

A new species of *Acestrocephalus* (Characiformes: Characidae) from Venezuela

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Abstract: A new species of *Acestrocephalus* is described from 60 specimens collected in the Río Orinoco and Río Negro drainages, Venezuela. This species is distinguished from all other *Acestrocephalus* by the combination of the following characters: anal rays, 29-36; 63-71 perforated scales on the lateral line; 10-12 scales above and 9-12 below the lateral line; 39-52 teeth on the maxillary; 9-12 premaxillary teeth; 8-12 teeth in the inner row on the dentary; 5-7 gill rakers on the lower part of the first gill arch; humeral, peduncular and caudal blotch absent.

Key words: Characiformes, Characidae, *Acestrocephalus*, new species, Río Orinoco, Río Negro, Venezuela.

The genus *Acestrocephalus* Eigenmann, 1919 is represented by three species: *A. anomalus* (Steindachner, 1879) (restricted to the Magdalena Basin), *A. sardina* (Fowler, 1913) and *A. boehlkei* (Menezes, 1977) (both distributed in the Amazon Basin). Some authors (e. g. Géry, 1977) consider *Acestrocephalus* as a subgenus of the genus *Cynopotamus* Valenciennes, 1849. Menezes (1976) established the subfamily Cynopotaminae and elevated *Acestrocephalus* to generic status.

Ciencias Naturales de la UNELLEZ en Guanare, Guanare, Estado Portuguesa; MHNLS, Museo de Historia Natural La Salle, Caracas, Venezuela. Morphometric and meristic data for *Acestrocephalus anomalus*, *A. boehlkei* and *A. sardina* are from Menezes (1976, 1977). Data for the Apure drainage population identified as *A. afboehlkei* are from Taphorn (1992) and were reconfirmed using specimens from MCNG and MHNLS.

Acestrocephalus ginesi, sp. nov.
(Figs. 1-2, Table 1-2)

MATERIAL AND METHODS

Counts and measurements follow Menezes (1976, 1977). Procedures for preparing cleared and stained material follow Taylor (1967). Museum abbreviations: MCNG, Museo de

Material examined - Holotype. MCNG 3468i (74.4 mm SL). Venezuela, Apure State, Río Cinaruco, playa en frente de Laguna Larga, Distrito Muñoz (06° 33' 45" N - 67° 24' W). Collected 4 April 1997, D. Jepsen and D.

Rodriguez. Paratypes. MCNG 37820, 14 ex. (51.4 - 79.6 mm SL). Same data as holotype. MCNG 17956, 2 ex. (73.9 - 76.3 mm SL). Venezuela, Apure State, Río Cinaruco, cerca de la desembocadura con el Río Orinoco (aprox. 06° 41' N - 67° 06' W). Collected 31 December 1986, D.C. Taphorn. MCNG 37821 (55 mm SL, cleared and stained). Same data as MCNG 17956. MHNLS 12762 (52.3 mm SL). Same data as MCNG 17956. MCNG 18029, 4 ex. (51.4 - 53.8 mm SL). Venezuela, Apure State, Río Cinaruco, Hacienda El Cocal, Paso de la Chalana (6° 35' 30" N - 67° 14" W). Collected 30 December 1986, D. C. Taphorn, B. Stergios and P. Stergios. MCNG 23305, 5 ex. (76.9 - 121.8 mm SL). Venezuela, Amazonas State, Río Guainía en Maroa, Departamento de Casiquiare (2° 44' 0" N - 67° 34' W). Collected 9 August 1989, L. Hoigne and D. C. Taphorn. MCNG 37822, 6 ex. (85.4 - 109.4 mm SL). Venezuela, Amazonas State, Río Sipapo a 150 m arriba del Salto Remo, Departamento Atures (4° 34' 28" N - 67° 17' W). Collected 29 May 1989, L. Nico and E. Guayamare. MCNG 12098, 5 ex. (66.5 -

100.7 mm SL). Venezuela, Amazonas State, Río Negro, San Carlos de Río Negro, Departamento de Río Negro (1° 55' 0" N - 67° 04' W). Collected 12 April 1985, L. Nico. MCNG 26048, 3 ex. (59.9 - 73.7 mm SL). Venezuela, Amazonas State, Río Siapa a 176 km aguas arriba de la desembocadura con el Caño Casiquiare, Departamento de Casiquiare (1° 25' 0" N - 65° 41' W). Collected 17 April 1991, A. Barbarino & D. Morillo. MHNLS 12807, 3 ex. (73.4 - 83.7 mm SL). Same data as MCNG 26048. MCNG 37823, 5 ex. (65.7 - 90.3 mm SL). Venezuela, Amazonas State, Río Orinoco, playas Isla Trucoapure. Collected 13 February 1991, L. Nico & J. Castillo. MCNG 37825, 5 ex. (57.3 - 94.2 mm SL). Venezuela, Amazonas State, Río Orinoco, debajo de la Comunidad Cariche (3° 2' 00" N - 66° 25' W). Collected 20 January 1991, L. Nico & G. Aragua. MCNG 37824, 5 ex. (61.4 - 88.2 mm SL). Venezuela, Amazonas State, Río Orinoco, Isla Tigre, entre Macuruco y Guachapana, Departamento Atabapo (3° 55' 00" N - 67° 0' W). Collected 20 February 1991, L. Nico & F. Morillo.

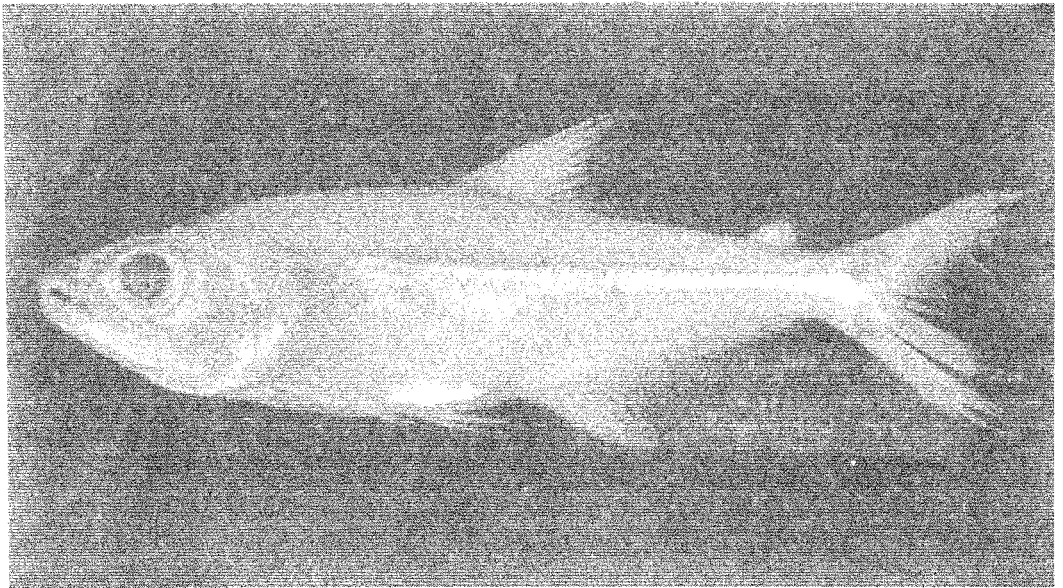


Fig. 1. *Acestrocephalus ginesi*, holotype, 74.4 mm SL, MCNG 34681.

Etymology. This species is named in honor of Hermano Ginés president of the La Salle Natural Science Foundation, in recognition of his outstanding contribution to the study and protection of neotropical ecosystems.

Diagnosis. *Acestrocephalus ginesi* differs from all other *Acestrocephalus* species by the combination of the following characters: anal fin, iv + 25 - 32 (iii + 27 in one specimen and v + 25 in other specimen); 63 - 71 perforated scales on lateral line; 10 - 12 scales above, 9 - 12 below lateral line; 39 - 52 teeth on maxillary; 9 - 12 premaxillary teeth; 8 - 12 teeth in inner dentary row; 5 - 7 gill rakers on lower part of first gill arch; humeral blotch absent; dark blotch on caudal peduncle fin weak to absent; vestiges of small dark spot at origin of dorsal fin; tip of lower jaw with scattered dark melanophores, especially in small specimens (52 mm SL or less).

Description. Morphometric and meristic data of holotype and 45 paratypes are given in Tables 1 and 2. Body relatively small (SL 51.4 - 121.8 mm); ventral outline slightly more curved than dorsal. Snout rather short, less than orbital diameter. Maxilla with 39 - 52 teeth, its posterior border convex. Premaxilla with 9 - 12 teeth, including anteriormost and posterior canines of external tooth row. First tooth in outer dentary row a large canine followed by two or three conical teeth (first and third smaller and second similar to anteriormost canine) followed by row

of 28 - 44 small conical teeth. Inner row on dentary with 8 - 12 teeth. Gill rakers on inferior lobe of first arch: 6 + 0 rudiment (35), 6 + 2 rudiments (2), 7 + 0 rudiments (2) and 7 + 1 rudiment (6).

Scales relatively large. Lateral line scales: 63 (1), 64 (1), 65 (1), 66 (2), 67 (13), 68 (6), 69 (7), 70 (11) and 71 (4). Scales above lateral line: 10 (7), 11 (32) and 12 (7). Scales below lateral line: 10 (32), 11 (12) and 12 (2). Anal fin base covered by a row of scales that extends to middle of fin.

Dorsal fin: ii + 9 (45) and iii + 10 (1); first branched ray four times longer than last and first simple ray contained about two times in second unbranched ray. Interradial membranes with sheath of skin that occupies most of interradian space, sheath decreasing in length after third or fourth ray, and becoming unnoticeable on second to last ray. Anal fin: iii + 27 (1), iv + 25 (1), iv + 27 (1), iv + 28 (3), iv + 29 (10), iv + 30 (9), iv + 31 (12), iv + 32 (8) and v + 25 (1); falcate anteriorly (the 4th, 5th and 6th rays are longer than the rest) with sheath of skin covering most of interradian space of first anal rays; origin of anal situated below base of last dorsal ray. Pectoral fin: i + 13 (24) and i + 14 (22); longer than pelvics, longest rays reaching origin of pelvics. Pelvic fin: i + 7 (46); tips of pelvics reaching or passing anus. Principal caudal rays: i + 17 + i (46); caudal fin with inferior lobe a bit larger than upper.

TABLE 1

Morphometric data for the holotype and 45 paratypes of Acestrocephalus ginesi

Percents of standard length	Range	Mean	SD	Holotype
Head length	29.3 - 32.8	30.7	2.33	23.8
Trunk length	68.4 - 71.9	68.4	1.12	51
Body depth	23.5 - 32.9	27.1	1.70	19.6
Orbital diameter	9.7 - 13	11.1	0.65	9
Snout length	6.1 - 8.3	7.3	0.50	5.7
Preanal distance	50.3 - 62.6	59.8	1.45	45.2
Interorbital width	5.6 - 9	7	0.75	5.3
Caudal peduncle depth	6.8 - 8.4	7.6	0.30	5.4
Predorsal distance	49.3 - 54.8	51.2	0.85	38
Percents of head length				
Body depth	75.2 - 101.3	91.2	4.90	82.4
Orbital diameter	30.6 - 41.4	37	2.60	37.8
Snout length	20 - 26.7	23.3	1.70	23.9
Interorbital width	17.8 - 28.6	22.6	2.41	22.3
Caudal peduncle depth	21.7 - 26.3	24.3	1.10	22.7

* holotype (74.4 mm SL), paratype (51.4 - 121.8 mm SL)

** SD: standard deviation

TABLE 2

Meristic data for the holotype and 45 paratypes of Acestrocephalus ginesi

Meristics	Range	Mode	Holotype
Dorsal fin	ii + 9 - iii + 10	ii + 9	ii + 9
Anal fin	iii - v + 25 - 32	iv, 31	iv, 29
Pectoral fin	14 - 15	14	i, 14
Ventral fin	i + 7	i + 7	i + 7
Principal caudal rays	i + 17 + i	i + 17 + i	i + 17 + i
Lateral line scales	63 - 71	67	67
Scales above lateral line	10 - 12	11	11
Scales below lateral line	9 - 12	10	12
Gill rakers	5 - 7	6	6
Premaxillary teeth	9 - 12	11	11
Maxillary teeth	39 - 52	44	46
Posterior dentary teeth	28 - 44	32	33
Inner teeth on the dentary	8 - 12	9	9

General body color in 70% ethanol is pallid yellow. A series of very diffuse melanophores extends from upper angle of opercle to base of caudal fin. Humeral spot absent. Just a few melanophores on inferior part or tip of mandible, more evident in specimens less than 57 mm SL. Fins hyaline.

Distribution. This species is known only from southern Apure in the Cinaruco river and from the upper Orinoco and Negro drainages in Amazonas state (Fig. 2).

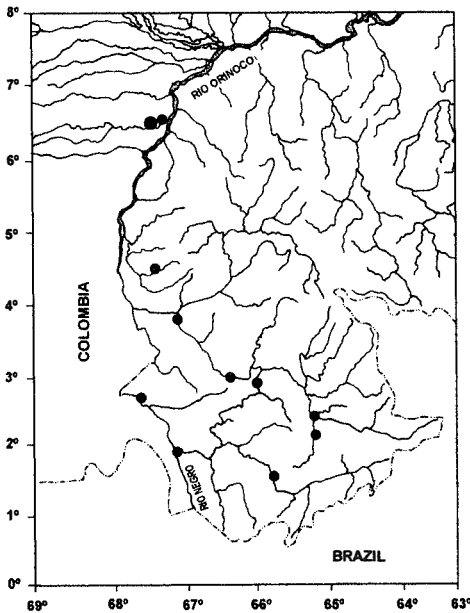


Fig. 2. Distribution of *Acestrocephalus ginesi* new species in southern Venezuela. Largest dot indicates type locality in the Cinaruco river. Dots may represent more than one collection.

DISCUSSION

Five diagnostic characters permit the separation of *A. ginesi* from the other species: 1) the lower number of total anal rays (29 - 36 vs. 37 - 41 in *A. boehlkei* and 37 - 39 in *A. anomalus*), only *A. sardina* an Amazonian headwater species has 33 - 37 anal rays; 2) a lower number of pored lateral line scales (63-71 vs. 71-78); 3) fewer transverse scales above the lateral line (10-12 vs. 12-14); 4) greater number of maxillary teeth (39-52 vs. 32-44); 5) the absence of a spot on the caudal peduncle and the base of the caudal fin. In addition, *A. ginesi* differs by the absence of a humeral spot. In *A. boehlkei* and *A. sardina* this spot is quite evident. *Acestrocephalus anomalus* may present only vestiges of the humeral spot. *A. ginesi* shares with *A. boehlkei* a small spot at the tip of the lower jaw, a character that is more evident in smaller specimens. This spot is absent in the other two species. This new species also has vestiges of a spot at the origin of the dorsal fin, a character that it shares with the other three. The number of transverse scales below the lateral line (9-12) separates in part *A. ginesi* from *A. boehlkei* and *A. sardina* (12-13), but overlaps with *A. anomalus* (9-11). The range of the number of premaxillary teeth coincides with *A. boehlkei* (9-12), but differs from *A. sardina* and *A. anomalus* (7-11). *Acestrocephalus ginesi* has a very large eye, its orbital diameter 30.6 - 41.1 % (mean = 37 %) of

the head length, (25.0-34.8 in *A. boehlkei* as calculated from Table 2 in Menezes 1977).

The three described species of the genus *Acestrocephalus* have either an Amazonian distribution (*A. sardina* and *A. boehlkei*) or Magdalenan (*A. anomalus*) distribution. *Acestrocephalus ginesi* represents the second report of this genus from the Orinoco Basin. Taphorn (1992) indicated the presence of a species tentatively identified as *Acestrocephalus cf boehlkei* Menezes 1977 from the Apure River system. That species differs from *A. ginesi* in having a greater number of branched anal-fin rays (35-38 vs. 29-36) and a greater number of scales on the lateral line (73-76 vs. 63-71). The presence of humeral and caudal spots also distinguishes the Apure form from *A. ginesi*. The report of *A. boehlkei* from the Ventuari River (upper Orinoco) of Taphorn (1992) requires confirmation.

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RESUMEN

Se describe una nueva especie, *Acestrocephalus ginesi*, con base a 60 ejemplares recolectados en las cuencas del Río Orinoco y Río Negro, Venezuela. Esta especie difiere de otros miembros del género por la siguiente combinación de caracteres: aleta anal, 29-36 radios; 63-71 escamas con poro en la línea lateral; escamas transversales 10-12 / 9-12; 39-52 dientes en el maxilar; 9-12 dientes en el premaxilar; 8-12 dientes en la fila interna del dentario; 5-7 branquiaspinas en la parte inferior del primer arco branquial; mancha humeral, peduncular y caudal, ausentes.

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