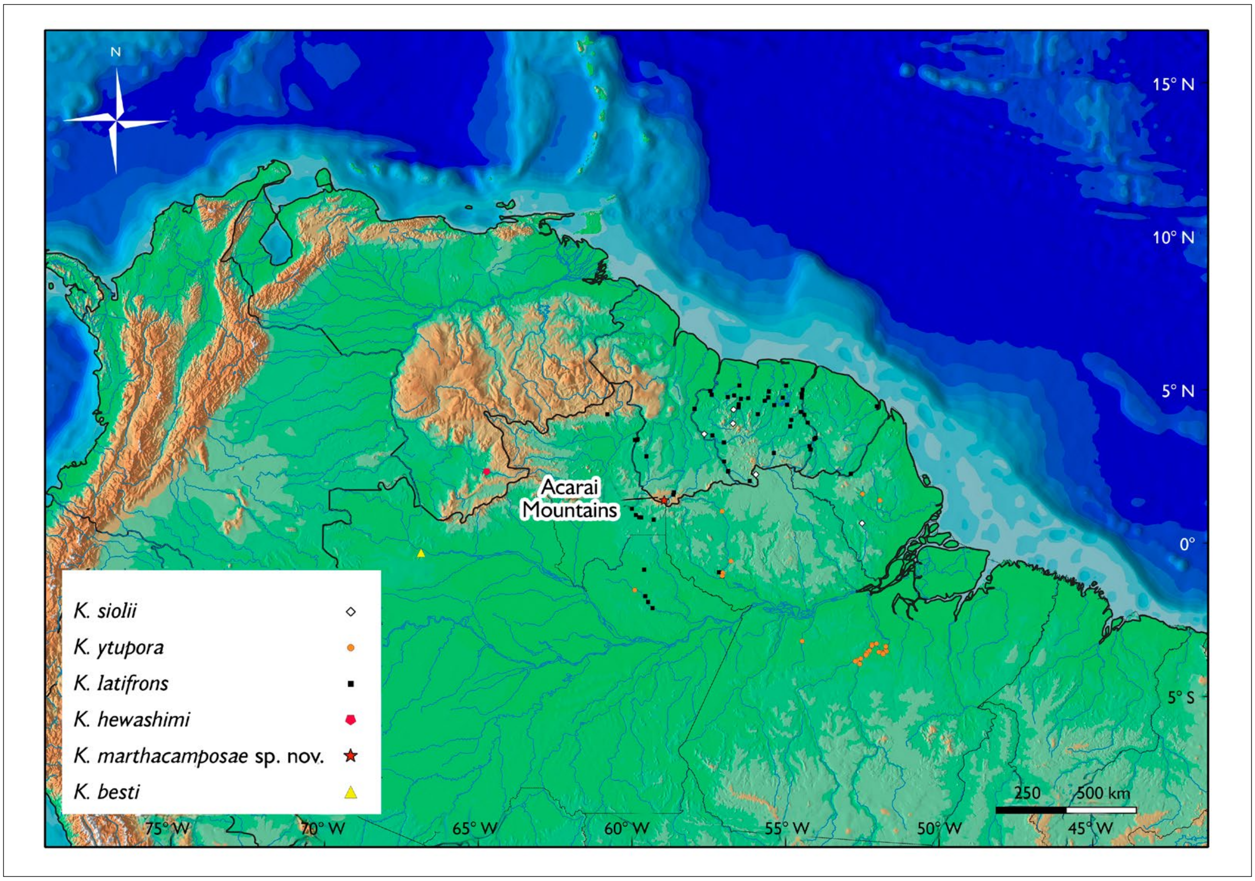

Figure 5. Map of northern South America depicting the geographic distribution of *Kingsleya* species occurring in the northern tributaries of the Amazon River, upper Orinoco River basin, and coastal basins of northern South America as recorded by Holthuis (1959), Rodriguez (1982), Magalhães (1986, 1990), Magalhães and Türkay (2008), Magalhães et al. (2014), Lasso et al. (2008), Vieira (2008), Zanetti et al. (2018) and present work (*K. ytupora* also occurs in southern tributaries of the Amazon River). Map: C. Magalhães (2025).

Figure 6. Collection locality of the type specimens of *Kingsleya marthacamposae* sp. nov. from a forest stream on the Acarai Mountains, southern Guyana: A) Acarai Creek; B) marginal pool where the specimens were found. Image credits: Celsi Señaris (2006).

Table 3. Genetic distance values for the COI gene between sequences of *Kingsleya marthacamposae* sp. nov., and some from congeners either available in GenBank or new generated in this study (with an asterisk*).

Species	1	2	3	4	5	6	7	8	9	10
Kingsleya marthacamposae n. sp. *										
K. attenboroughi INPA 2208 *	16.1									
K. latifrons RMNH 41765	12.6	15.0								
K. latifrons INPA 329 *	13.2	15.0	9.57							
K. ytupora INPA 1269 *	14.0	15.4	9.94	8.71						
Fredius fittkaui INPA 1330	14.5	16.8	13.2	12.8	13.4					
F. fittkaui INPA 1546	14.5	17.2	12.3	11.9	13.0	3.00				
F. buritizatillis CCDB 2951	14.4	16.5	11.8	12.6	12.7	8.40	9.98			
F. buritizatillis CCDB 342	14.0	16.1	11.4	12.4	12.3	8.40	9.98	0.34		
Achlidon agrestis CCDB 4556	19.2	21.0	19.2	18.9	18.7	14.8	16.1	15.4	15.4	
Ptychophalus uncinatus UCR-MZ 170	17.1	22.6	16.3	18.1	16.1	16.2	16.8	15.0	15.0	9.39

The phylogenetic hypothesis tree based on the COI gene and obtained by Bayesian Inference (Figure 7) recovered *K. marthacamposae* sp. nov. as a sister group with *K. attenboroughi*, and together they form a sister clade to *K. latifrons* and *K. ytupora*. The three species delimitation analyses (Figure 7) produced similar topological results, identifying nine valid entities. Among the partitions suggested by ASAP, we selected the one with the lowest score, 1.5, which is the most indicated by the algorithm itself. This partition showed congruence with the diagnostic morphological data, and the monophyletic grouping in the phylogenetic analyses better reflects the reality of the data.

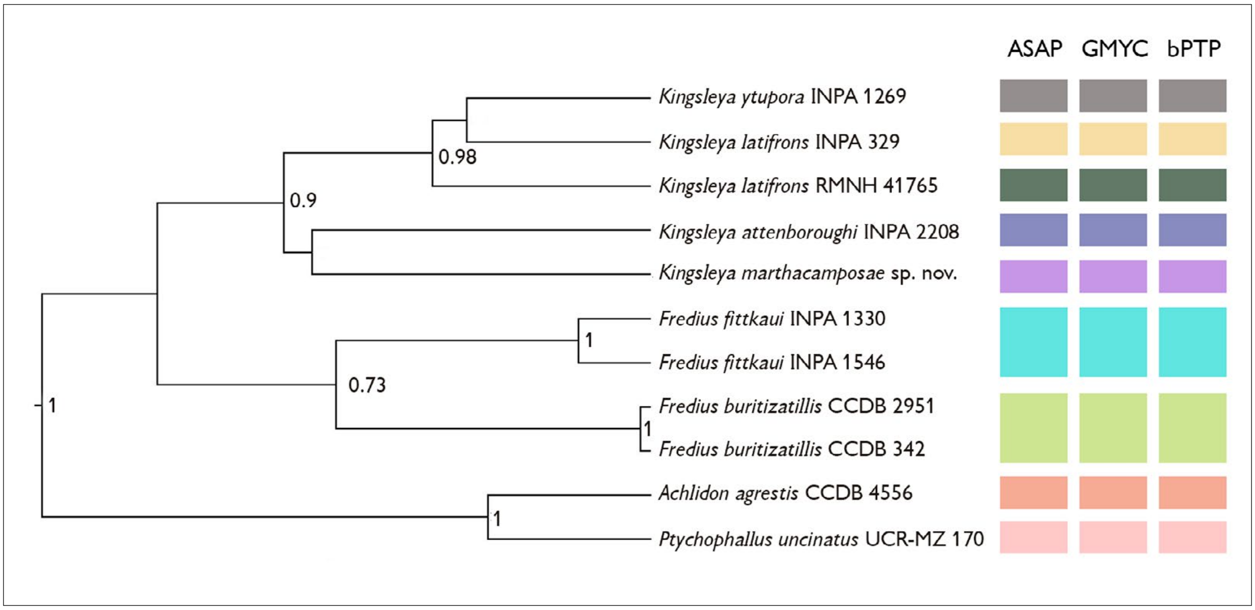

Figure 7. Phylogenetic hypothesis inferred by Bayesian Inference, based on sequences of the COI gene including *Kingsleya marthacamposae* sp. nov. and other congeneric and related species (Álvarez et al., 2020). Branch supports are posterior probability values. Only values equal to or greater than 0.7 are shown. Species delimitation by Assemble Species by Automatic Partitioning (ASAP) (genetic distance analysis), Generalized Mixed Yule Coalescent (GMYC) (Bayesian analysis), and Bayesian Poisson Tree Processes (bPTP). The vertical bars, from left to right, indicate ASAP, GMYC, and bPTP, respectively. Image credit: T. Arantes (2026).

DISCUSSION

MOLECULAR APPROACH

The phylogenetic reconstruction resulting from the COI gene clearly supported the positioning of *K. marthacamposae* sp. nov. as a valid species. However, the *K. attenboroughi* as the closest related species of *K. marthacamposae* sp. nov. (Figure 7) is not quite congruent with the morphological aspects (see below). This incongruity may reflect the heterogeneity of rates among lineages and their distinct evolutionary histories, as discussed for pseudothelphusid freshwater crabs by Álvarez et al. (2020). Moreover, freshwater crab species that are most similar morphologically lack genetic data in gene banks, or vice-versa, leading to important gaps for more accurate results as exemplified by the recent integrative studies on trichodactylid genus *Dilocarcinus* carried out by França et al. (2024, 2025) and the pseudothelphusid genus *Fredius* by Mantelatto et al. (2022) and Magalhães et al. (2024). Furthermore, paired genetic distances reflect overall sequence similarity rather than shared ancestry, while phylogenetic analyses explicitly model evolutionary processes, which may result in different interpretations of relatedness. *Kingsleya* is a rather diverse genus, and the present analysis is limited to sequences of four species, including the new one herein described, only one-third of its current species composition, and based on a single marker, which is not enough to make conclusive analysis regarding its phylogeny and could account for such discrepancy. A more comprehensive phylogenetic study could better elucidate the relationships within the genus.

TAXONOMIC REMARKS

The new species belongs to the genus *Kingsleya* due to the follow generic diagnostic features present in its G1: apical plate bearing two lamellae, with the mesial (or proximal) lamellae obliquely superimposed to the lateral (or distal) one; marginal process not surpassing the field of apical spines; mesial process well developed and clearly separated from the apical plate, with the distal portion produced into a conical spine; and the field of apical spines situated laterally.

Some characters of the G1s indicate that *K. marthacamposae* sp. nov. would be morphologically closer to *K. siolii*, *K. hewashimi*, and *K. gustavoi* due to similarities in their marginal process and in the configuration of the mesopleonal surface distal portion. In these species, the marginal process is, relatively to that of other congeneric species, long and rather narrow distally (Figures 2B–2E, 3A–3F; also see Magalhães, 2004, p. 101, figure 1E, 1F ["ma"] for *K. gustavoi*; and Magalhães & Türkay, 2008, p. 234, figure 2a–2d, for *K. hewashimi*), and the distal portion of the pleonal surface ends distally in a subterminal rounded lobe ("srl" in Figures 2B–2F, 3A–3D), which is clearly separated from the distal lobe of the laterosternal surface ("dll" in Figures 2B–2F, 3A–3E) by a distinct sulcus that is deeper in *K. marthacamposae* sp. nov., *K. siolii* (see Magalhães 1986, p. 628, figure 5; "lobo lateral" ["ll"]), and *K. hewashimi* (see Magalhães & Türkay, 2008, figure 2b) or shallow in *K. gustavoi* (see Magalhães, 2004, p. 101, figure 1F).

The following unique characters exhibited by the G1's apical plate, however, differentiate *K. marthacamposae* sp. nov. from these three morphologically closest species: (a) the narrowing of the proximal portion of the apical plate's mesial margin (Figures 2A–2G, 3), whereas in *K. gustavoi* and *K. siolii* this portion is enlarged (see Magalhães, 2004, p. 101, figure 1H, 1F and 1I ["cb"], respectively); (b) mesial lamella much shorter, whose length reaches about 0.6 × that of the lateral lamella (Figures 2A–2D, 3A–3D, 3F), whereas in *K. gustavoi* and *K. siolii* the mesial lamella is just a little shorter than the lateral lamella (about 0.9 × and 0.7 × — see Magalhães, 2004, p. 101, figure 1E, 1I, respectively); (c) mesial lamella sharply curved laterally and presenting its mesopleonal surface distinctly concave (Figures 2A–2D, 3A–3D), whereas in *K. gustavoi* and *K. siolii* the mesial lamella is obliquely directed distally [see Magalhães, 2004, p. 101, figure 1E, 1F, 1H and 1I ("pr"), respectively]); (d) lateral lamella strongly recurved apically at about 90° in lateral view (Figures 2D–2F, 3A–3D), whereas in *K. gustavoi* and *K. siolii* this lamella is positioned nearly straight [see Magalhães, 2004, p. 101, figure 1E, 1H ("dl") for *K. gustavoi*; and Magalhães, 1986, p. 628, figure 5 for *K. siolii*]); and (e) the short field of apical spines, limited by the strong apical torsion of the lateral lamellae, and positioned almost transversely in the apical plate's lateral surface (Figures 2D, 2E, 3D), whereas in *K. gustavoi* and *K. siolii* the field of apical spines is larger and positioned longitudinally [see Magalhães, 2004, p. 101, figure 1H; and Magalhães, 1986, p. 628, figure 5, respectively]).

A narrow apical plate (about 2.7 × longer than wide), a short mesial lamella (about 0.7 × the length of the lateral lamella), and a short field of apical spines limited distally by the strong folding of the lateral lamella are also characters found in the G1 of *K. besti* (see Magalhães, 1990, p. 278, figures 1–3). The notable difference in relation to G1 of *K. marthacamposae* sp. nov. (and all other species of the genus) is that, in *K. besti*, the mesial lobe involves the proximal portion of the lateral lamella along its mesial and (partially) sternal surfaces. These species also differ from each other regarding (a) the mesial process with a subtriangular shape and the sharp spine is situated medially in *K. besti*, whereas it is rounded, with the sharp spine positioned distally in the new species, and (b) the marginal process, which is short and broad, with its inner side turned upwards, in *K. besti*, whereas in the new species it is long and narrow distally, and not turned upwards (*i.e.*, not overlapping the basal portion of the apical plate's mesial lamella).

The narrow apical plate and the somewhat arched field of apical spines are characters also observed in the G1 of *K. hewashimi*, but the G1 of this species clearly differs morphologically from that of *K. marthacamposae* sp. nov. by presenting: (a) a small spine at the base of the proximal portion of the mesial margin of the apical plate (see Magalhães & Türkay, 2008, p. 234, figure 2a, 2d, 2e ["cs"]); (b) the mesial lamella of the apical plate only slightly shorter than the lateral lamella (see Magalhães & Türkay, 2008, p. 234, figure 2c, 2d ["pl" and "dl"]); (c) the field of apical spines somewhat long and positioned longitudinally in lateral view (see Magalhães & Türkay, 2008, p. 234, figure 2c–2e ["ap"]); and (d) a large, semicircular mesial process with a pointed proximal portion in mesial view (see Magalhães & Türkay, 2008, p. 234, figure 2a ["mp"]) vs. mesial process with rounded proximal portion (Figures 2A, 2B, 2F, 2G, 3A–3C, 3F).

The remaining congeneric species can also be distinguished from *K. marthacamposae* sp. nov. mainly by the characters of the G1's apical plate. In *K. attenboroughi*, *K. parnaiba* Pralon, Pinheiro & Santana, 2020, *K. latifrons*, and *K. ytupora*, the proximal portion of the apical plate's mesial margin is enlarged, the mesial lamella is juxtaposed in an oblique position regarding the lateral lamella and its length is only slightly less than that of the lateral lamella, and the apical field of spines is positioned longitudinally on the lateral surface (see Pralon et al., 2020, figure 4, for the first two species, and Magalhães, 1986, figures 7, 8, 11, for the last two). In addition, *K. latifrons* and *K. ytupora* are readily distinguished from the new species by having sharp teeth along the lateral margins of the carapace (see Magalhães, 1986, p. 634, figures 28 and 30, respectively) vs. minute teeth in *K. marthacamposae* sp. nov. (Figure 1A). *Kingsleya castrensis*, *K. celioi* Pedraza & Tavares, 2015, and *K. junki*, all occurring in southern Amazonia, are also easily separated from the new species by exhibiting a very distinct configuration of the apical plate in which it is as wide as it is long, or even slightly wider, with a very widened lateral lamella, and with the proximal margin of the mesial portion of the apical plate rounded or bearing one or more projections (see Pedraza et al., 2015, p. 43, figure 1; Pedraza & Tavares, 2015, p. 447, figure 2A, 2D; Magalhães, 2003, p. 384, figure 1B, 1D, respectively).

It is worth mentioning that the type material of *K. marthacamposae* sp. nov., which belongs to the MHNLS (Caracas, Venezuela), was loaned to the senior author in March 2008. Unfortunately, the MHNLS is currently unable to receive this material back due to momentary political circumstances that are beyond the scope of scientific research. For the time being, it will remain safely and housed in the crustacean collection of INPA (Manaus, Brazil) until its return to the MHNLS is possible.

ZOOGEOGRAPHIC REMARKS

The discovery of *K. marthacamposae* sp. nov. adds a second species of *Kingsleya* to the Guyanese fauna of pseudothelphusid crabs after 185 years from the first description. Until now, only *K. latifrons* was known to occur in Guyana. Both species are distributed in the upper reaches of the Essequibo River basin. The new species is so far restricted to the Acarai Mountains, in the Sipu River basin, headwater area of the Essequibo River, whereas *K. latifrons* is more widely distributed, having been recorded in the southwest (Dadanawa Crossing, in the upper reaches of the Rupununi River — Rodriguez, 1982) and south (Akuthopono rapids, in the upper Essequibo River — Lasso et al., 2008) of the country (Figure 5). The sympatry of both species in the upper Essequibo River region might be explained by their habitat preferences. *Kingsleya latifrons* is commonly found in rapids and rocky beds of larger rivers (Magalhães, 1986) and, in the upper Essequibo River, it was found in this type of habitat (Lasso et al., 2008). On the other hand, *K. marthacamposae* sp. nov. seems to inhabit small, shadowed streams of upland forests (unaffected by periodic flooding of larger rivers) or in wet, leaf litter-covered areas on the forest floor (Figure 6).

The *Kingsleya* species whose geographic distributions encompass the Guayana Precambrian Shield occur in northern tributaries of the Amazon basin in Brazil, in the upper Orinoco basin in Venezuela, and in Atlantic coastal river basins of Guyana, Suriname and French Guiana. In addition to this new species, five others are distributed in this region: *K. latifrons*, *K. siolii*, *K. besti*, *K. hewashimi*, and *K. ytupora*, although the latter was also recorded from southern tributaries of the Amazon River (Magalhães, 1986, 2003; Magalhães et al., 2018) (Figure 5). *Kingsleya latifrons* has a wide distribution in northern South America, extending into basins draining both the northern and southern slopes of the Guayana Shield in Suriname, French Guiana, and the

Brazilian states of Amazonas, Pará, and Amapá (Rathbun, 1905; Holthuis, 1959, 1993; Bott, 1967; Magalhães, 1986; Vieira, 2008; Magalhães et al., 2009; Zanetti et al., 2018; Poupin, 2024). *Kingsleya siolii* is another species of the genus that exhibits a transbasinal distribution, occurring in basins draining both the northern and southern slopes of the Guayana Shield in Suriname and in Brazil (states of Pará and Amapá) (Holthuis, 1959, in part as *Pseudothelphusa wymani* Rathbun, 1905; Bott, 1967; Magalhães, 1986; Vieira, 2008). *Kingsleya ytupora* is the only species that, besides occurring in northern tributaries of the Amazon basin, also occur in southern ones (Magalhães, 1986, 2003; Vieira, 2008; Magalhães et al., 2018) (Figure 5). *Kingsleya besti* and *K. hewashimi* are so far only known from their type localities in the Curicuriari Mountains (upper Negro River basin, Brazil) and upper Orinoco River basin (Venezuela), respectively.

The only available record of *K. marthacamposae* sp. nov. points to a restricted distribution, currently limited to the northern slope of the Acarai Mountains range whose drainage area encompasses the headwaters of the Essequibo River (Figure 5). The Acarai Mountains are a low range running in east-west direction for about 130 km along the Guyana/Brazil border, reaching an elevation a little over 1,000 m and constituting a water divide between the Essequibo basin to the north and the Amazon basin to the south and southwest, where it is the source of some northern tributaries of Amazon basin (e.g., Anauá River, which flows into the lower Branco River basin, or Jatapu River, an affluent of the Uatumã River, a tributary of the Amazon River). Since *K. latifrons* occurs in these basins (Zanetti et al., 2018; Figure 5), it would not be at all unlikely that the new species would also be found in the headwater region of these tributaries belonging to the Amazon basin.

The diversity of *Kingsleya* is now constituted by 12 species in the Neotropical region (DecaNet, 2026), but we are convinced that it is underestimated. In addition, the phylogenetic knowledge of this genus is very limited to the contextualization carried out by Álvarez et al. (2020) using only two species of the genus to compound the definition of the subfamily Kingsleyinae. In this way, this is the first and preliminary molecular approach devoted to the genus and a more complete phylogenetic study is necessary to elucidate the relationship between species and the evolution of the genus in the Neotropic.

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AUTHOR'S CONTRIBUTION

C. Magalhães contributed to conceptualization, data curation, formal analysis, investigation, methodology, validation, and writing (original draft, review & editing); T. Arantes contributed to formal analysis and writing (review and editing); and F. L. Mantelatto contributed to project administration, funding acquisition, formal analysis and writing (review and editing).