

ICHTHYOLOGICAL DIVERSITY AND TAXONOMIC ENIGMAS IN THE SUB-BASINS OF THE HUMEA AND BATÁ RIVERS (ORINOCO RIVER DRAINAGE) IN THE PIEDEMONTE LLANERO, NORTHEASTERN COLOMBIA

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ABSTRACT

This study presents an updated assessment of the ichthyofauna in the Humea and Batá River sub-basins, located in the Colombian Piedemonte Llanero. Based on standardized field surveys, we documented 51 taxa belonging to five orders, 16 families and 46 species, with Characiformes and Siluriformes dominating the assemblages, a pattern consistent with other Orinoco sub-basins. Among the recorded taxa, 23 are endemic to the Orinoco basin. Several genera including *Ceratobranchia*, *Cetopsorhamdia*, *Characidium*, *Knodus*, *Rhamdia*, and *Trichomycterus* require further taxonomic review, as they may include undescribed species. We emphasize the need for integrative taxonomic approaches combining morphological and molecular data to clarify species boundaries. The confirmed presence of the non-native species *Poecilia caucana*, likely facilitated by human activities, underscores growing anthropogenic pressures on aquatic ecosystems and their potential impacts on native fish assemblages. Additionally, six IUCN-listed threatened species were recorded, including *Dolichancistrus cobrensis* (Endangered), which showed high local abundance, highlighting the urgent need for long-term monitoring and conservation initiatives. Our findings contribute to understanding the fish diversity and conservation status in the Andean-Orinoco transition zone. We highlight the urgent need to implement long-term monitoring programs, strengthen local taxonomic expertise, and foster collaboration between academic institutions, environmental agencies and local communities to protect native fish fauna and preserve ecological integrity in the Piedemonte Llanero.

Keywords. Neotropical region; Andes; Orinoco; ichthyofauna; freshwater fish.

RESUMEN

Diversidad íctica y enigmas taxonómicos en las subcuencas de los ríos Humea y Batá (cuenca del río Orinoco) en el Piedemonte Llanero, nordeste de Colombia

Este estudio presenta una evaluación actualizada de la ictiofauna en las subcuencas de los ríos Humea y Batá, ubicadas en el Piedemonte Llanero colombiano. Con base en muestreos estandarizados, reportamos la presencia de 51 taxones pertenecientes a cinco órdenes, 16 familias y 46 especies, con Characiformes y Siluriformes dominando los ensamblajes, un patrón consistente con otras subcuencas del Orinoco. Entre los taxones registrados, 23 son endémicos de la cuenca del Orinoco. Varios géneros, entre ellos *Ceratobranchia*, *Cetopsorhamdia*, *Characidium*, *Knodus*, *Rhamdia* y *Trichomycterus* requieren una revisión taxonómica detallada, ya que pueden incluir especies no descritas. Destacamos la necesidad de enfoques taxonómicos integrativos que combinen datos morfológicos y moleculares con el fin de aclarar los límites entre especies. La presencia confirmada de la especie no nativa *Poecilia caucana*, probablemente facilitada por actividades humanas, destaca las crecientes presiones antropogénicas sobre los ecosistemas acuáticos y sus posibles repercusiones sobre las comunidades de peces nativos. Además, registramos seis especies amenazadas incluidas en la lista de la UICN, entre ellas *Dolichancistrus cobrensis* (En Peligro),

que mostró una gran abundancia local, lo que subraya la urgente necesidad de iniciativas de monitoreo y conservación a largo plazo. Nuestros hallazgos contribuyen a comprender la diversidad de peces y el estado de conservación en la zona de transición andino-orinocense. Destacamos la urgente necesidad de implementar programas de monitoreo a largo plazo, fortalecer la experticia local en taxonomía y fomentar la colaboración entre instituciones académicas, agencias ambientales y comunidades locales para proteger la fauna íctica nativa y preservar la integridad ecológica en el Piedemonte Llanero.

Palabras clave: Región Neotropical; Andes; Orinoco; ictiofauna; peces de agua dulce.

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Introduction

The Tropical Andes harbor a remarkable diversity of species as a result of latitudinal, altitudinal, and climatic gradients (Anderson & Maldonado-Ocampo, 2011). However, this region has undergone rapid and substantial environmental change, resulting in the widespread degradation of its natural ecosystems (Machado-Allison *et al.*, 2010; Reis *et al.*, 2016).

The Orinoco River is the second most diverse drainage in the Neotropics (Reis *et al.*, 2016), yet the basin faces increasing anthropogenic pressures, including pollution, deforestation, habitat fragmentation, mining, and the introduction of non-native species (Machado-Allison *et al.*, 2010; Anderson & Maldonado-Ocampo, 2011; Lasso *et al.*, 2016). Despite its ecological significance, large portions of the basin remain poorly studied. Research efforts have predominantly focused on high Andean streams characterized by high endemism and the lowland Llanos region, known for high species richness and abundance. In contrast, the piedmont region, which forms a transitional area between these two regions, has received limited attention (Urbano-Bonilla *et al.*, 2009; Machado-Allison *et al.*, 2010; Lasso *et al.*, 2016). Addressing these knowledge gaps is essential for informing effective conservation strategies for freshwater ecosystems and their associated fish communities (Urbano-Bonilla *et al.*, 2018).

The Humea and Batá River sub-basins, located in central-eastern Colombia, are tributaries of the Meta River, which ultimately drains into the Orinoco River (Corpochivor *et al.*, 2018; Corporinoquía, 2019). These rivers originate in the eastern foothills of the Eastern Cordillera and descend through narrow alluvial valleys. The Humea sub-basin spans 141 447 ha and flows directly into the Meta River, while the Batá sub-basin covers 250 661 ha and discharges into the Guavio River, which joins the Upía River before reaching the Meta River (Corpochivor *et al.*, 2018; Corporinoquía, 2019).

As the Meta River is one of the major tributaries of the Orinoco River Drainage (Usma-Oviedo *et al.*, 2016), several studies have explored its fish diversity and ecology (Urbano-Bonilla *et al.*, 2009, 2014, 2016, 2018; Maldonado-Ocampo *et al.*, 2013). However, most of these efforts have concentrated on lowland tributaries in the department of Casanare. In contrast, the ichthyofauna of piedmont tributaries in the southern portion of the Meta basin remains largely undocumented. Therefore, the aim of this study was to document the fish diversity of two piedmont tributaries Humea and Batá Rivers located in the southern sector of the Meta River basin.

Material and methods

STUDY AREA

Fieldwork was conducted in the Piedemonte Llanero, a transitional region between the Andes and the Colombian Orinoquía, encompassing two municipalities: Santa María (Boyacá), sampled in November 2017, and Medina (Cundinamarca), sampled between May and October 2019. Sampling sites were located across an altitudinal gradient ranging from 330 to 1100 meters above sea level. We surveyed a total of 39 sites in the Gazaguán, Gazamumo, Gazaunta, Gazaduje, Humea and Batá Rivers (Fig. 1; Appendix 1).

SAMPLING AND TAXONOMIC PROCEDURES

Fish were collected using electrofishing depletion methods with three consecutive passes, following standard protocols (Zippin, 1958; Lobón-Cerviá, 1991; Lockwood & Schneider, 2000; Sostoa *et al.*, 2005). We used a

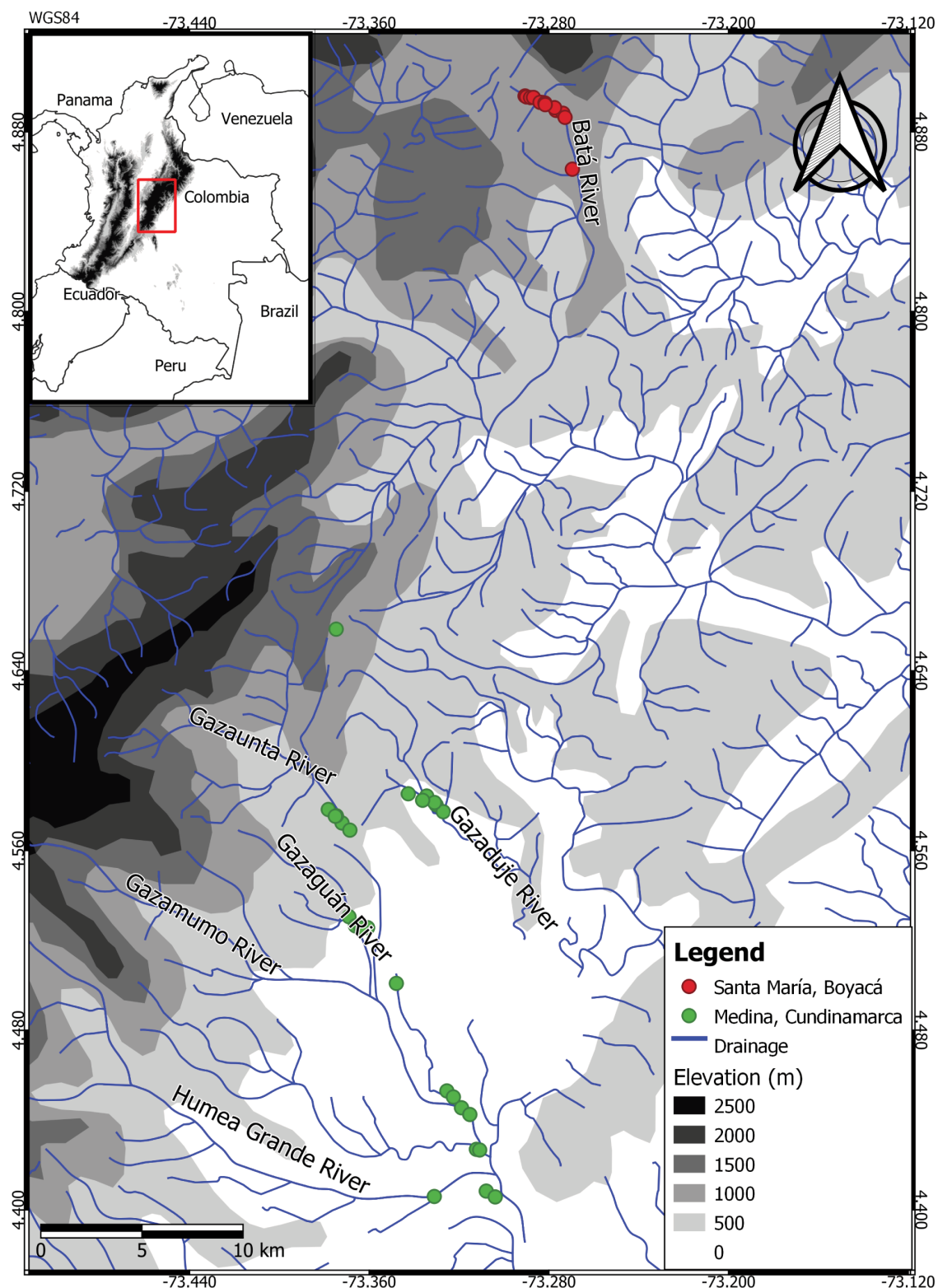


Fig. 1. Map showing the study area and sampling localities. Point colors represent the main locality sampled: green points for localities in Medina, Cundinamarca and red points for localities in Santa María, Boyacá (see Appendix 1 for detailed locality data).

Fig. 1. Mapa que muestra el área de estudio y las localidades de muestreo. Los colores de los puntos representan la localidad principal muestreada: puntos verdes para localidades en Medina, Cundinamarca, y puntos rojos para localidades en Santa María, Boyacá (Ver Apéndice 1 para datos detallados de las localidades).

1.5 kVA Smith-Root electrofisher (alternating current, 500–700 V), powered by a Honda EU2000i generator. The anode was swept upstream against the water current while stunned individuals were manually captured using hand nets.

Specimens were anesthetized with eugenol (300 mg/L), fixed in 10% formalin for 48 hours, and subsequently preserved in 70% ethanol. Voucher specimens were deposited in the Ichthyological Collection of the Instituto de Ciencias Naturales, Universidad Nacional de Colombia (ICN-MHN), Bogotá (see Table 1 for catalog numbers).

Identification was conducted using specialized taxonomic literature and original species descriptions (Taphorn, 2003; Van der Sleen & Albert, 2018). Scientific names, synonyms, and taxonomic classification follow Thomaz *et al.* (2015) and Mirande (2019) for Characidae, and Fricke *et al.* (2024) and DoNascimento *et al.* (2024) for all other families. Species referred to with the qualifier “aff.” (*affinis*) are considered morphologically close but distinct from the named taxon, and may represent undescribed species. In contrast, “cf.” (*confer*) denotes a tentative identification: the specimen may belong to the named species, but there is not enough evidence to confirm it with certainty. In some cases, specimens labeled with “cf.” may also represent undescribed species, but available data are insufficient to justify taxonomic recognition at this time.

Representative individuals of each species were photographed in a custom-made photo aquarium, following Sabaj-Pérez (2009), using a Canon EOS D50 digital camera. Finally, we established the endemism category of each species (at the biogeographic level) according to Fricke *et al.* (2024), and determined their threat category based on IUCN (2024) criteria.

Results

A total of 9221 specimens were collected, representing 51 taxa, five orders, 16 families and 46 species (Table 1). The most abundant orders were Siluriformes (61%) and Characiformes (37%). Characidae and Loricariidae were the most diverse families, each with 12 species, followed by Heptapteridae (8 species), Crenuchidae (5) and Trichomycteridae (3). In terms of abundance, Loricariidae accounted for 38% of the individuals, followed by Characidae (35%) and Astroblepidae (19%). The most abundant species were *Dolichancistrus cobrensis* and *Knodus deuterodonoides* (each comprising 21% of the total), followed by *Astroblepus* aff. *latidens* (19%).

The Humea and Batá sub-basins shared a substantial number of taxa, suggesting a common biogeographic history and potential ecological connectivity between the two systems. Species recorded in both sub-basins include *Parodon apolinari*, *Knodus deuterodonoides*, *Dolichancistrus fuesslii*, *D. cobrensis*, *Chaetostoma dorsale*, *Astroblepus* aff. *latidens*, *Trichomycterus* sp., *Hemibrycon metae* and *Characidium chupa*.

Of the 51 taxa reported, 46 (90.2%) were identified to the species level. One species was assigned the qualifier “aff.” (*affinis*), indicating clear morphological similarity but distinction from known species: *Astroblepus* aff. *latidens*. Additionally, two taxa were classified as “cf.” (*confer*), *Characidium* cf. *zebra* and *Characidium* cf. *boavistae* due to their close resemblance to those species but with inconclusive diagnostic characters. On the other hand, five taxa (9.8%) were identified only to genus level and require further taxonomic study to clarify their identity.

Most of the species recorded in the study area have been assessed according to the IUCN Red List criteria (IUCN, 2024). Among them, *D. cobrensis* is categorized as Endangered (EN), five species as Vulnerable (VU), and *D. fuesslii* as Near Threatened (NT). Of the remaining taxa, 33 are listed as Least Concern (LC), and two as Data Deficient (DD) (Table 1). Moreover, 23 species are endemic to the Orinoco Basin (Table 1).

Finally, we provide a brief description, diagnostic notes and photographs of the recorded species (Figs 2–6).

Order **Blenniiformes**
Family **Cichlidae**
Crenicichla geayi Pellegrin, 1903
Fig. 2A

MATERIAL EXAMINED. Colombia. ICN-MHN 24898, 1, Cundinamarca-Medina, Gazatavena River, Gazamumo River, 4°25'37.26" N, 73°18'44.31" W. ICN-MHN 24991, 1, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25035, 2, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25062, 4, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25092, 5, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25095, 1, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25191, 4, Cundinamarca-Medina, Gazaguán River, 4°31'35.3" N, 73°21'57.9" W. ICN-MHN 25198, 6, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Dorsal-fin rays xviii, 15; anal-fin rays iii, 10; 57 scales on the lateral line. Presents 11 gill rakers. The maxillary bone extends beyond the anterior margin of the eye, inner teeth series depressible, suborbital marking absent (Pellegrin, 1903; Sanabria *et al.*, 2007).

Table 1 (continued on next six pages). Fish fauna from the Humea and Batá sub-basin, Meta drainage, Colombia. IUCN status: LC = Least Concern, NT = Near Threatened, VU = Vulnerable, EN = Endangered, NE = Non Evaluated, DD = Deficient Data.

Tabla 1 (continúa en las seis páginas siguientes). Fauna de peces de las subcuencas de los ríos Humea y Batá, drenaje del Meta, Colombia. Estado según la UICN: LC = Preocupación Menor, NT = Casi Amenazado, VU = Vulnerable, EN = En Peligro, NE = No Evaluado, DD = Datos Deficientes.

Order	Family	Species	Common name	Museum number	IUCN status	Endemic (Orinoco basin)
Blenniiformes	Cichlidae	<i>Crenicichla geayi</i> Pellegrin, 1903	Bocón	ICN-MHN24898, ICN-MHN24991, ICN-MHN25035, ICN-MHN25062, ICN-MHN25092, ICN-MHN25095, ICN-MHN25191, ICN-MHN25198	LC	X
	Poeciliidae	<i>Poecilia caucana</i> (Steindachner, 1880)	Guppy	ICN-MHN24024, ICN-MHN24031, ICN-MHN25059	LC	
Characiformes	Characidae	<i>Astyanax integer</i> Myers, 1930	Sardinita	ICN-MHN24910, ICN-MHN25017, ICN-MHN25042, ICN-MHN25405	LC	
		<i>Astyanax metae</i> Eigenmann, 1914	Guarupaya	ICN-MHN24888, ICN-MHN24938, ICN-MHN24943, ICN-MHN25020, ICN-MHN25115, ICN-MHN25199	LC	X
		<i>Astyanax superbus</i> Myers, 1942	Sardinita	ICN-MHN24884, ICN-MHN24955, ICN-MHN24970, ICN-MHN24982, ICN-MHN25105, ICN-MHN25180, ICN-MHN25406, ICN-MHN25407	LC	
		<i>Ceratobranchia</i> sp.	Sardinita	ICN-MHN24891, ICN-MHN24925, ICN-MHN24949, ICN-MHN24961, ICN-MHN 24979, ICN-MHN24999, ICN-MHN25063, ICN-MHN25168, ICN-MHN 25176, ICN-MHN25376, ICN-MHN25377, ICN-MHN25379		
		<i>Charax metae</i> Eigenmann, 1922	Guarupaya	ICN-MHN25002, ICN-MHN25077, ICN-MHN25201	LC	X
		<i>Creagrutus bolivari</i> Schultz, 1944	Sardinita	ICN-MHN24882, ICN-MHN24945, ICN-MHN24959, ICN-MHN24990, ICN-MHN25007, ICN-MHN25039, ICN-MHN25044, ICN-MHN25101, ICN-MHN25112, ICN-MHN25113, ICN-MHN25126, ICN-MHN25184, ICN-MHN25185,		

Table 1 (continued). / **Tabla 1** (continuación).

Order	Family	Species	Common name	Museum number	IUCN status	Endemic (Orinoco basin)
		<i>Creagrutus bolivari</i> Schultz, 1944	Sardinita	ICN-MHN25195, ICN-MHN25214, ICN-MHN25378	LC	X
		<i>Creagrutus calai</i> Vari & Harold, 2001	Sardinita	ICN-MHN24936, ICN-MHN24981, ICN-MHN25045, ICN-MHN25173, ICN-MHN25380	LC	X
		<i>Hemibrycon loisae</i> (Géry, 1964)	Sardinita	ICN-MHN24897, ICN-MHN24954, ICN-MHN24976, ICN-MHN25083, ICN-MHN25161	LC	X
		<i>Hemibrycon metae</i> Myers, 1994	Sardinita	ICN-MHN24889, ICN-MHN24899, ICN-MHN24916, ICN-MHN24934, ICN-MHN24947, ICN-MHN24967, ICN-MHN24983, ICN-MHN24992, ICN-MHN25010, ICN-MHN25022, ICN-MHN25043, ICN-MHN25116, ICN-MHN25135, ICN-MHN25140, ICN-MHN25167, ICN-MHN25182, ICN-MHN25189, ICN-MHN25204, ICN-MHN25213	LC	
		<i>Knodus deuterodonoides</i> (Eigenmann, 1914)	Sardinita	ICN-MHN24978, ICN-MHN24985, ICN-MHN25006, ICN-MHN25030, ICN-MHN25052, ICN-MHN25072, ICN-MHN25073, ICN-MHN25098, ICN-MHN25099, ICN-MHN25118, ICN-MHN25132, ICN-MHN25134, ICN-MHN25151, ICN-MHN25165, ICN-MHN25175, ICN-MHN25186, ICN-MHN25206, ICN-MHN25215	NE	
		<i>Knodus</i> sp.	Sardinita	ICN-MHN24886, ICN-MHN24913, ICN-MHN24956, ICN-MHN24977, ICN-MHN25088, ICN-MHN25110, ICN-MHN25117, ICN-MHN25133, ICN-MHN25169, ICN-MHN25171, ICN-MHN25209		

Table 1 (continued). / **Tabla 1** (continuación).

Order	Family	Species	Common name	Museum number	IUCN status	Endemic (Orinoco basin)
		<i>Odontostilbe splendida</i> Bührnheim & Malabarba 2007	Guarupaya	ICN-MHN25203	LC	X
	Crenuchidae			ICN-MHN24881, ICN-MHN24902, ICN-MHN24912, ICN-MHN24933, ICN-MHN24941, ICN-MHN24958, ICN-MHN25000, ICN-MHN25016, ICN-MHN25034, ICN-MHN25058, ICN-MHN25085, ICN-MHN25129, ICN-MHN25149, ICN-MHN25163, ICN-MHN25183, ICN-MHN25207	LC	
		<i>Characidium</i> cf. <i>boavistae</i> Steindachner, 1915	Rollicito, rollizo, voladorcito	ICN-MHN4883. ICN-MHN25157, ICN-MHN25192	LC	
		<i>Characidium chupa</i> Schultz, 1944	Rollicito, rollizo, voladorcito	ICN-MHN24962, ICN-MHN25158	LC	
		<i>Characidium</i> sp.		ICN-MHN25003, ICN-MHN25004, ICN-MHN25021, ICN-MHN25057, ICN-MHN5205	LC	
		<i>Characidium steindachneri</i> Cope, 1878	Rollicito, rollizo, voladorcito	ICN-MHN24900, ICN-MHN24909, ICN-MHN24939, ICN-MHN25038, ICN-MHN25048, ICN-MHN25087, ICN-MHN25123, ICN-MHN25141	LC	
		<i>Characidium</i> cf. <i>zebra</i> Eigenmann, 1909	Rollicito, rollizo, voladorcito		LC	
	Erythrinidae	<i>Hoplias malabaricus</i> (Bloch, 1794)	Denton, guabina, traira	ICN-MHN24908	LC	
	Parodontidae			ICN-MHN24893, ICN-MHN24937, ICN-MHN24952, ICN-MHN24964, ICN-MHN25001, ICN-MHN25023, ICN-MHN25049, ICN-MHN25200	LC	X
		<i>Parodon apolinari</i> Myers, 1930	Cochinito, Corunta, Marranito, Mazorca, Rollizo, Tuso, Virolito			
Gymnotiformes	Apteronotidae	<i>Apteronotus galvisi</i> de Santana, Maldonado- Ocampo & Crampton, 2007	Pez Cuchillo	ICN-MHN24894, ICN-MHN24911, ICN-MHN24922, ICN-MHN24951, ICN-MHN24965, ICN-MHN24980, ICN-MHN24987,	DD	X

Table 1 (continued). / **Tabla 1** (continuación).

Order	Family	Species	Common name	Museum number	IUCN status	Endemic (Orinoco basin)
Gymnotiformes	Apteronotidae	<i>Apteronotus galvisi</i> de Santana, Maldonado-Ocampo & Crampton, 2007	Pez Cuchillo	ICN-MHN25005, ICN-MHN25037, ICN-MHN25041, ICN-MHN25064, ICN-MHN25074, ICN-MHN25094, ICN-MHN25104, ICN-MHN25124, ICN-MHN25137, ICN-MHN25148, ICN-MHN25164, ICN-MHN25177, ICN-MHN25190, ICN-MHN25202	DD	X
	Sternopygidae	<i>Sternopygus macrurus</i> (Bloch & Schneider, 1801)	Banderola, Caloche, Pez Cuchillo	ICN-MHN24904	LC	
Siluriformes	Aspredinidae	<i>Hoplomyzon sexpapilostoma</i> Taphorn & Marrero, 1990		ICN-MHN24998, ICN-MHN25079	LC	X
	Astroblepidae	<i>Astroblepus</i> aff. <i>latidens</i> Eigenmann, 1918	Peces escaladores	ICN-MHN24892, ICN-MHN24929, ICN-MHN24950, ICN-MHN24973, ICN-MHN25015, ICN-MHN25033, ICN-MHN25078, ICN-MHN25102, ICN-MHN25107, ICN-MHN25147, ICN-MHN25155, ICN-MHN25172, ICN-MHN25211	VU	
	Auchenipteridae	<i>Duringlanis romani</i> (Mees, 1988)	Ciego	ICN-MHN24906	LC	X
	Cetopsidae	<i>Cetopsis orinoco</i> (Schultz, 1944)	Bagre ciego	ICN-MHN24924, ICN-MHN24974, ICN-MHN24997, ICN-MHN25012, ICN-MHN25025, ICN-MHN25051, ICN-MHN25114, ICN-MHN25145	LC	
	Heptapteridae	<i>Cetopsorhamdia orinoco</i> Schultz, 1944	Bagrecito	ICN-MHN24928, ICN-MHN24995, ICN-MHN25011, ICN-MHN25031, ICN-MHN25056, ICN-MHN25070, ICN-MHN5075, ICN-MHN25109, ICN-MHN25193	LC	
		<i>Cetopsorhamdia</i> aff. <i>picklei</i> Schultz, 1944	Rollicito	ICN-MHN25408	NE	
		<i>Chasmocranus rosae</i> Eigenmann, 1922	Bagrecito	ICN-MHN24890, ICN-MHN24903, ICN-MHN24931, ICN-MHN24948, ICN-MHN24971,	LC	X

Table 1 (continued). / **Tabla 1** (continuación).

Order	Family	Species	Common name	Museum number	IUCN status	Endemic (Orinoco basin)
		<i>Chasmocranus rosae</i> Eigenmann, 1922	Bagrecito	ICN-MHN24988, ICN-MHN25018, ICN-MHN25046, ICN-MHN25071, ICN-MHN25103, ICN-MHN25106, ICN-MHN25119, ICN-MHN25152, ICN-MHN25154, ICN-MHN25181, ICN-MHN25208	LC	X
		<i>Imparfinis microps</i> Eigenmann & Fisher, 1916	Bagrecito	ICN-MHN25081, ICN-MHN25138	LC	X
		<i>Imparfinis robustus</i> Cortés-Hernández, López-Castaño, Milani & DoNascimento 2023	Bagrecito	ICN-MHN24921, ICN-MHN25036, ICN-MHN25047, ICN-MHN25121, ICN-MHN25212	NE	X
		<i>Pimelodella linami</i> Schultz, 1944	Bagre, barbilla	ICN-MHN25136	VU	X
		<i>Pimelodella metae</i> Eigenmann, 1917	Bagre, barbilla	ICN-MHN24907, ICN-MHN24993, ICN-MHN25061	LC	X
		<i>Rhamdia</i> sp.	Barbudos, bagres	ICN-MHN24878, ICN-MHN24880, ICN-MHN24923, ICN-MHN24942, ICN-MHN24966, ICN-MHN25008, ICN-MHN25009, ICN-MHN25153, ICN-MHN25160		
	Loricariidae	<i>Ancistrus triradiatus</i> Eigenmann, 1918	Corroncho, cucha	ICN-MHN24905, ICN-MHN24968, ICN-MHN25125, ICN-MHN25127, ICN-MHN25210	LC	
		<i>Chaetostoma chimu</i> Urbano-Bonilla & Ballen, 2021	Cucha, corroncho, coroncoro	ICN-MHN24957, ICN-MHN24994, ICN-MHN25028, ICN-MHN25053, ICN-MHN25067, ICN-MHN25089, ICN-MHN25093, ICN-MHN25120, ICN-MHN25146	NE	X
		<i>Chaetostoma dorsale</i> Eigenmann, 1922	Cucha, corroncho, coroncoro	ICN-MHN24887, ICN-MHN24918, ICN-MHN24930, ICN-MHN24946, ICN-MHN24969, ICN-MHN24984, ICN-MHN25019, ICN-MHN25027, ICN-MHN25065, ICN-MHN25066, ICN-MHN25080, ICN-MHN25091, ICN-MHN25100,	VU	X

Table 1 (continued). / **Tabla 1** (continuación).

Order	Family	Species	Common name	Museum number	IUCN status	Endemic (Orinoco basin)
		<i>Chaetostoma dorsale</i> Eigenmann, 1922	Cucha, corroncho, coroncoro	ICN-MHN25108, ICN-MHN25131, ICN-MHN25143, ICN-MHN25156, ICN-MHN25166, ICN-MHN25179, ICN-MHN25188, ICN-MHN25197	VU	X
		<i>Chaetostoma formosae</i> Ballen, 2011	Cucha, corroncho, coroncoro	ICN-MHN24919, ICN-MHN25013, ICN-MHN25040, ICN-MHN25054, ICN-MHN25097, ICN-MHN25128	VU	X
		<i>Chaetostoma joropo</i> Ballen, Urbano-Bonilla & Maldonado-Ocampo, 2016	Cucha, corroncho, coroncoro	ICN-MHN24926, ICN-MHN24986, ICN-MHN25029, ICN-MHN25144	VU	X
		<i>Dolichancistrus cobrensis</i> (Schultz, 1944)	Cucha, corroncho, coroncoro	ICN-MHN24896, ICN-MHN24885, ICN-MHN24975, ICN-MHN25111, ICN-MHN25139, ICN-MHN25159, ICN-MHN25178, ICN-MHN25375	EN	
		<i>Dolichancistrus fuesslii</i> (Steindachner, 1911)	Cucha, corroncho, coroncoro	ICN-MHN24944, ICN-MHN25055	NT	X
		<i>Farlowella mariaelenae</i> Martin Salazar, 1964	Cucha, pez lápiz	ICN-MHN24917, ICN-MHN24927, ICN-MHN24953, ICN-MHN24960, ICN-MHN24996, ICN-MHN25024, ICN-MHN25096, ICN-MHN25150	LC	
		<i>Farlowella vittata</i> Myers, 1942	Cucha, pez lápiz	ICN-MHN25084, ICN-MHN25090, ICN-MHN25130, ICN-MHN25162, ICN-MHN25170, ICN-MHN25187, ICN-MHN25196	LC	X
		<i>Hypostomus niceforoi</i> (Fowler, 1943)	Cucha	ICN-MHN24901, ICN-MHN25014, ICN-MHN25050, ICN-MHN25082, ICN-MHN25142	DD	
		<i>Lasiancistrus tentaculatus</i> Armbruster, 2005	Cucha, corroncho, coroncoro	ICN-MHN25086, ICN-MHN25122	LC	
		<i>Peckoltia lujani</i> Armbruster, Werneke & Tan, 2015	Cucha	ICN-MHN24915, ICN-MHN24989, ICN-MHN25032, ICN-MHN25076	LC	X

Table 1 (continued). / **Tabla 1** (continuación).

Order	Family	Species	Common name	Museum number	IUCN status	Endemic (Orinoco basin)
	Trichomycteridae	<i>Ochmacanthus alternus</i> Myers, 1927	Babosa	ICN-MHN24920, ICN-MHN25026, ICN-MHN25194	LC	
		<i>Schultzichthys bondi</i> (Myers, 1942)	Babosa	ICN-MHN25068	LC	
		<i>Trichomycterus</i> sp.	Bagrecito	ICN-MHN24879, ICN-MHN24932, ICN-MHN24963, ICN-MHN25060		
Synbranchiformes	Synbranchidae	<i>Synbranchus marmoratus</i> Bloch, 1795	Anguila de lodo	ICN-MHN25174	LC	

Family **Poeciliidae**
Poecilia caucana (Steindachner, 1880)
 Fig. 2B

MATERIAL EXAMINED. Colombia. ICN-MHN 24024, 29, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48,3" N, 73°16'10,4" W. ICN-MHN 24031, 1, Boyacá-Santa María, Sendero Hyca-Quye, Batá River, 04°53'23,7" N, 73°16'35,7" W. ICN-MHN 25059, 1, Cundinamarca, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W.

IDENTIFICATION. Cylindrical body, slightly compressed in the cephalic region. Deep and compressed caudal peduncle and adipose fin absent (Steindachner, 1880).

Order **Characiformes**
 Family **Characidae**
Astyanax integer Myers, 1930
 Fig. 2C

MATERIAL EXAMINED. Colombia. ICN-MHN 24910, 1, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 25017, 2, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25042, 1, Cundinamarca-Medina, Gazaduje River, 4°34'56.78" N, 73°20'10.30" W. ICN-MHN 25405, 1, Cundinamarca-Medina, Quebrada La Colorada, Gazaduje River, 4°34'38.28" N, 73°19'37.02" W.

IDENTIFICATION. Short maxilla, two rows of premaxillary teeth; inner premaxillary series consisting of five teeth. Double humeral blotch elongated vertically: the first is vertically elongated with a darker oval part at eye level; the second is lighter and also vertically elongated (Myers, 1930; Taphorn, 2003).

Astyanax metae Eigenmann, Henn & Wilson 1914
 Fig. 2D

MATERIAL EXAMINED. Colombia. ICN-MHN 24888, 12, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24938, 1, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24943, 7, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 25020, 2, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25115, 2, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25199, 1, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Two rows of premaxillary teeth; inner premaxillary series consisting of five teeth. The base of the anal-fin has an oblique black stripe that crosses the caudal peduncle diagonally and continues towards the upper lobe of the caudal-fin (Eigenmann *et al.*, 1914; Taphorn, 2003).

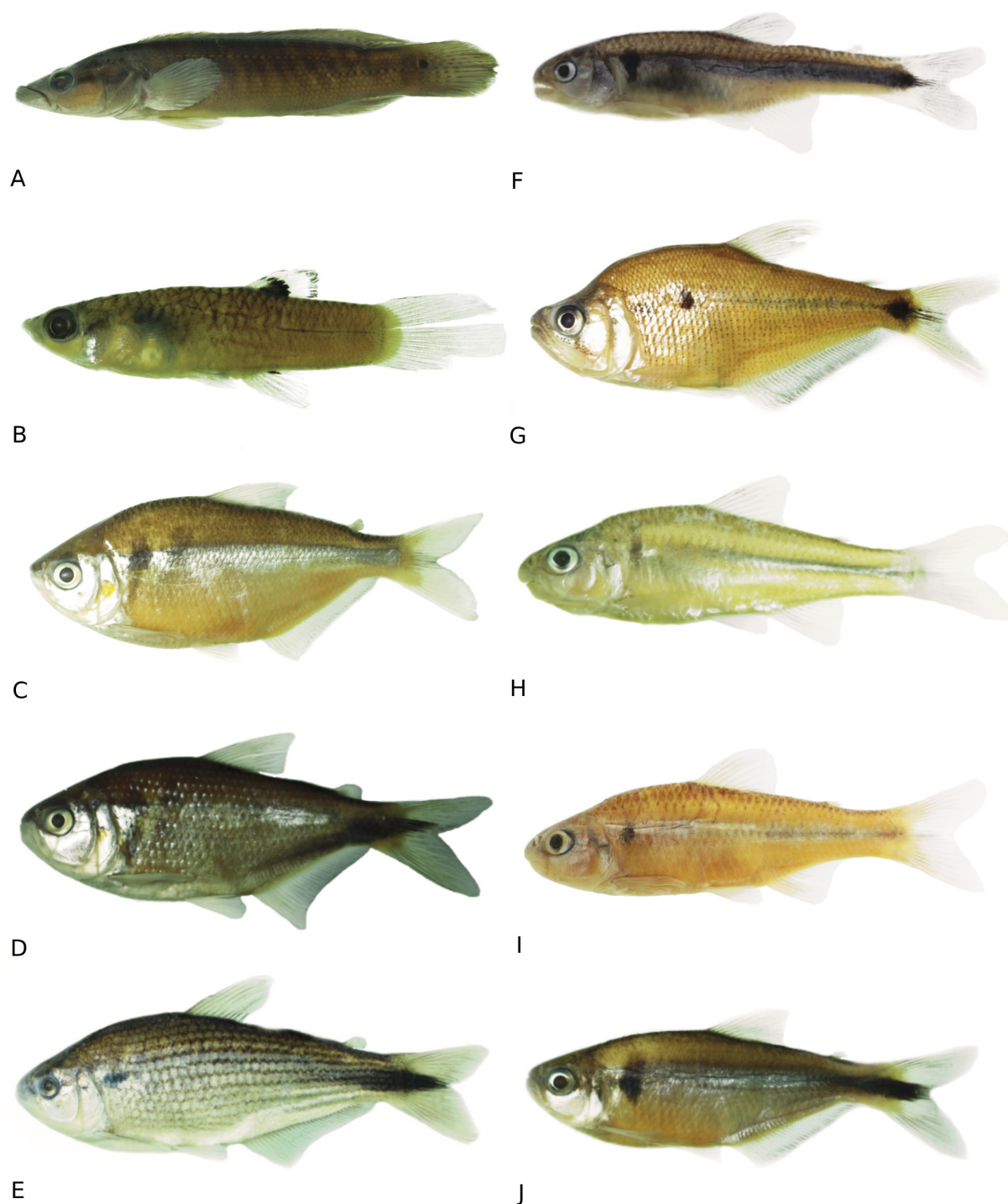


Fig. 2. Representative freshwater fish specimens from the Batá and Humea sub-basins. The standard length of the photographed specimen follows the species name: **A.** ICN-MHN 25198 *Crenicichla geayi* 87.0 mm. **B.** ICN-MHN 25059 *Poecilia caucana* 22.0 mm. **C.** ICN-MHN 25042 *Astyanax integer* 83.0 mm. **D.** ICN-MHN 24888 *Astyanax metae* 87.5 mm. **E.** ICN-MHN 25180 *Astyanax superbus* 122.3 mm. **F.** ICN-MHN 25168 *Ceratobranchia* sp. 41.8 mm. **G.** ICN-MHN 25002 *Charax metae* 66.4 mm. **H.** ICN-MHN 25184 *Creagrutus bolivari* 49.8 mm. **I.** ICN-MHN 24936 *Creagrutus calai* 61.4 mm. **J.** ICN-MHN 24954 *Hemibrycon loaisae* 59.3 mm.

Fig. 2. Especímenes representativos de peces de agua dulce de las subcuencas de los ríos Batá y Humea. La longitud estándar del espécimen fotografiado sigue el nombre de la especie: **A.** ICN-MHN 25198 *Crenicichla geayi* 87.0 mm. **B.** ICN-MHN 25059 *Poecilia caucana* 22.0 mm. **C.** ICN-MHN 25042 *Astyanax integer* 83.0 mm. **D.** ICN-MHN 24888 *Astyanax metae* 87.5 mm. **E.** ICN-MHN 25180 *Astyanax superbus* 122.3 mm. **F.** ICN-MHN 25168 *Ceratobranchia* sp. 41.8 mm. **G.** ICN-MHN 25002 *Charax metae* 66.4 mm. **H.** ICN-MHN 25184 *Creagrutus bolivari* 49.8 mm. **I.** ICN-MHN 24936 *Creagrutus calai* 61.4 mm. **J.** ICN-MHN 24954 *Hemibrycon loaisae* 59.3 mm.

Astyanax superbus Myers, 1942

Fig. 2E

MATERIAL EXAMINED. Colombia. ICN-MHN 24884, 4, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24955, 2, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24970, 6, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24982, 1, Cundinamarca-Medina, Quebrada La Colorada, Gazaduje River, 4°34'38.28" N, 73°19'37.02" W. ICN-MHN 25105, 3, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25180, 1, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25406, 4, Cundinamarca-Medina, Gazaduje River, 4°35'07.1" N, 73°20'33.2" W. ICN-MHN 25407, 2, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W.

IDENTIFICATION. Two rows of premaxillary teeth; inner premaxillary series consisting of five teeth. The sides of the body feature striking vertical black zigzag lines. The humeral spot is oval and horizontal, clearly visible, and generally does not extend vertically. The maxilla may have up to six teeth (Myers, 1942; Taphorn, 2003; Ruiz *et al.*, 2018).

Ceratobranchia sp.

Fig. 2F

MATERIAL EXAMINED. Colombia. ICN-MHN 24891, 4, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24925, 6, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24949, 8, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24961, 5, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24979, 2, Cundinamarca-Medina, Quebrada La Colorada, Gazaduje River, 4°34'38.28" N, 73°19'37.02" W. ICN-MHN 24999, 3, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25063, 3, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25168, 5, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25176, 8, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25376, 43, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25377, 1, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25379, 27, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Vertically elongate humeral blotch distinctly marked; rounded or slightly elongate snout (Van der Sleen & Albert, 2018; Urbano-Bonilla *et al.*, 2018). Lateral line with 31–38 scales, and four to six scale above and three-four scale below the lateral line (Chernoff & Machado-Allison, 1990). Our specimen is very similar to individuals of the genus *Ceratobranchia*; even though the genus is not reported for Colombia (DoNascimento *et al.*, 2024). It differs from species currently described as *Ceratobranchia* due to its longer caudal peduncle, and is therefore currently under review.

Charax metae Eigenmann, 1922

Fig. 2G

MATERIAL EXAMINED. Colombia. ICN-MHN 25002, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25077, 2, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25201, 2, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Dorsal-fin rays, 9; pectoral-fin rays i, 14–15; anal-fin rays iii, 37–42; 7–9 transverse scale rows between humeral spot and supracleithrum. Prehumeral distance is equivalent to 52–58% of the predorsal distance. The cleithrum is oriented towards the anterior and lateral regions of the body (Eigenmann, 1922; Menezes & Lucena, 2014).

Creagrutus bolivari Schultz, 1944

Fig. 2H

MATERIAL EXAMINED. Colombia. ICN-MHN 24882, 10, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24945, 22, Cundinamarca-Medina, Caño Choapal, Gazaunta River,

4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24959, 17, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24990, 7, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25007, 2, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25039, 23, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25044, 27, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25101, 1, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25112, 1, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25113, 3, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25126, 1, Cundinamarca-Medina, Gazaine River, Gazamumo River, 4°27'10.8" N, 73°19'31.5" W. ICN-MHN 25184, 23, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25185, 1, Cundinamarca-Medina, Gazaguán River, 4°31'35.3" N, 73°21'57.9" W. ICN-MHN 25195, 126, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W. ICN-MHN 25214, 1, Cundinamarca-Medina, Caño Busaca, Gazamumo River, 4°30'03.4" N, 73°20'52.5" W. ICN-MHN 25378, 1, Cundinamarca-Medina, Gazaguán River, 4°31'35.3" N, 73°21'57.9" W.

IDENTIFICATION. Dorsal-fin ii,8; pectoral-fin rays i, 10–12; pelvic-fin rays i, 6–7; anal-fin rays ii, 8–10 or iii, 8–10. Foreshortened lower jaw, two-four maxillary teeth, rarely five or six, five dentary teeth. Humeral blotch vertically elongated extending below the lateral line in a crescent shape opening towards the head (Schultz, 1944; Vari & Harold, 2001; Taphorn, 2003).

***Creagrutus calai* Vari & Harold, 2001**

Fig. 2I

MATERIAL EXAMINED. Colombia. ICN-MHN 24018, 60, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN 24019, 63, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN 24020, 28, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN 24028, 1, Boyacá-Santa María, Sendero Hyca-Quye, Batá River, 04°53'23.7" N, 73°16'35.7" W. ICN-MHN 24038, 1, Boyacá-Santa María, Batá River, Aguas debajo de la presa, Batá River, 04°53'46.1" N, 73°17'28" W. ICN-MHN 24936, 1, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24981, 2, Cundinamarca-Medina, Quebrada La Colorada, Gazaduje River, 4°34'38.28" N, 73°19'37.02" W. ICN-MHN 25045, 24, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25173, 1, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25380, 17, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Dorsal-fin rays ii, 8; pectoral-fin rays i, 12–14; pelvic-fin rays i, 6–7; anal-fin rays ii, 10–12 or iii, 10–12. Foreshortened lower jaw, three maxillary teeth; five dentary teeth. An irregularly shaped, vertically elongated humeral mark (Vari & Harold, 2001).

***Hemibrycon loisae* (Géry, 1964)**

Fig. 2J

MATERIAL EXAMINED. Colombia. ICN-MHN 24897, 12, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24954, 13, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24976, 24, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 25083, 1, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25161, 2, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W.

IDENTIFICATION. Dorsal-fin rays ii, 8–9; pectoral-fin rays i, 11–13; pelvic-fin rays i, 6–8; 8–9; anal-fin rays iii, 25–31; 8–9 above the lateral line and 6–8 below the lateral line; premaxilla with two rows of teeth, three-five in the outer row, four in the inner row; between 6–20 teeth in the maxilla, eight dentary teeth. It has 42–44 scales in the lateral line, 12–13 predorsal scales (Géry, 1964; Urbano-Bonilla *et al.*, 2018).

***Hemibrycon metae* Myers, 1930**

Fig. 3A

MATERIAL EXAMINED. Colombia. ICN-MHN 24022, 7, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN 24889, 98, Cundinamarca-Medina, Quebrada Jején, Gazaunta

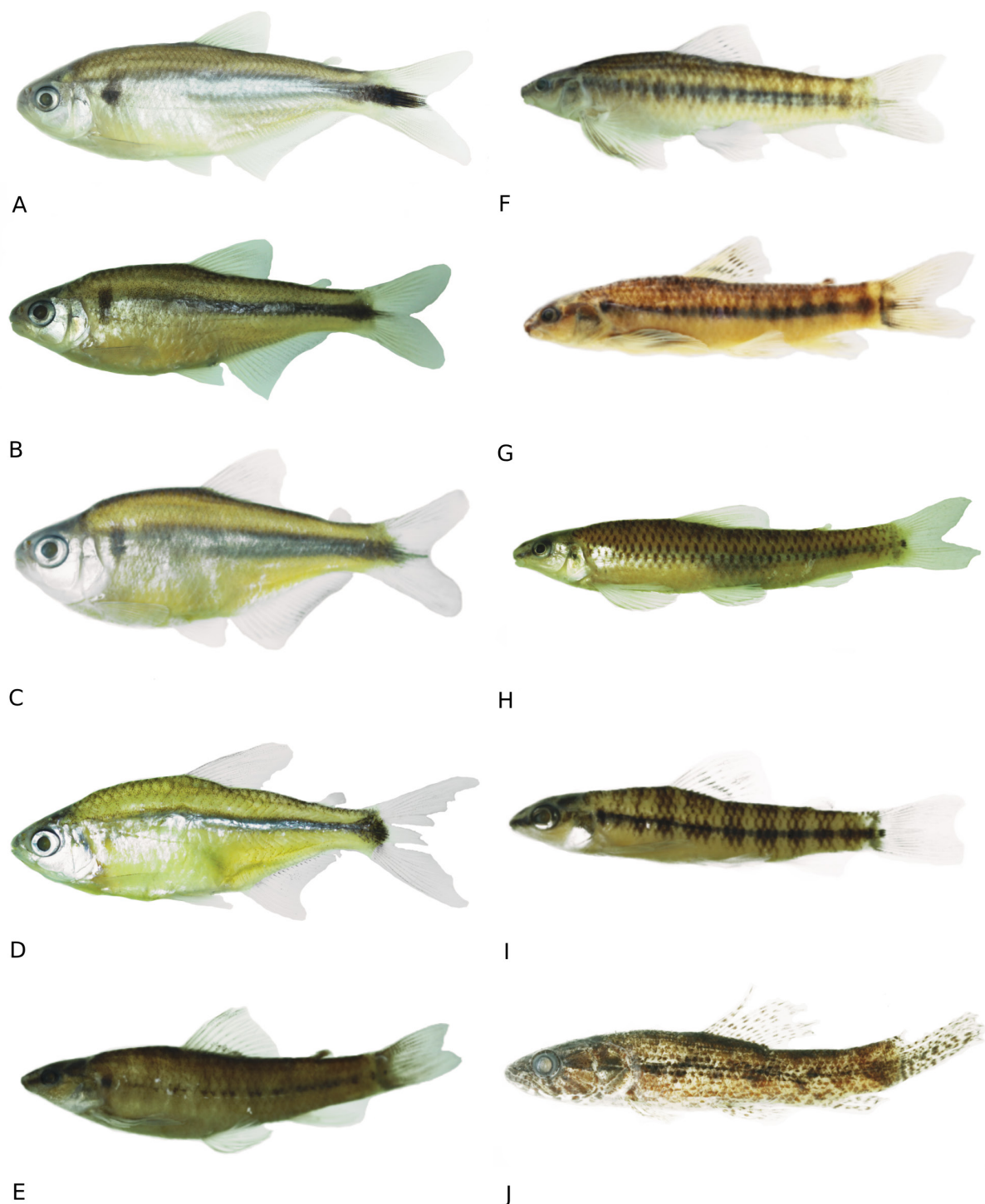


Fig. 3. Representative freshwater fish specimens from the Batá and Humea sub-basins. The standard length of the photographed specimen follows the species name: **A.** ICN-MHN 25213 *Hemibrycon metae* 58.2 mm. **B.** ICN-MHN 25215 *Knodus deuterodonoides* 38.9 mm. **C.** ICN-MHN 25209 *Knodus* sp. 50.9 mm. **D.** ICN-MHN 25203 *Odontostilbe splendida* 35.67 mm. **E.** ICN-MHN 25207 *Characidium* cf. *boavistae* 35.1 mm. **F.** ICN-MHN 25192 *Characidium chupa* 75.6 mm. **G.** ICN-MHN 25158 *Characidium* sp. 80.0 mm. **H.** ICN-MHN 25005 *Characidium steindachneri* 48.9 mm. **I.** ICN-MHN 24909 *Characidium* cf. *zebra* 29.9 mm. **J.** ICN-MHN 24908 *Hoplias malabaricus* 50.9 mm.

Fig. 3. Especímenes representativos de peces de agua dulce de las subcuencas de los ríos Batá y Humea. La longitud estándar del espécimen fotografiado sigue el nombre de la especie: **A.** ICN-MHN 25213 *Hemibrycon metae* 58.2 mm. **B.** ICN-MHN 25215 *Knodus deuterodonoides* 38.9 mm. **C.** ICN-MHN 25209 *Knodus* sp. 50.9 mm. **D.** ICN-MHN 25203 *Odontostilbe splendida* 35.67 mm. **E.** ICN-MHN 25207 *Characidium* cf. *boavistae* 35.1 mm. **F.** ICN-MHN 25192 *Characidium chupa* 75.6 mm. **G.** ICN-MHN 25158 *Characidium* sp. 80.0 mm. **H.** ICN-MHN 25005 *Characidium steindachneri* 48.9 mm. **I.** ICN-MHN 24909 *Characidium* cf. *zebra* 29.9 mm. **J.** ICN-MHN 24908 *Hoplias malabaricus* 50.9 mm.

River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24899, 3, Cundinamarca-Medina, Gazatavena River, Gazamumo River, 4°25'37.26" N, 73°18'44.31" W. ICN-MHN 24916, 1, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24934, 6, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24947, 44, Cundinamarca-Medina, Caño Choopal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24967, 40, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24983, 7, Cundinamarca-Medina, Quebrada La Colorada, Gazaduje River, 4°34'38.28" N, 73°19'37.02" W. ICN-MHN 24992, 2, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25010, 5, Cundinamarca-Medina, Caño Choopal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25022, 20, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25043, 6, Cundinamarca-Medina, Gazaduje River, 4°34'56.78" N, 73°20'10.30" W. ICN-MHN 25116, 15, Cundinamarca-Medina, Caño Choopal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25135, 38, Cundinamarca-Medina, Gazaduje River, 4°35'07.1" N, 73°20'33.2" W. ICN-MHN 25140, 11, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25167, 24, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25182, 28, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25189, 4, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25204, 10, Cundinamarca-Medina, Gazamumo River, 4°26'43.7" N, 73°19'08.1" W. ICN-MHN 25213, 1, Cundinamarca-Medina, Caño Busaca, Gazamumo River, 4°30'03.4" N, 73°20'52.5" W.

IDENTIFICATION. This species is similar to *H. loisae* in scale counts, but differs by having 14–16 predorsal scales (Urbano-Bonilla *et al.*, 2018).

***Knodus deuterodonoides* (Eigenmann, 1914)**

Fig. 3B

MATERIAL EXAMINED. Colombia. ICN-MHN 24015, 35, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN 24023, 243, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN 24030, 75, Boyacá-Santa María, Sendero Hyca-Quye, Batá River, 04°53'23.7" N, 73°16'35.7" W. ICN-MHN 24037, 9, Boyacá-Santa María, Aguas debajo de la presa, Batá River, 04°53'46.1" N, 73°17'28" W. ICN-MHN 24041, 450, Boyacá-Santa María, Aguas debajo de la presa, Batá River, 04°53'46.1" N, 73°17'28" W. ICN-MHN 24895, 11, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24914, 5, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24935, 21, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24940, 7, Cundinamarca-Medina, Caño Choopal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24978, 18, Cundinamarca-Medina, Quebrada La Colorada, Gazaduje River, 4°34'38.28" N, 73°19'37.02" W. ICN-MHN 24985, 33, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25006, 32, Cundinamarca-Medina, Caño Choopal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25030, 13, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25052, 202, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25072, 2, Cundinamarca-Medina, Gazamumo River, 4°25'35.6" N, 73°18'36.7" W. ICN-MHN 25073, 132, Cundinamarca-Medina, Quebrada La Colorada, Gazaduje River, 04°34'49.6" N, 73°19'48.6" W. ICN-MHN 25098, 49, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25099, 10, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25118, 45, Cundinamarca-Medina, Caño Choopal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25132, 15, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'10.8" N, 73°19'31.5" W. ICN-MHN 25134, 17, Cundinamarca-Medina, Gazaduje River, 4°35'07.1" N, 73°20'33.2" W. ICN-MHN 25151, 110, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25165, 3, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25175, 17, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25186, 124, Cundinamarca-Medina, Gazaguán River, 4°31'35.3" N, 73°21'57.9" W. ICN-MHN 25206, 267, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W. ICN-MHN 25215, 3, Cundinamarca-Medina, Caño Busaca, Gazamumo River, 4°30'03.4" N, 73°20'52.5" W.

IDENTIFICATION. Dorsal-fin rays ii, 8; pectoral-fin rays i, 12; pelvic-fin rays i, 7; anal-fin rays ii, 15–16; lateral line scales 34–35. The humeral blotch is dark, with a pale area in front of and behind it. The lateral stripe begins just behind the humeral spot and continues to the caudal-fin (Urbano-Bonilla *et al.*, 2018).

***Knodus* sp.**

Fig. 3C

MATERIAL EXAMINED. Colombia. ICN-MHN 24886, 15, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24913, 7, Cundinamarca-Medina, Caño Gazaine, Gazamumo River,

4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24956, 21, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24977, 47, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 25088, 1, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25110, 6, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25117, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25133, 1, Cundinamarca-Medina, Gazaduje River, 4°35'07.1" N, 73°20'33.2" W. ICN-MHN 25169, 77, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25171, 6, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25209, 1, Cundinamarca-Medina, Caño Busaca, Gazamumo River, 4°30'03.4" N, 73°20'52.5" W.

IDENTIFICATION. Dorsal-fin rays ii, 8; anal-fin rays ii, 23–24; pectoral-fin rays i, 11; pelvic-fin rays i, 7; lateral line scale 34–35. The body is deeper, and the humeral blotch is broad, spanning approximately three scales in width.

Odontostilbe splendida Bührnheim & Malabarba, 2007
Fig. 3D

MATERIAL EXAMINED. Colombia. ICN-MHN 25203, 1, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. The premaxilla has one row of teeth, the maxilla has three to four teeth with 5–9 cusps, and the dentary has 9–10 teeth. The adipose fin is positioned anteriorly, at a vertical line passing through the insertion of the second or third anal-fin ray (Bührnheim & Malabarba, 2007).

Family **Crenuchidae**
Characidium* cf. *boavistae Steindachner, 1915
Fig. 3E

MATERIAL EXAMINED. Colombia. ICN-MHN 24881, 2, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24902, 1, Cundinamarca-Medina, Gazaguán River, Gazamumo River, 4°31'32.60" N, 73°21'38.44" W. ICN-MHN 24912, 3, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24933, 7, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24941, 1, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24958, 3, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 25000, 12, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25016, 4, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25034, 8, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25058, 8, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25085, 2, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25129, 4, Cundinamarca-Medina, Gazaine River, Gazamumo River, 4°27'10.8" N, 73°19'31.5" W. ICN-MHN 25149, 3, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25163, 1, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25183, 8, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25207, 13, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. The mouth is positioned inferiorly, the body presents a faintly visible, interrupted dark lateral stripe running longitudinally along the body, and vertical bars. It has a scaleless isthmus. There is always at least a small humeral spot behind the opercle (Taphorn, 2003; Agudelo-Zamora *et al.*, 2020). Dorsal-fin rays i, 11; pectoral-fin rays iii, 11–12; pelvic-fin rays i, 7–8; anal-fin rays i, 7–9; caudal-fin rays ii, 17. It has 35–37 scales in the lateral line, eight predorsal scales. It is similar to *Characidium boavistae*; however, a revision is needed, as it may represent an undescribed species.

Characidium chupa Schultz, 1944
Fig. 3F

MATERIAL EXAMINED. Colombia. ICN-MHN 24017, 1, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN 24883, 5, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 25157, 1, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25192, 1, Cundinamarca-Medina, Gazaguán River, 4°31'35.3" N, 73°21'57.9" W.

IDENTIFICATION. The mouth is positioned inferiorly, the body presents a dark lateral stripe running longitudinally along the body, and vertical bars. It has a scaleless isthmus. Dorsal-fin rays i, 10; pectoral-fin rays iii, 12–15,

usually 12–13; pelvic-fin rays i, 8–9; anal-fin rays i, 7–9; caudal-fin rays ii, 18–20 (Schultz, 1944; Taphorn, 2003; Agudelo-Zamora *et al.*, 2020). It has 35–37 scales in the lateral line, eight predorsal scales.

***Characidium* sp.**

Fig. 3G

MATERIAL EXAMINED. ICN-MHN 24962, 9, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 25158, 2, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W.

IDENTIFICATION. The mouth is positioned inferiorly, the body presents a dark lateral stripe running longitudinally along the body, and vertical bars, interradiated stripe on the dorsal fin and a spot on the adipose fin. It has a scaleless isthmus. Dorsal-fin rays i, 11; pectoral-fin rays iii, 11; pelvic-fin rays i, 8–9; anal-fin rays i, 7–9; caudal-fin rays ii, 21. It has 35–37 scales in the lateral line, eight predorsal scales.

***Characidium steindachneri* Cope, 1878**

Fig. 3H

MATERIAL EXAMINED. Colombia. ICN-MHN 25003, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25004, 2, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25021, 3, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25057, 1, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25205, 4, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. The mouth is positioned inferiorly, the body is light white-yellow, and the opercular region is gray and isthmus scaled. The pelvic and anal-fins are hyaline; the pectoral-fins have dark first rays, and the dorsal fin has a black longitudinal line in the first third. Dorsal-fin rays i, 8; pectoral-fin rays iii, 6; pelvic-fin rays i, 7; anal-fin rays i, 7; caudal-fin rays ii, 21. It has 35–37 scales in the lateral line, eight predorsal scales (Cope, 1878; Taphorn, 2003; Urbano-Bonilla *et al.*, 2021).

***Characidium* cf. *zebra* Eigenmann, 1909**

Fig. 3I

MATERIAL EXAMINED. Colombia. ICN-MHN 24900, 5, Cundinamarca-Medina, Gazaguán River, 4°31'32.60" N, 73°21'38.44" W. ICN-MHN 24909, 8, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24939, 3, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 25038, 1, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25048, 7, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25087, 4, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25123, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25141, 2, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W.

IDENTIFICATION. The basic pattern is a light cream color, with dark stripes crossing vertically and isthmus scaled. The body is long and slender, and the mouth is terminal. Dorsal-fin rays i, 9–11; pectoral-fin rays iii, 9, generally 10; pelvic-fin rays i, 8; anal-fin rays i, 8; caudal-fin rays ii, 17–20. It has 35–37 scales in the lateral line, eight predorsal scales. Most of the teeth are conical (Taphorn, 2003; Agudelo-Zamora *et al.*, 2020). It is similar to *Characidium zebra* from Rupununi River (Guyana); however, a deeper revision is needed, as it may represent an undescribed species.

Family Erythrinidae

***Hoplias malabaricus* (Bloch, 1794)**

Fig. 3J

MATERIAL EXAMINED. Colombia. ICN-MHN 24908, 1, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4° 27 '1.19" N, 73° 19' 21.15" W.

IDENTIFICATION. Dorsal-fin rays 14–18, lateral line with more than 38 scales; maxilla with two-three canine teeth. Sixth infraorbital as a single plate not divided transversally; distal end of maxilla with a large dorsal projection. Caudal fin usually spotted; dark lateral stripe absent or diffuse (Guimarães *et al.*, 2022).

Family **Parodontidae**
Parodon apolinari Myers, 1930
 Fig. 4A

MATERIAL EXAMINED. Colombia. ICN-MHN 24893, 11, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24937, 1, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24952, 1, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24964, 11, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 25001, 4, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25023, 9, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25049, 14, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25200, 1, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Fusiform body, no cranial fontanel, and an inferior mouth with a poorly developed, or absent, upper lip. There are commonly four spatulate premaxillary teeth (Pavanelli, 2003). The sides of the body with 14–17 dark vertical bars (Myers, 1930; Londoño-Burbano *et al.*, 2011).

Order **Gymnotiformes**
 Family **Apterontidae**
Apterontus galvisi de Santana, Maldonado-Ocampo & Crampton 2007
 Fig. 4B

MATERIAL EXAMINED. Colombia. ICN-MHN 24894, 19, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24911, 11, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24922, 9, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24951, 3, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24965, 11, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24980, 2, Cundinamarca-Medina, Quebrada La Colorada, Gazaduje River, 4°27'10.8" N, 73°19'31.5" W. ICN-MHN 24987, 4, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25005, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25037, 3, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25041, 2, Cundinamarca-Medina, Gazaduje River, 4°34'56.78" N, 73°20'10.30" W. ICN-MHN 25064, 5, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25074, 2, Cundinamarca-Medina, Quebrada La Colorada, Gazaduje River, 04°34'49.6" N, 73°19'48.6" W. ICN-MHN 25094, 9, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25104, 1, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25124, 3, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 04°27'10.8" N, 73°19'31.5" W. ICN-MHN 25137, 2, Cundinamarca-Medina, Gazaduje River, 4°35'07.1" N, 73°20'33.2" W. ICN-MHN 25148, 19, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25164, 1, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25177, 4, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25190, 2, Cundinamarca-Medina, Gazaguán River, 4°31'35.3" N, 73°21'57.9" W. ICN-MHN 25202, 2, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Number of scales above the lateral line at the midbody 11–12; number of caudal-fin rays 10–16; number of anal-fin rays 145–165 (De Santana & Vari, 2010).

Family **Sternopygidae**
Sternopygus macrurus (Bloch & Schneider, 1801)
 Fig. 4C

MATERIAL EXAMINED. Colombia. ICN-MHN 24904, 1, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4° 27' 1.19" N, 73° 19' 21.15" W.

IDENTIFICATION. Body compressed and very elongated; the margin of the orbit is free, not fused to the surrounding skin. Coloration varies from gray to dark brown with a darker spot located behind the head; a narrow white band located below the lateral line, extending from midbody to the end of the anal-fin (Urbano-Bonilla *et al.*, 2018). Gill openings large and S-shaped; pectoral-fin rays 15; all anal rays are simple (Sanabria *et al.*, 2007).

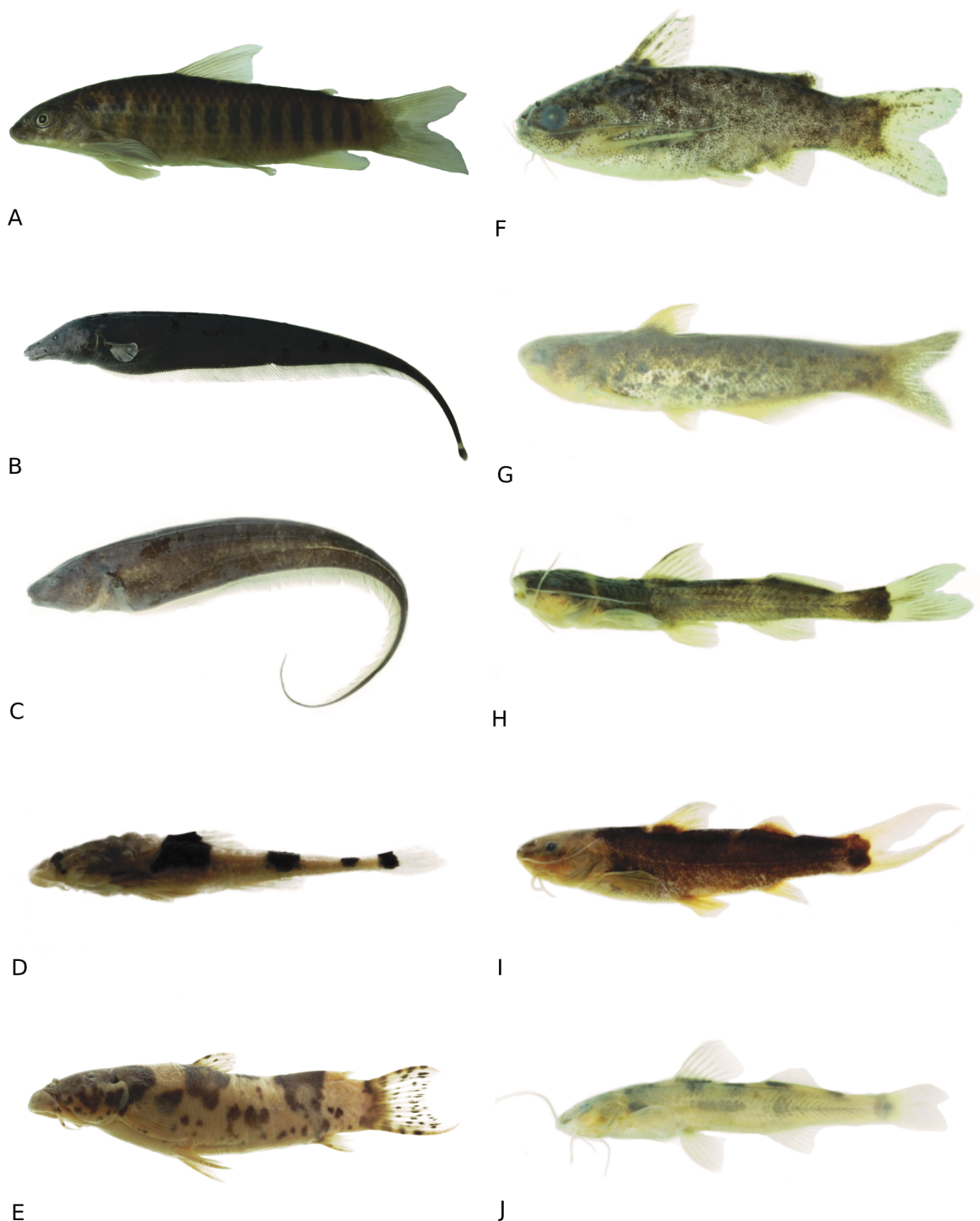


Fig. 4. Representative freshwater fish specimens from the Batá and Humea sub-basins. The standard length of the photographed specimen follows the species name: **A.** ICN-MHN 24893 *Parodon apolinaris* 68.9 mm. **B.** ICN-MHN 24894 *Apteronotus galvisi* 125.9 mm. **C.** ICN-MHN 24904 *Sternopygus macrurus* 200.2 mm. **D.** ICN-MHN 24998 *Hoplomizon sexapapilostoma* 28.6 mm. **E.** ICN-MHN-24929 *Astroblepus* aff. *latidens* 44.1 mm. **F.** ICN-MHN 24906 *Duringlanis romani* 34.8 mm. **G.** ICN-MHN 24924 *Ceptosis orinoco* 60.5 mm. **H.** ICN-MHN 24995 *Cetopsorhamdia orinoco* 40.2 mm. **I.** ICN-MHN 25408 *Cetopsorhamdia* aff. *picklei* 64.7 mm. **J.** ICN-MHN 25018 *Chasmocranus rosae* 47.8 mm.

Fig. 4. Especímenes representativos de peces de agua dulce de las subcuencas de los ríos Batá y Humea. La longitud estándar del espécimen fotografiado sigue el nombre de la especie: **A.** ICN-MHN 24893 *Parodon apolinaris* 68.9 mm. **B.** ICN-MHN 24894 *Apteronotus galvisi* 125.9 mm. **C.** ICN-MHN 24904 *Sternopygus macrurus* 200.2 mm. **D.** ICN-MHN 24998 *Hoplomizon sexapapilostoma* 28.6 mm. **E.** ICN-MHN-24929 *Astroblepus* aff. *latidens* 44.1 mm. **F.** ICN-MHN 24906 *Duringlanis romani* 34.8 mm. **G.** ICN-MHN 24924 *Ceptosis orinoco* 60.5 mm. **H.** ICN-MHN 24995 *Cetopsorhamdia orinoco* 40.2 mm. **I.** ICN-MHN 25408 *Cetopsorhamdia* aff. *picklei* 64.7 mm. **J.** ICN-MHN 25018 *Chasmocranus rosae* 47.8 mm.

Order **Siluriformes**
 Family **Aspredinidae**
Hoplosternon sexpapilostoma Taphorn & Marrero, 1990
 Fig. 4D

MATERIAL EXAMINED. Colombia. ICN-MHN 24998, 2, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25079, 1, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W.

IDENTIFICATION. Anterior border of the snout slightly emarginate; no barbels at rictus of the mouth; four papillae on upper lip; dorsal fin rays i, 5; ossified lateral line tubules arranged in zigzag pattern up to below the center of the dorsal-fin base, but straight from there back to caudal peduncle; second pelvic ray slightly longer than other pelvic rays (Taphorn & Marrero, 1990).

Family **Astroblepidae**
Astroblepus aff. *latidens* Eigenmann 1918
 Fig. 4E

MATERIAL EXAMINED. Colombia. ICN-MHN 24010, 280, Boyacá-Santa María, Puentes pueblo, 04°51'48,3" N, 73°16'10,4" W. ICN-MHN 24011, 251, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48,3" N, 73°16'10,4" W. ICN-MHN 24012, 200, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48,3" N, 73°16'10,4" W. ICN-MHN 24013, 130, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48,3" N, 73°16'10,4" W. ICN-MHN 24026, 142, Boyacá-Santa María, Sendero Hycá-Quye, Batá River, 04°53'23,7" N, 73°16'35,7" W. ICN-MHN 24027, 59, Boyacá-Santa María, Sendero Hycá-Quye, Batá River, 04°53'23,7" N, 73°16'35,7" W. ICN-MHN 24033, 200, Boyacá-Santa María, Aguas debajo de la presa, Batá River, 04°53'46,1" N, 73°17'28" W. ICN-MHN 24034, 169, Boyacá-Santa María, Aguas debajo de la presa, Batá River, 04°53'46,1" N, 73°17'28" W. ICN-MHN 24035, 150, Boyacá-Santa María, Aguas debajo de la presa, Batá River, 04°53'46,1" N, 73°17'28" W. ICN-MHN 24036, 126, Boyacá-Santa María, Aguas debajo de la presa, Batá River, 04°53'46,1" N, 73°17'28" W. ICN-MHN 24892, 10, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24929, 3, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24950, 8, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24973, 10, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 25015, 3, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25033, 3, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25078, 2, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25102, 5, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25107, 2, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25147, 9, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25155, 7, Cundinamarca-Medina, Gazaunta River, 04°34'20.1" N, 73°22'19.7" W. ICN-MHN 25172, 7, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25211, 3, Cundinamarca-Medina, Caño Busaca, Gazamumo River, 4°30'03.4" N, 73°20'52.5" W.

IDENTIFICATION. Eyes without division; one eye on each side of the body; naked and symmetrical body; smooth skin; separated pelvic-fins; ventral mouth in the shape of a sucking disc; visible adipose fin with one spine (Eigenmann, 1918; Urbano-Bonilla *et al.*, 2021). Identified as *Astroblepus* aff. *latidens* due to the evident spine on the adipose fin; however, a revision is necessary to clarify its taxonomy, as it may represent a new species.

Family **Auchenipteridae**
Duringlanis romani (Mees, 1988)
 Fig. 4F

MATERIAL EXAMINED. Colombia. ICN-MHN 24906, 1, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4° 27' 1.19" N, 73° 19' 21.15" W.

IDENTIFICATION. Dorsal-fin rays i, 5; anal-fin rays i, 6; pectoral-fin rays i, 5; pelvic-fin rays i, 6; anal-fin rays i, 6. The maxillary barbels extend beyond the origin of the pelvic-fin, while the mental barbels are short. It has patches of conical teeth (Soares-Porto, 2000).

Family **Cetopsidae**
Cetopsis orinoco (Schultz, 1944)
 Fig. 4G

MATERIAL EXAMINED. Colombia. ICN-MHN 24924, 2, Cundinamarca-Medina, Gazaguán River, 04°31'32.20" N, 73°21'49.39" W. ICN-MHN 24974, 1, Cundinamarca-Medina, Negro River, Quebrada Jején, Gazaunta River, 04°34'31.75" N, 73°28'67" W. ICN-MHN 24997, 2, Cundinamarca-Medina, Gazaduje River, 04°34'53.16" N, 73°19'51.14" W. ICN-MHN 25012, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25025, 3, Cundinamarca-Medina, Caño Sucio, Humea River, 04°24'21.47" N, 73°19'51.58" W. ICN-MHN 25051, 2, Cundinamarca-Medina, Gazamumo River, 04°26'33.17" N, 73°18'54.62" W. ICN-MHN 25114, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25145, 1, Cundinamarca-Medina, Gazaguán River, 04°31'50.1" N, 73°22'08.5" W.

IDENTIFICATION. Dorsal-fin rays are not sharp. Presence of a dark humeral spot; lack of a pattern of dark pigmentation on the pectoral and pelvic-fins other than for a thin, clear margin; presence of dark pigmentation on the caudal-fin; 23–30 total anal-fin rays (Schultz, 1944; Vari *et al.*, 2005).

Family **Heptateridae**
Cetopsorhamdia orinoco Schultz, 1944
 Fig. 4H

MATERIAL EXAMINED. Colombia. ICN-MHN 24928, 3, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24995, 19, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25011, 2, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25031, 1, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25056, 40, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25070, 1, Cundinamarca-Medina, Gazamumo River, 4°25'35.6" N, 73°18'36.7" W. ICN-MHN 25075, 1, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25109, 7, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25193, 87, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. The body is elongated and cylindrical, with a brown coloration adorned by golden streaks and a pale belly. A faint transverse stripe crosses the head and reaches the base of the pectoral-fins. The bases of the dorsal, adipose, and caudal-fins are dark. Light spots are present at the base of the dorsal fin and on either side of the adipose fin; the latter extends laterally, creating a wide band along the peduncle. All fins are pale, standing out against the darker body color. The pale adipose fin measures approximately ¼ of the standard length. The snout is white, along with the maxillary and chin barbels (Schultz, 1944; Sanabria *et al.*, 2007).

Cetopsorhamdia* aff. *picklei Schultz, 1944
 Fig. 4I

MATERIAL EXAMINED. Colombia. ICN-MHN 25408, 1, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W.

IDENTIFICATION. The first rays of the dorsal and pectoral-fins are not elongated into long filaments. The maxillary barbel does not reach the origin of the anal-fin. Body pigmentation is uniformly dark. The snout is conical and prominently extends beyond the mouth opening. The maxillary barbels do not extend beyond the tip of the pectoral-fins. Both the dorsal and ventral margins at the end of the caudal peduncle display a conspicuous white area. The caudal-fin is pale, forming a strong contrast with the dark coloration at its base (Urbano-Bonilla *et al.*, 2018). This taxon has been reported for Colombia as *Cetopsorhamdia* aff. *picklei* due to its similarity to *C. picklei* from the Lake Maracaibo basin; however, a revision is needed, as it may represent an undescribed species.

Chasmocranus rosae Eigenmann, 1922
 Fig. 4J

MATERIAL EXAMINED. Colombia. ICN-MHN 24890, 3, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24903, 6, Cundinamarca-Medina, Gazaguán River, 4°31'32.60" N, 73°21'38.44" W. ICN-MHN 24931, 4, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24948, 2, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24971, 4, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24988, 7, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN

25018, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25046, 4, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25071, 2, Cundinamarca-Medina, Gazamumo River, 4°25'35.6" N, 73°18'36.7" W. ICN-MHN 25103, 9, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25106, 16, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25119, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25152, 39, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25154, 6, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25181, 5, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25208, 13, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Anal-fin origin at vertical through adipose-fin origin. The adipose fin measures more than one-fourth of the standard length (SL). Six pale bars are present across the dorsum and along the sides of the body (Sanabria *et al.*, 2007; Urbano-Bonilla *et al.*, 2018).

Imparfinis microps Eigenmann & Fisher, 1916
Fig. 5A

MATERIAL EXAMINED. Colombia. ICN-MHN 25081, 1, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25138, 5, Cundinamarca-Medina, Gazaduje River, 4°35'07.1" N, 73°20'33.2" W.

IDENTIFICATION. Mouth very wide; caudal-fin bifurcated with the upper lobe longer than lower lobe and head; short pectoral-fins that reach only half the distance to origin of pelvic-fins; has numerous brown spots that are more abundant on dorsum; seven dorsal-fin rays in total; eight pectoral-fin rays in total and 12 anal-fin rays in total (Eigenmann, 1916; Urbano-Bonilla *et al.*, 2018).

Imparfinis robustus Cortés-Hernández *et al.*, 2023
Fig. 5B

MATERIAL EXAMINED. Colombia. ICN-MHN 24921, 1, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 25036, 1, Cundinamarca-Medina Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25047, 2, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25121, 2, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25212, 1, Cundinamarca-Medina, Caño Busaca, Gazamumo River, 4°30'03.4" N, 73°20'52.5" W.

IDENTIFICATION. The lower lobe of the caudal-fin is darker than the upper lobe; the maxillary barbel reaches or surpasses the pelvic-fin insertion, and presents 12–15 gill rakers on the first gill arch (Cortés-Hernández *et al.*, 2023).

Pimelodella linami Schultz, 1944
Fig. 5C

MATERIAL EXAMINED. Colombia. ICN-MHN 25136, 9, Cundinamarca-Medina, Gazaduje River, 4°35'07.1" N, 73°20'33.2" W.

IDENTIFICATION. The dorsal fin has a gray pigmented interradiation membrane in the middle, with a thin black longitudinal stripe on the sides. More than a third of the inner margin of the pectoral-fin spine is serrated (Eigenmann, 1912; Schultz, 1944).

Pimelodella metae Eigenmann, 1917
Fig. 5D

MATERIAL EXAMINED. Colombia. ICN-MHN 24907, 3, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24993, 1, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25061, 4, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W.

IDENTIFICATION. Maxillary barbels do not extend beyond the origin of the adipose fin. The dorsal fin has a black crossband that includes the interradiation membrane (Eigenmann, 1922; Urbano-Bonilla *et al.*, 2018).

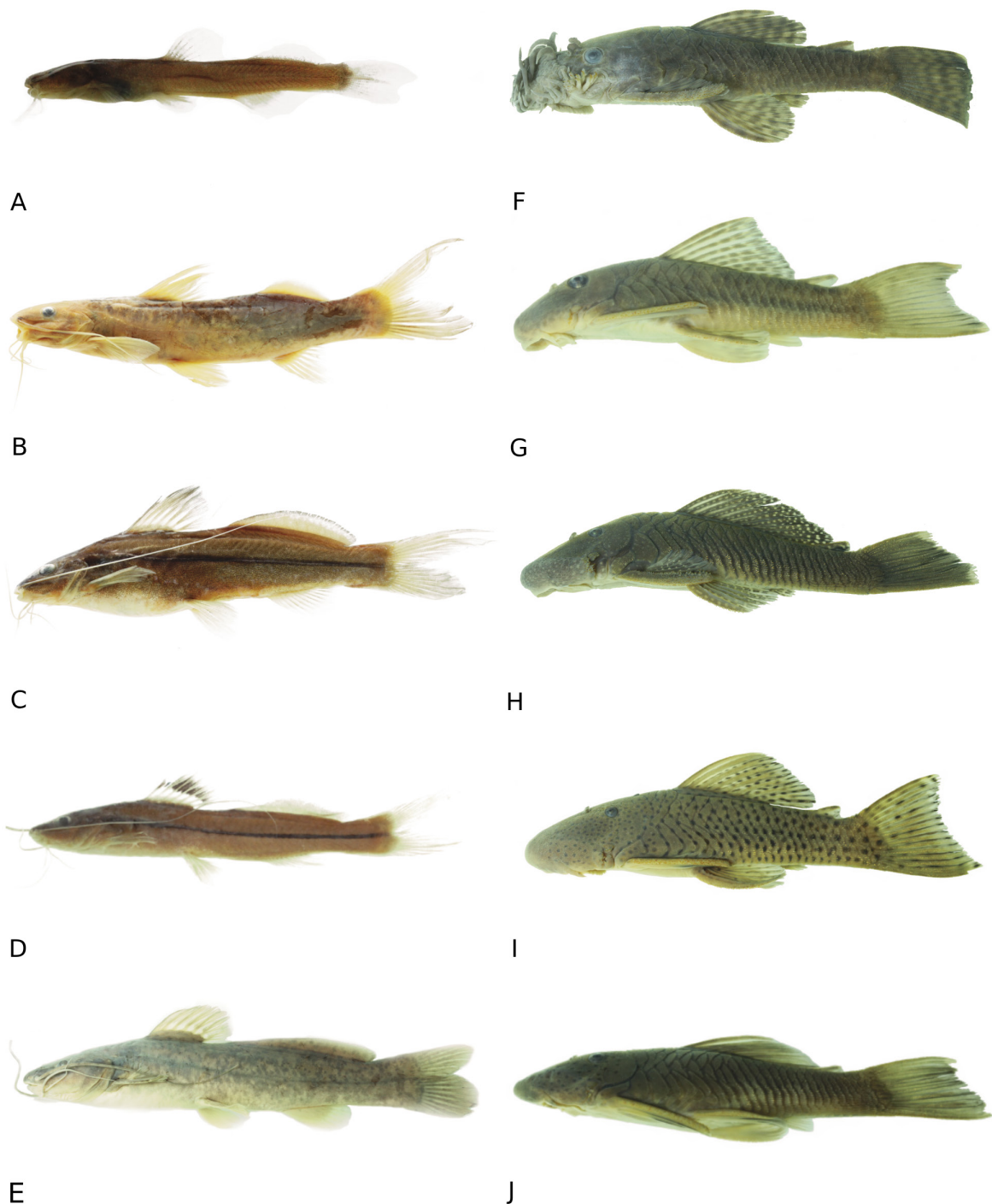


Fig. 5. Representative freshwater fish specimens from the Batá and Humea sub-basins. The standard length of the photographed specimen follows the species name: **A.** ICN-MHN 25081 *Imparfinis microps* 40.8 mm. **B.** ICN-MHN 25047 *Imparfinis robustus* 110.0 mm. **C.** ICN-MHN 25136 *Pimelodella linami* 100.2. **D.** ICN-MHN 24907 *Pimelodella metae* 72.8 mm. **E.** ICN-MHN 24966 *Rhamdia* sp. 148.1 mm. **F.** ICN-MHN 25210 *Ancistrus triradiatus* 77.6 mm. **G.** ICN-MHN 25028 *Chaetostoma chimu* 82.6 mm. **H.** ICN-MHN 24946 *Chaetostoma dorsale* 70.9 mm. **I.** ICN-MHN 25097 *Chaetostoma formosa* 69.9 mm. **J.** ICN-MHN 24926 *Chaetostoma joropo* 312.3 mm.

Fig. 5. Especímenes representativos de peces de agua dulce de las subcuencas de los ríos Batá y Humea. La longitud estándar del espécimen fotografiado sigue el nombre de la especie: **A.** ICN-MHN 25081 *Imparfinis microps* 40.8 mm. **B.** ICN-MHN 25047 *Imparfinis robustus* 110.0 mm. **C.** ICN-MHN 25136 *Pimelodella linami* 100.2 mm. **D.** ICN-MHN 24907 *Pimelodella metae* 72.8 mm. **E.** ICN-MHN 24966 *Rhamdia* sp. 148.1 mm. **F.** ICN-MHN 25210 *Ancistrus triradiatus* 77.6 mm. **G.** ICN-MHN 25028 *Chaetostoma chimu* 82.6 mm. **H.** ICN-MHN 24946 *Chaetostoma dorsale* 70.9 mm. **I.** ICN-MHN 25097 *Chaetostoma formosa* 69.9 mm. **J.** ICN-MHN 24926 *Chaetostoma joropo* 312.3 mm.

***Rhamdia* sp.**

Fig. 5E

MATERIAL EXAMINED. Colombia. ICN-MHN 24878, 3, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24880, 2, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24923, 1, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24942, 1, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24966, 1, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 25008, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25009, 2, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25153, 2, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25160, 1, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W.

IDENTIFICATION. The upper lobe of the caudal-fin is distinctly shorter than the lower lobe; the height of the adipose fin is frequently more than half the depth of the caudal peduncle; the maxillary barbel is long. The head pores are simple. The coloration is variable, with or without a lateral stripe, and with or without a blotched pattern. This specimen has been reported as *Rhamdia quelen* by Barrios-Alonso *et al.* (2025), however this may represent an erroneous identification, as this species has only been reported from Brazil.

Family **Loricariidae*****Ancistrus triradiatus* Eigenmann, 1918**

Fig. 5F

MATERIAL EXAMINED. Colombia. ICN-MHN 24905, 6, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24968, 1, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 25125, 7, Cundinamarca-Medina, Gazaine River, Gazamumo River, 4°27'10.8" N, 73°19'31.5" W. ICN-MHN 25127, 1, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'10.8" N, 73°19'31.5" W. ICN-MHN 25210, 1, Cundinamarca-Medina, Caño Busaca, Gazamumo River, 4°30'03.4" N, 73°20'52.5" W.

IDENTIFICATION. Large light spots or blotches on the dorsal and caudal-fins, the spots on the caudal-fin generally smaller and organized into rows, almost always lacking spots on the abdomen. Some specimens have spots on the abdomen and they are larger than the interspaces. Black spots on the fins and at least faint white spots on the body (De Souza *et al.*, 2019).

***Chaetostoma chimu* Urbano-Bonilla & Ballen, 2021**

Fig. 5G

MATERIAL EXAMINED. Colombia. ICN-MHN 24957, 1, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24994, 1, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25028, 6, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25053, 25, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25067, 21, Cundinamarca-Medina, Gazamumo River, 04°25'35.6" N, 73°18'36.7" W. ICN-MHN 25089, 4, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25093, 7, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25120, 15, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'30.1" N, 73°18'28.4" W. ICN-MHN 25146, 5, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W.

IDENTIFICATION. Curved cheek odontodes, parieto-supraoccipital excrescence, dorsal fin coloration pattern consisting of spots on rays, lacks light dots on head and dorsum. The species lacks vermiculated dark pattern on the head and has elongated branched anal-fin rays in mature males. The distal margin of the pelvic-fins is W-shaped. The caudal peduncle has a light ventral region and vertical irregular bars on the caudal-fin. Finally, the species has a dark spot on the base of the dorsal-fin membrane, between the leading ray and the first unbranched ray (Urbano-Bonilla & Ballen, 2021).

***Chaetostoma dorsale* Eigenmann, 1922**

Fig. 5H

MATERIAL EXAMINED. Colombia. ICN-MHN 24016, 11, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN M24887, 2, Cundinamarca-Medina, Quebrada Jején, Gazaunta

River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24918, 20, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4° 27' 1.19" N, 73° 19' 21.15" W. ICN-MHN 24930, 22, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24946, 77, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73° 22' 7.09" W. ICN-MHN 24969, 27, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24984, 140, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25019, 2, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25027, 31, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25065, 80, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25066, 10, Cundinamarca-Medina, Gazamumo River, 4°25'35.6" N, 73°18'36.7" W. ICN-MHN 25080, 1, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25091, 12, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25100, 1, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25108, 7, Cundinamarca-Medina, Negro River, Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25131, 9, Cundinamarca-Medina, Gazaine River, Gazamumo River, 4°27'10.8" N, 73°19'31.5" W. ICN-MHN 25143, 74, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W. ICN-MHN 25156, 2, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25166, 39, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25179, 13, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25188, 11, Cundinamarca-Medina, Gazaguán River, 4°31'35.3" N, 73°21'57.9" W. ICN-MHN 25197, 158, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Snout naked and odontodes of the cheeks straight; light spots sometimes present on head, body, pectoral and pelvic-fins, dorsal fin always with light spots (Urbano-Bonilla *et al.*, 2018).

***Chaetostoma formosae* Ballen, 2011**

Fig. 5I

MATERIAL EXAMINED. Colombia. CN-MHN 24919, 6, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 25013, 10, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25040, 11, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W; ICN-MHN 25054, 19, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25097, 3, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25128, 7, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 04°27'10.8" N, 73°19'31.5" W.

IDENTIFICATION. Odontodes of the snout curved. Spots present only on the head and area surrounding dorsal-fin base; dorsal, pectoral, pelvic and anal-fins with dark bands. Long anal-fin in mature males (second radius not branched), dorsal with longitudinal lines on each radius elongated (Ballen, 2011).

***Chaetostoma joropo* Ballen, Urbano-Bonilla & Maldonado-Ocampo, 2016**

Fig. 5J

MATERIAL EXAMINED. Colombia. ICN-MHN 24926, 11, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24986, 1, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25029, 5, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25144, 5, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W.

IDENTIFICATION. Dark spots on head and body, as well as on dorsal, pectoral and pelvic-fins, presence of recurved cheek odontodes and a parieto-supraoccipital excrescence. The species has a naked snout (Ballen *et al.*, 2016).

***Dolichancistrus cobrensis* (Schultz, 1944)**

Fig. 6A

MATERIAL EXAMINED. Colombia. ICN-MHN 24029, 723, Boyacá - Santa María, Sendero Hycá-Quye, Batá River, 04°53'23.7" N, 73°16'35.7" W. ICN-MHN 24039, 600, Boyacá-Santa María, Aguas debajo de la presa, Batá River, 04°53'46.1" N, 73°17'28" W. ICN-MHN 24040, 525, Boyacá - Santa María, Aguas debajo de la presa, Batá River, 04°53'46.1" N, 73°17'28" W. ICN-MHN 24885, 41, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24896, 4, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24975, 22, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73° 22' 28.67" W. ICN-MHN 25111, 7, Cundinamarca-Medina, Negro River,

Quebrada Algodones, Gazaduje River, 4°39'31" N, 73°22'29" W. ICN-MHN 25139, 1, Cundinamarca-Medina, Gazaduje River, 4°35'07.1" N, 73° 20' 33.2" W. ICN-MHN 25159, 2, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25178, 29, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25375, 9, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W.

IDENTIFICATION. Buccal papilla absent at premaxillary symphysis; hypertrophied snout odontodes in mature males and females either restricted to anterolateral regions of snout margin, or weakly developed on narrow anterior region of snout in addition to anterolateral odontode patch present in some specimens (Schultz, 1944; Ballen & Vari, 2012).

***Dolichancistrus fuesslii* (Steindachner, 1911)**

Fig. 6B

MATERIAL EXAMINED. Colombia. ICN-MHN 24021, 483, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN 24944, 1, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 25055, 3, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W.

IDENTIFICATION. Oval and armored body with adipose fin. Pectoral-fin spine without posterior serrate, while the distal margin of the pelvic-fin is W-shaped (Urbano-Bonilla *et al.*, 2018). Anterior margin of posterior dorsal cheek plate in medial contact with the anterior margin of the exposed portion of the opercle. A buccal papilla is present at the premaxillary symphysis. Hypertrophied snout odontodes in mature males extend along the entire margin of the snout, and sometimes also onto the medial region of the head, from the tip of the snout to the nares (Steindachner, 1911; Ballen & Vari, 2012).

***Farlowella mariaelenae* Martín Salazar, 1964**

Fig. 6C

MATERIAL EXAMINED. Colombia. ICN-MHN 24917, 8, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24927, 2, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24953, 1, Cundinamarca-Medina, Caño Choapal, Gazaunta River, 4°34'8.84" N, 73°22'7.09" W. ICN-MHN 24960, 1, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 24996, 17, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25024, 2, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25096, 3, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25150, 19, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W.

IDENTIFICATION. Tail strongly depressed with the dorsal-fin insertion in front of the anal-fin insertion (Urbano-Bonilla *et al.*, 2018). Four rows of anterior lateral plates with three complete rows of plates on the abdomen and a median row of anterior lateral plates diamond-shaped. The species lack breeding odontodes on the side of the head (Martín Salazar, 1964; Ballen & Mojica, 2014).

***Farlowella vittata* Myers, 1942**

Fig. 6D

MATERIAL EXAMINED. Colombia. ICN-MHN 25084, 17, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25090, 12, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25130, 6, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'10.8" N, 73°19'31.5" W. ICN-MHN 25162, 2, Cundinamarca-Medina, Gazaunta River, 4°34'20.1" N, 73°22'19.7" W. ICN-MHN 25170, 1, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W. ICN-MHN 25187, 1, Cundinamarca-Medina, Gazaguán River, 4°31'35.3" N, 73°21'57.9" W. ICN-MHN 25196, 2, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Tail strongly depressed with the dorsal-fin insertion in front of the anal-fin insertion (Urbano-Bonilla *et al.*, 2018). Four rows of anterior lateral plates with two complete rows of plates on the abdomen. The anterior plates are arranged in a median row and are hexagonal shaped. The head is nearly flat with no dark vermiculations on the head or snout. Eyes are set at the level of the dorsal surface of the head, with the lateral margins of snout considerably concave. Finally, there are not breeding odontodes on the preorbital ridge (Myers, 1942; Ballen & Mojica, 2014).

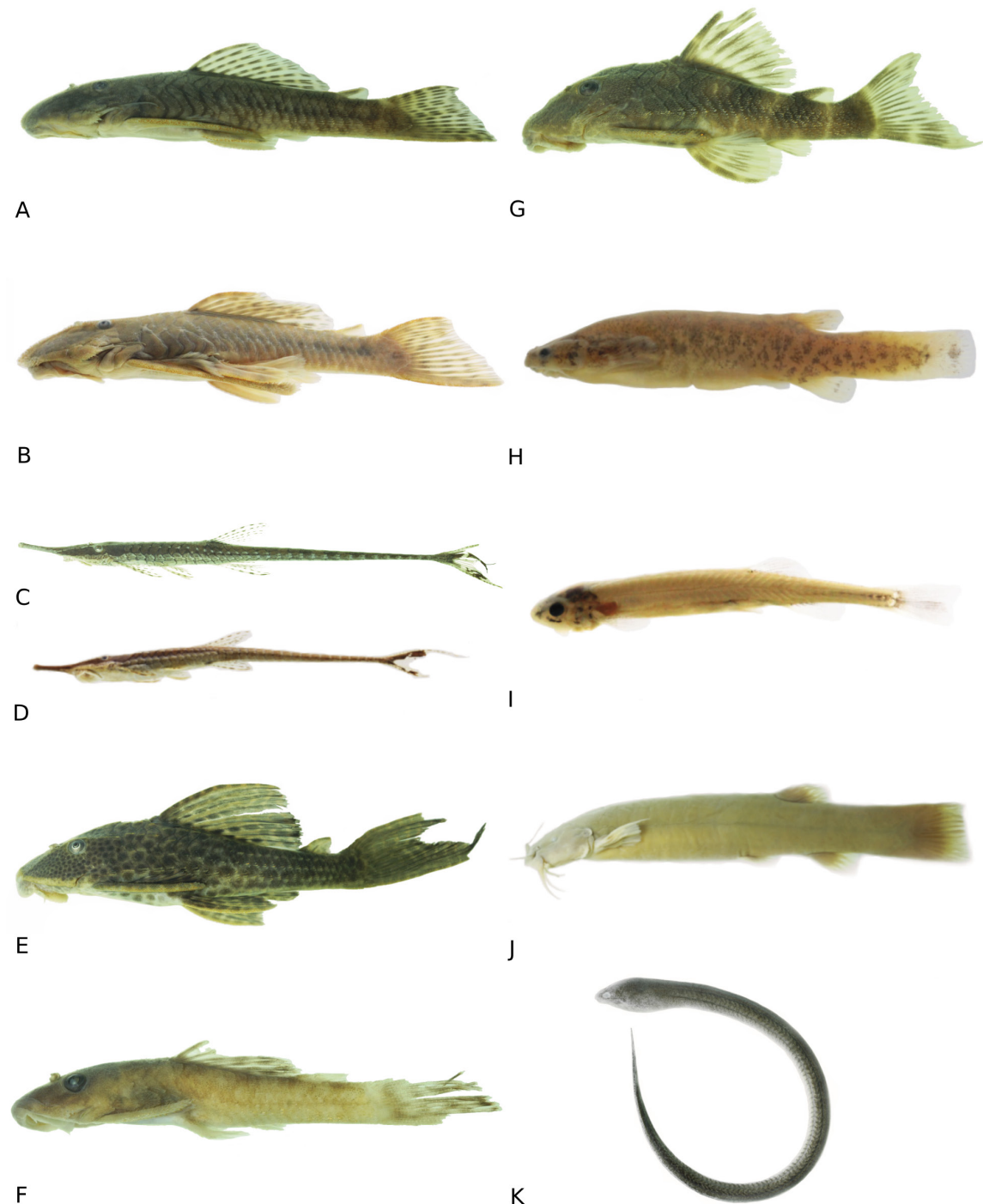


Fig. 6. Representative freshwater fish specimens from the Batá and Humea sub-basins. The standard length of the photographed specimen follows the species name: **A.** ICN-MHN 24885 *Dolichancistrus cobrensis* 77.4 mm. **B.** ICN-MHN 24944 *Dolichancistrus fuesslii* 95.7 mm. **C.** ICN-MHN 25096 *Farlowella mariaelenae* 130.0 mm. **D.** ICN-MHN 25170 *Farlowella vitatta* 100.1 mm. **E.** ICN-MHN 25050 *Hypostomus niceforoi* 90.9 mm. **F.** ICN-MHN 25086 *Lasiancistrus tentaculatus* 30.9 mm. **G.** ICN-MHN 24989 *Peckoltia lujani* 44.8 mm. **H.** ICN-MHN 25194 *Omachantus alternus* 36.0 mm. **I.** ICN-MHN 25068 *Schultzichthys bondi* 18.9 mm. **J.** ICN-MHN 24932 *Trichomycterus* sp. 362.4 mm. **K.** ICN-MHN 25174 *Symbrachus marmoratus* 192.4 mm.

Fig. 6. Especímenes representativos de peces de agua dulce de las subcuencas de los ríos Batá y Humea. La longitud estándar del espécimen fotografiado sigue el nombre de la especie: **A.** ICN-MHN 24885 *Dolichancistrus cobrensis* 77.4 mm. **B.** ICN-MHN 24944 *Dolichancistrus fuesslii* 95.7 mm. **C.** ICN-MHN 25096 *Farlowella mariaelenae* 130.0 mm. **D.** ICN-MHN 25170 *Farlowella vitatta* 100.1 mm. **E.** ICN-MHN 25050 *Hypostomus niceforoi* 90.9 mm. **F.** ICN-MHN 25086 *Lasiancistrus tentaculatus* 30.9 mm. **G.** ICN-MHN 24989 *Peckoltia lujani* 44.8 mm. **H.** ICN-MHN 25194 *Omachantus alternus* 36.0 mm. **I.** ICN-MHN 25068 *Schultzichthys bondi* 18.9 mm. **J.** ICN-MHN 24932 *Trichomycterus* sp. 362.4 mm. **K.** ICN-MHN 25174 *Symbrachus marmoratus* 192.4 mm.

***Hypostomus niceforoi* (Fowler, 1943)**

Fig. 6E

MATERIAL EXAMINED. Colombia. ICN-MHN 24901, 9, Cundinamarca-Medina, Gazaguán River, 4°31'32.60" N, 73°21'38.44" W. ICN-MHN 25014, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'20.92" N, 73°18'13.96" W. ICN-MHN 25050, 1, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W. ICN-MHN 25082, 4, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25142, 5, Cundinamarca-Medina, Gazaguán River, 4°31'50.1" N, 73°22'08.5" W.

IDENTIFICATION. Five series of lateral plates on the caudal peduncle, fewer than 11 branched dorsal-fin rays, a single medial buccal papilla, more than 60 villiform teeth, and a pattern of dark spots on the body, fins, and abdomen (Fowler, 1943; Urbano-Bonilla *et al.*, 2018).

***Lasiancistrus tentaculatus* Armbruster, 2005**

Fig. 6F

MATERIAL EXAMINED. Colombia. ICN-MHN 25086, 2, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W. ICN-MHN 25122, 1, Cundinamarca-Medina, Caño Choapal, Humea River, 4°24'30.1" N, 73°18'28.4" W.

IDENTIFICATION. Body strongly compressed dorsoventrally and moderately wide, with the supraorbital ridge almost absent and the interorbital space slightly concave. All plates are slightly convex medially, so the species does not have keels. With 23–25 plates in the median series and mid-dorsal and mid-ventral plate rows incomplete, ending below the adipose fin. Nuptial males present small tentacles on the snout, larger than the supporting odontodes. Dorsal-fin with straight edge and not reaching the preadipose plate when depressed. Pectoral-fin spine reaches the insertion of the pelvic-fin when depressed, whereas the pelvic-fin reaches the posterior end of anal-fin when depressed (Armbruster, 2005).

***Peckoltia lujani* Armbruster, Werneke & Tan, 2015**

Fig. 6G

MATERIAL EXAMINED. Colombia. ICN-MHN 24915, 1, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 24989, 2, Cundinamarca-Medina, Gazaduje River, 4°34'53.16" N, 73°19'51.14" W. ICN-MHN 25032, 9, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25076, 7, Cundinamarca-Medina, Gazaduje River, 4°35'03.4" N, 73°20'03.9" W.

IDENTIFICATION. Body moderately elongated, with the head and nape forming an arc from the tip of the snout to the parieto-supraoccipital region. Eyes moderately sized and well developed, with the dorsal rim of the orbit forming a moderate crest, reaching the nares as a low and rounded ridge. Infraorbitals, frontal, nasal, compound pterotic, and parieto-supraoccipital supporting odontodes, with the preopercle not supporting odontodes. Opercle is generally covered by plates and not supporting odontodes. The lips are covered with a short and wide papilla, being wider the lower lip. Finally, the maxillary barbel is the only present. The median plates are 25–27, unkeeled and present on all dorsolateral surfaces of the body, except the naked area at snout tip; in ventral view, the abdomen is largely naked, posterior to the pectoral girdle (Armbruster *et al.*, 2015).

Family Trichomycteridae***Ochmacanthus alternus* Myers, 1927**

Fig. 6H

MATERIAL EXAMINED. Colombia. ICN-MHN 24920, 1, Cundinamarca-Medina, Caño Gazaine, Gazamumo River, 4°27'1.19" N, 73°19'21.15" W. ICN-MHN 25026, 1, Cundinamarca-Medina, Caño Sucio, Humea River, 4°24'21.47" N, 73°19'51.58" W. ICN-MHN 25194, 2, Cundinamarca-Medina, Gazamumo River, 4°26'43.8" N, 73°19'08.1" W.

IDENTIFICATION. Body elongated and naked, without nasal barbel and two pairs of short maxillary barbels, mouth in ventral position with the lower jaw rami medially articulated (Van der Sleen & Albert, 2018). Caudal peduncle with numerous procurent caudal-fin rays, embedded in continuous membranes with the caudal-fin, which is rounded or truncated (Myers, 1927; Urbano-Bonilla *et al.*, 2018).

***Schultzichthys bondi* (Myers, 1942)**

Fig. 6I

MATERIAL EXAMINED. Colombia. ICN-MHN 25068, 1, Cundinamarca-Medina, Gazamumo River, 04°25'35.6" N, 73°18'36.7" W.

IDENTIFICATION. Body elongated and naked, without nasal barbel and two pairs of short maxillary barbels (Van der Sleen & Albert, 2018). Presents a deep suborbital groove that separates the upper lip from the rest of the head. The caudal peduncle has some procurent caudal-fin rays, restricted to the origin of the fin, lacking wide dorsal and ventral membranes continuous with the caudal-fin, which is emarginate (Myers, 1942; Urbano-Bonilla *et al.*, 2018).

***Trichomycterus* sp.**

Fig. 6J

MATERIAL EXAMINED. Colombia. ICN-MHN 24025, 1, Boyacá-Santa María, Puentes pueblo, Batá River, 04°51'48.3" N, 73°16'10.4" W. ICN-MHN 24032, 2, Boyacá-Santa María, Sendero Hyca-Quye, Batá River, 04°53'23.7" N, 73°16'35.7" W. ICN-MHN 24042, 1, Boyacá-Santa María, Aguas debajo de la presa, Batá River, 04°53'46.1" N, 73°17'28" W. ICN-MHN 24879, 3, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.10" N, 73°22'30.26" W. ICN-MHN 24932, 1, Cundinamarca-Medina, Gazaguán River, 4°31'32.20" N, 73°21'49.39" W. ICN-MHN 24963, 2, Cundinamarca-Medina, Quebrada Jején, Gazaunta River, 4°34'31.75" N, 73°22'28.67" W. ICN-MHN 25060, 5, Cundinamarca-Medina, Gazamumo River, 4°26'33.17" N, 73°18'54.62" W.

IDENTIFICATION. Branched pectoral-fin rays 7–8, rarely 9, a single median epiphyseal pore, rarely two asymmetrical pores. This specimen has been reported as *Trichomycterus knerii* by Barrios-Alonso *et al.* (2025), however this may represent an erroneous identification. A taxonomic revision is needed, as it may represent an undescribed species.

***Synbranchus marmoratus* Bloch, 1795**

Fig. 6K

MATERIAL EXAMINED. Colombia. ICN-MHN 25174, 1, Cundinamarca-Medina, Caño Jején, Gazaunta River, 4°34'41.9" N, 73°22'41.4" W.

IDENTIFICATION. Naked, cylindrical and elongated body with a pattern of dots and small spots. Specimens have no pectoral or pelvic-fins, while the dorsal and anal-fins are vestigial or absent. Finally, the species presents one ventral gill opening under the head (Urbano-Bonilla *et al.*, 2018).

Discussion

This study represents an updated assessment of the ichthyofauna of the Humea and Batá sub-basins, located in the Piedemonte Llanero region across the departments of Cundinamarca and Boyacá (NE Colombia). We report a total of 51 taxa, representing approximately 6.6% of the total fish diversity of the Orinoco Basin (DoNascimento *et al.*, 2024).

Our results show that the fish assemblages are dominated by Characiformes and Siluriformes, which together account for 90% of the recorded species. This pattern is consistent with previous findings from other Colombian Orinoco sub-basins (Urbano-Bonilla *et al.*, 2009, 2014, 2018; Ramírez-Gil *et al.*, 2011, 2023; Villa-Navarro *et al.*, 2011; Maldonado-Ocampo *et al.*, 2013; Usma-Oviedo *et al.*, 2016; Zamudio *et al.*, 2017; Cortés-Hernández *et al.*, 2023; Barrios-Alonso *et al.*, 2025). The dominance of Characiformes and Siluriformes likely reflects their ecological versatility and broad adaptive capacities to varying environmental conditions. In contrast, less diverse groups in the study area, such as Gymnotiformes, may be restricted by ecological factors such as specialization to more specific habitats (Albert & Reis, 2011). In particular, the observed species composition is similar to that reported by Barrios-Alonso *et al.* (2025) for the Batá River, though some differences were evident—for instance, the absence of *Knodus alpha* and *K. cismontanus* in our samples despite broader spatial coverage.

We also found several species shared between the Humea and Batá sub-basins, suggesting a history of hydrological connectivity and potential gene flow across systems. The presence of rheophilic genera such as *Dolichancistrus*, *Chaetostoma*, and *Astroblepus* indicates the existence of fast-flowing streams with rocky

substrates across both sub-basins. These findings emphasize the importance of river connectivity in shaping fish diversity and highlight the need to incorporate hydrological networks in regional biogeographic and conservation assessments.

Taxonomic uncertainty posed a key limitation in this study, especially for species-rich and morphologically variable groups such as Characidae, Crenuchidae, Heptapteridae, Loricariidae, and Trichomycteridae. A notable example is *Astroblepus* aff. *latidens*, which identification was based on the presence of a spine in the adipose fin, although the genus is characterized by considerable morphological plasticity. The lack of clear diagnostic features underscores the urgent need for integrative taxonomic revisions, incorporating molecular and phylogenetic data, to clarify species boundaries. We encountered similar challenges in the identification of specimens from genera such as *Ceratobranchia*, *Cetopsorhamdia*, *Characidium*, *Rhamdia*, *Trichomycterus*, and *Knodus*, which may correspond to undescribed species. These difficulties are consistent with prior reports from other Orinoco sub-basins, highlighting the need for detailed taxonomic work (Urbano-Bonilla *et al.*, 2018; Cortés-Hernández *et al.*, 2023; Ramírez-Gil *et al.*, 2023).

The Orinoco River Drainage has been increasingly affected by anthropogenic disturbances, including habitat fragmentation, mining, and land-use change (Anderson & Maldonado-Ocampo, 2011; Lasso *et al.*, 2016). These activities alter aquatic habitats, leading to reduced habitat heterogeneity and declines in functional and taxonomic diversity (Cassatti *et al.*, 2012; Ferreira *et al.*, 2018; Zeni *et al.*, 2019). Since our data were collected up to seven years ago, current fish communities may differ slightly in composition or structure. This highlights the necessity of long-term monitoring to assess community dynamics and track the impacts of environmental degradation over time.

Among the species recorded, six are currently listed as threatened (Table 1), including *Dolichancistrus cobrensis*, which was notably abundant in our samples (1963 specimens captured). Despite these relatively high numbers, it is important to note that population declines of this and other threatened species have been linked to climate change and human pressures in vulnerable ecosystems like the Andean piedmont (Machado-Allison *et al.*, 2010; IUCN, 2024). Monitoring these populations is essential to detect early signs of decline and to design timely conservation actions.

Historically, introduced species had not been reported in this region (Urbano-Bonilla *et al.*, 2009, 2018; Ramírez-Gil *et al.*, 2011; Maldonado-Ocampo *et al.*, 2013; Zamudio *et al.*, 2017; Zamudio & Maldonado-Ocampo, 2021). However, our study, along with Ramírez-Gil *et al.* (2023) and Barrios-Alonso *et al.* (2025), provides one of the first confirmed records of *Poecilia caucana* in the region. Interestingly, although this species was collected as early as 2014 (Ramírez-Gil *et al.*, 2023) and 2017 (this study), it had not been formally reported until recently. The likely aquarium-trade-mediated introduction of *P. caucana* exemplifies the growing influence of human-mediated species dispersal on native fish communities. As a non-native species, *P. caucana* could compete with native taxa, alter ecological interactions, and contribute to biodiversity loss in already stressed habitats (Warburton & Madden, 2003; Schumann *et al.*, 2015). Understanding the life history traits of *P. caucana* populations and maintaining systematic surveys within the basin will be crucial for managing its impact and safeguarding the ecological integrity of piedmont river systems.

Overall, this study offers valuable information on fish diversity in the transition zone between the Andes and the Orinoco lowlands. It highlights the importance of regular biodiversity assessments in small tributary systems, especially in regions where anthropogenic pressures are rapidly transforming ecosystems (Machado-Allison *et al.*, 2010; Anderson & Maldonado-Ocampo, 2011; Lasso *et al.*, 2016). Our findings stress the importance of strengthening collaborations between academic institutions and conservation agencies, and of investing in taxonomic research and training to improve species-level assessments. Accurate and updated taxonomic knowledge will be essential for understanding biodiversity patterns and designing effective conservation strategies.

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Declaration of competing interest

The authors declare that there are no conflicts of interest.

Author contributions statement

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Nelson Falcón-Espitia: Conceptualization, Data curation, Formal analysis, Investigation, Validation, Visualization, Writing – original draft, Writing – review & editing.

Yadit Sofia Riaño: Conceptualization, Data curation, Investigation, Validation, Visualization, Writing – original draft.

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Appendix 1. Sampled localities in the Gazaguán, Gazamuzo, Gazaunta, Gazaduje, Humea and Batá rivers. See also Figure 1 on the main text.

Apéndice 1. Localidades muestreadas en los ríos Gazaguán, Gazamuzo, Gazaunta, Gazaduje, Humea and Batá rivers. Ver también la Figura 1 en el texto principal.

Locality	River	Sub-Basin	Department	Latitude	Longitude	Altitude (m a.s.l.)
Aguas debajo de la presa	Batá	Batá	Boyacá	4.896	-73.291	1954
Aguas debajo de la presa	Batá	Batá	Boyacá	4.896	-73.290	1954
Aguas debajo de la presa	Batá	Batá	Boyacá	4.895	-73.288	1954
Aguas debajo de la presa	Batá	Batá	Boyacá	4.895	-73.287	1954
Sendero Hycá-Quye	Batá	Batá	Boyacá	4.890	-73.277	1816
Sendero Hycá-Quye	Batá	Batá	Boyacá	4.888	-73.274	1357
Sendero Hycá-Quye	Batá	Batá	Boyacá	4.891	-73.277	1816
Sendero Hycá-Quye	Batá	Batá	Boyacá	4.887	-73.273	1357
Aguas debajo de la presa	Batá	Batá	Boyacá	4.893	-73.283	1954
Aguas debajo de la presa	Batá	Batá	Boyacá	4.893	-73.284	1954
Aguas debajo de la presa	Batá	Batá	Boyacá	4.893	-73.282	1954
Aguas debajo de la presa	Batá	Batá	Boyacá	4.892	-73.282	1816
Puentes Pueblo	Batá	Batá	Boyacá	4.863	-73.270	1042
Quebrada La Colorada	Gazaduje	Humea	Cundinamarca	4.580	-73.330	548
Gazaduje River	Gazaduje	Humea	Cundinamarca	4.584	-73.334	548
Negro River, Quebrada Algodones	Gazaduje	Humea	Cundinamarca	4.659	-73.375	1528
Caño Choapal	Humea	Humea	Cundinamarca	4.408	-73.308	451
Caño Gazaine	Gazamuzo	Humea	Cundinamarca	4.453	-73.325	357
RQ1	Gazaduje	Humea	Cundinamarca	4.585	-73.343	601
Gazaguán River	Gazaguán	Humea	Cundinamarca	4.531	-73.369	666
RQ2	Gazaunta	Humea	Cundinamarca	4.572	-73.372	729
Caño Jején	Gazaunta	Humea	Cundinamarca	4.578	-73.378	729
Gazaguán River	Gazaguán	Humea	Cundinamarca	4.527	-73.366	666
Gazamuzo River	Gazamuzo	Humea	Cundinamarca	4.446	-73.319	357
Caño Busaca	Gazamuzo	Humea	Cundinamarca	4.501	-73.348	541
Gazatavena River	Gazamuzo	Humea	Cundinamarca	4.427	-73.312	416
Gazaguán River	Gazaguán	Humea	Cundinamarca	4.526	-73.361	546
Gazaguan River	Gazaguán	Humea	Cundinamarca	4.526	-73.364	666
Caño Choapal	Gazaunta	Humea	Cundinamarca	4.569	-73.369	729
Quebrada Jején	Gazaunta	Humea	Cundinamarca	4.576	-73.375	729
Quebrada La Colorada	Gazaduje	Humea	Cundinamarca	4.577	-73.327	548
Gazaduje River	Gazaduje	Humea	Cundinamarca	4.581	-73.331	548
Caño Choapal	Humea	Humea	Cundinamarca	4.406	-73.304	451
Caño Sucio	Humea	Humea	Cundinamarca	4.406	-73.331	452

Afluente Gazaduje	Gazaduje	Humea	Cundinamarca	4.582	-73.336	548
Caño Jején	Gazaunta	Humea	Cundinamarca	4.575	-73.375	729
Caño Gazaine	Gazamumo	Humea	Cundinamarca	4.450	-73.323	357
Gazamumo	Gazamumo	Humea	Cundinamarca	4.443	-73.315	357
Gazamumo	Gazamumo	Humea	Cundinamarca	4.430	-73.320	357

RQ1, RQ2 are designations given to unnamed streams.