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Nannopetersius mutambuei (Characiformes: Alestidae), a new species from the Inkisi River basin, Democratic Republic of Congo

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Nannopetersius mutambuei, new species, is described from the Inkisi River basin (Lower Congo, Democratic Republic of Congo). It is distinguished from its congeners by the following combination of characters: 28-30 lateral-line scales; 5½-6½ scales between lateral line and dorsal-fin origin; caudal peduncle longer than deep (length 135.7-151.7 % of its depth); 21-23 branched anal-fin rays; 10-13 gill rakers on ceratobranchial of first branchial arch; snout length 26.6-29.2 % HL; eye diameter 31.7-39.6 % HL and a black longitudinal band present in preserved specimens but absent in living specimens.

Une nouvelle espèce, *Nannopetersius mutambuei*, est décrite du bassin de l'Inkisi (Bas-Congo; République Démocratique du Congo). Cette nouvelle espèce se distingue de ses congénères par: 28-30 écailles sur la ligne latérale; 5½-6½ écailles entre la ligne latérale et l'origine de la caudale; un pédoncule caudal plus long que haut (longueur 135,7-151,7 % de sa hauteur); 21-23 rayons branchus à l'anale; 10-13 branchiospines sur le ceratobranchial du premier arc branchial; le museau d'une longueur de 26,6-29,2 % de la longueur de la tête, le diamètre de l'œil de 31,7-39,6 % de la longueur de la tête et une ligne longitudinale noire présente chez les spécimens préservés, mais absente chez les spécimens vivants.

Introduction

The family Alestidae contains about 110 species of small to moderately-sized fishes that are largely distributed throughout much of sub-Saharan tropical Africa (Paugy & Schaefer, 2007). The family was initially included as a subfamily of the Characidae. However, nowadays the monophyly and the family level classification of the Alestidae are well established (see Buckup, 1998; Calcagnotto et al., 2005; Hubert et al., 2005a,b). Although Paugy & Schaefer (2007) also rejected the former subfamily level classification of the Alestidae, they maintained the present arrange-

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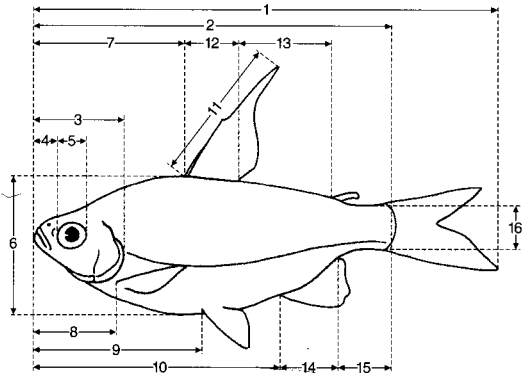

Fig. 1. Schematic illustration of measurements taken on *Nannopetersius* specimens: **1,** total length; **2,** standard length; **3,** head length; **4,** snout length; **5,** eye diameter; **6,** body depth; **7,** predorsal length; **8,** prepectoral length; **9,** prepelvic length; **10,** preanal length; **11,** longest dorsal-fin ray length; **12,** dorsal-fin base length; **13,** dorsal-adipose distance; **14,** anal-fin base length; **15,** caudal-peduncle length; **16,** caudal-peduncle depth.

ment of the genera into three tribes as a matter of convenience, while recognizing the inadequate and artificial nature of this classification as clearly outlined by Hubert et al. (2005a). These three tribes are mainly differentiated based on their tooth morphology: 1) the genus *Hydrocynus* (6 species) characterised by strong caniniform, mostly conical, teeth; 2) the Alestiini sensu stricto (45 species) including the genera *Alestes, Brycinus,* and *Bryconaethiops,* characterized by more modest, pluricuspid teeth and molariform teeth in the inner row of the premaxilla; and 3) the Petersiini (16 genera, 59 species), characterised by a small size, reduced pluricuspid teeth, and non-molariform teeth in the inner row of the premaxilla (Paugy & Schaefer, 2007).

The Petersiini contains 16 genera (Paugy, 1990; Paugy & Schaefer, 2007): *Alestopetersius, Arnoldichthys, Bathyaethiops, Brachypetersius, Clupeopetersius, Duboisialestes, Hemigrammopetersius, Ladigesia, Lepidarchus, Micralestes, Nannopetersius, Phenacogrammus, Petersius, Rhabdalestes, Tricuspidalestes* and *Virilia.*

In 2005, during an expedition on the ichthyofauna of the Lower Congo, *Nannopetersius* specimens were found in the main channel of the Inkisi River and in its right bank affluent, the Ngufu River. These specimens could not be identified as belonging to any of the known *Nannopetersius* species. The description of the new species is given below.

Material and methods

Morphometrics and meristics mainly follow Paugy (1986), however with some modifications and additions. Therefore, a detailed description of the morphometrics and meristics is given below. Morphometrics (Fig. 1): All measurements were taken with a calliper and are point to point measurements unless otherwise noted. Total length (TL): distance from tip of snout to posterior tip of lower lobe of caudal fin. Standard length (SL): distance from tip of snout to caudal-fin base at articulation. Head length (HL): distance from tip of snout to bony posterior margin of operculum. Head width: head width measured at level of posterior edge of fontanel. Snout length: distance from tip of snout to bony anterior margin of eye. Eye diameter: distance between anterior and posterior border of eye (bone to bone). Interorbital distance: minimal distance between orbits. Body depth: maximal vertical body depth situated in-between anterior base of dorsal fin and origin of pelvic fin. Predorsal length: distance from tip of snout to base of first dorsal-fin ray. Prepectoral length: distance from tip of snout to base of first pectoral-fin ray. Prepelvic length: distance from tip of snout to base of first pelvic-fin ray. Preanal length: distance from tip of snout to base of first anal-fin ray. Longest dorsal-fin ray length: distance from base of longest fin ray to its distal end. Dorsal-fin base length: distance between most anterior and posterior point of dorsal-fin base. Dorsal-adipose distance: distance between most posterior point of dorsal-fin base and anterior point of adipose-fin base. Anal-fin base length: distance between most anterior and posterior point of anal-fin base. Caudal peduncle length: horizontal distance between most posterior point of anal-fin base and caudal fin at articulation. Caudal-peduncle depth: minimum vertical depth of caudal peduncle.

Meristics: Lateral line scales: number of pored and unpored scales on lateral line, from posterior border of operculum to and onwards caudal-fin (formula: pored lateral line scales on body + unpored scales on caudal fin). Scales above lateral line: number of scales in an antero-posterior line between anterior origin of dorsal-fin base and lateral line (lateral line scale not included). Scales below lateral line: number of scales in an antero-posterior line between lateral line (lateral line scale not included) and ventral midline. Scales between lateral line and pelvic-fin base: number

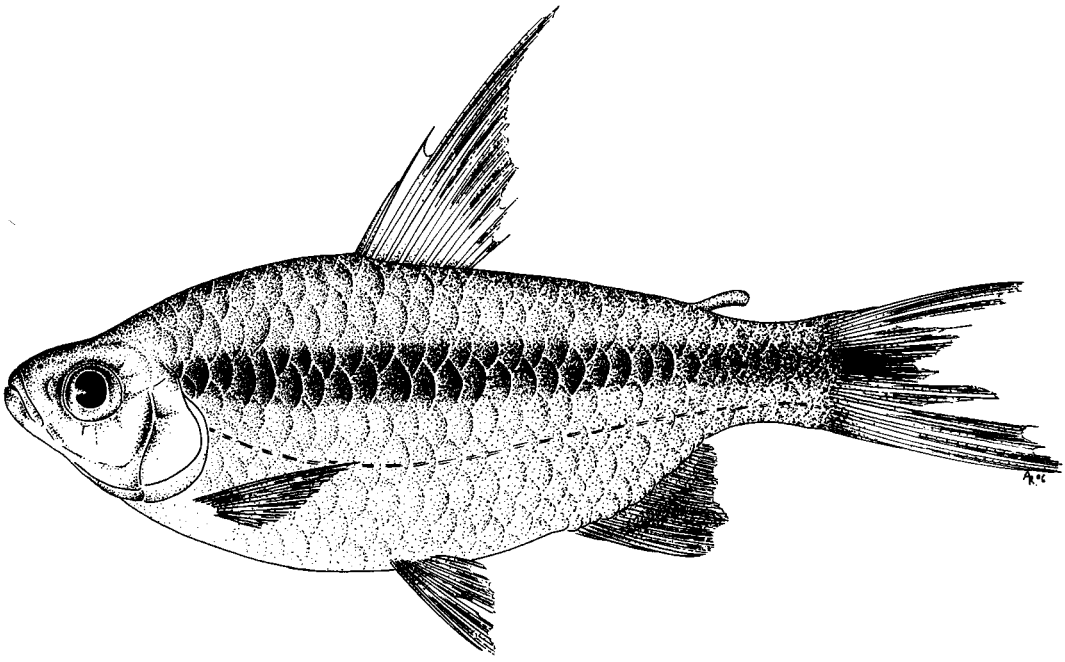

Fig. 2. *Nannopetersius mutambuei*, holotype, MRAC A6-007-P-0222, 99.6 mm SL; Democratic Republic of Congo: Ngufu River, affluent of the Inkisi river.

of scales in an antero-posterior line between lateral line (lateral line scale not included) and pelvic-fin base. Predorsal scales: number of scales counted from occiput to origin of first dorsal-fin ray. Caudal peduncle scales: number of scales in a transverse series around middle of caudal peduncle. Gill rakers: number of gill rakers on first gill arch (formula: number of gill rakers on ceratobranchial + one gill raker at articulation + number of gill rakers on epibranchial). Number of teeth in outer and inner row of upper jaw (bilateral counts). Number of teeth in the outer and inner row of lower jaw (bilateral counts). Dorsal-fin rays: number of unbranched (roman number), number of branched fin rays (Arabic number). Anal-fin rays: number of unbranched (roman number), number of branched fin rays (Arabic number). All rays are counted at their base.

Institution abbreviations: AMNH, American Museum of Natural History, New York; MNHN, Muséum National d'Histoire Naturelle, Paris; MRAC, Musée Royal de l'Afrique Centrale, Tervuren. Other abbreviations used: AEF: Afrique Equatorial Française; DRC: Democratic Republic Congo. All locality data have been translated in English.

Nannopetersius mutambuei, new species
(Fig. 2)

Holotype. MRAC A6-007-P-0222, 99.6 mm SL; Democratic Republic of Congo (DRC): Lower-Congo: Ngufu River, tributary of Inkisi River, at bridge Luangu village, Kavuaya village, 5°04' 44.2"S 15°07'51.0"E; Lower Congo Expedition 2005, 9 Oct 2005 (DNA sample: tag 597).

Paratypes. AMNH 239655 (formerly MRAC A6-007-P-0226 and MRAC A6-007-P-230), 2, 100.3-105.2 mm SL; MRAC A6-007-P-0223-225, 3, 89.3-107.4 mm SL (DNA sample: tag 598); MRAC A6-007-P-227-229, 3, 87.8-97.0 mm SL; same data as for holotype. – MRAC A6-007-P-0231, 1, 96.7 mm SL; same data as for holotype, 10 Oct 2005. – MRAC A6-007-P-0232-0233, 2, 63.4-74.5 mm SL; DRC: Inkisi River, Kisantu village, 5°08'2.6"S 15°3'51.5"E; Lower Congo Expedition 2005, 7 Oct 2005 (DNA sample: tag 591).

Additional material (non types). MRAC A7-009-P-0737-0743, 7, 89.3-105.8 mm SL; DRC: Lower Congo: Inkisi Basin: Lukusu River, Ngeba/Mboma village, 3°13'36.9"S 15°13'02.0"E; Wamuini, 23 Aug 2006 (DNA sample: tags 651 and 657). – MRAC A7-009-P-0744, 1, 96.9 mm SL; DRC: same data; 24 Aug 2006. – MRAC A7-009-P-0745-

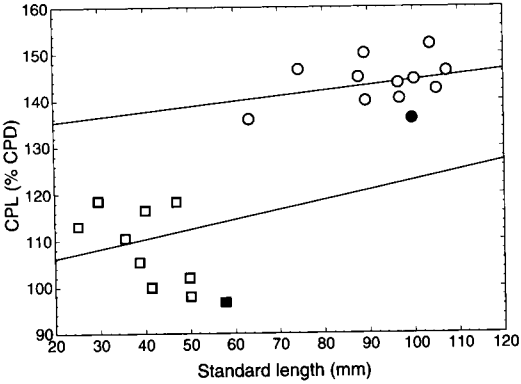

Fig. 3. Scatterplot of caudal peduncle length (in % of its depth [CPL (% CPD)]) against standard length for *Nannopetersius mutambuei* (● holotype, ○ paratypes) and *N. lamberti* (■ holotype, □ other specimens).

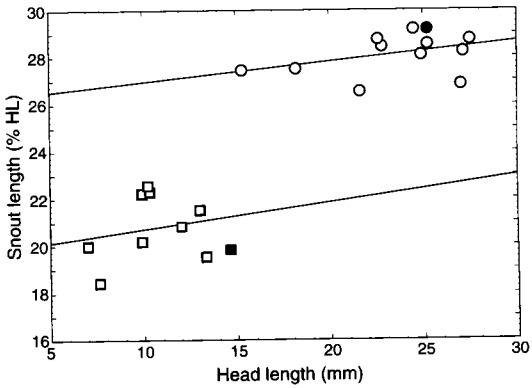

Fig. 4. Scatterplot of snout length (in % HL) against head length for *Nannopetersius mutambuei* (● holotype, ○ paratypes) and *N. lamberti* (■ holotype, □ other specimens).

0746, 2, 82.4-90.6 mm SL; DRC: Lower Congo: Inkisi Basin: Bongolo River, Kinsende village, 5°23'10.7"S 15° 15'25.2"E; Wamuini, 30 Aug 2006 (DNA sample: tag 725). – MRAC A7-009-P-0747-0753, 7, 68.2-85.0 mm SL; same data; 31 Aug 2006. – MRAC A7-009-P-0754-0755, 2, 99.3-105.0 mm SL; same data; 15 Jan 2007. – MRAC A7-009-P-0756-0760, 5, 80.4-109.8 mm SL; DRC: Lower Congo: Inkisi Basin: N'Soni River tributary, Yanama village, 5°24'08.2"S 15°10'16.6"E; Wamuini, 17 Jul 2006 (DNA sample: tags 851-852). – MRAC A7-009-P-0761, 1, 72.0 mm SL; same data; 18 Jul 2006. – MRAC A7-009-P-0762-0766, 5, 86.1-109.0 mm SL; same data; 18 Jul 2006. – MRAC A7-009-P-0767, 1, 87.7 mm SL; same data; 19 Jul 2006. – MRAC A7-009-P-0768-0772, 5, 84.0-99.6 mm SL; same data; 11 Feb 2007. – MRAC A7-009-P-0773, 1, 83.0 mm SL; same data; 12 Feb 2007. – MRAC A7-009-P-0774-0777, 4, 93.7-101.0 mm SL; DRC: Lower Congo: Ngeba River, Ngeba village, tributary of Inkisi River, 5°11'01.5"S 15°12'23.1"E; Wamuini, 25 Aug 2006 (DNA sample: tags 681-682). – MRAC A7-009-P-0778-0779, 2, 89.3-96.5 mm SL; same data; 26 Aug 2006. – MRAC A7-009-P-0780-0781, 2, 97.4-100.0 mm SL; same data; 11 Jan 2007. – MRAC A7-009-P-0782-0787, 6, 89.5-120.4 mm SL; DRC: same data; 10 Jan 2007. – MRAC A7-009-P-0788-0793, 6, 80.4-104.7 mm; DRC: Lower Congo: Inkisi Basin: Muala River, Muala-Kinsende village, 5°16'11.4"S 14°57'42.1"E; Wamuini, 11 Jul 2006 (DNA sample: tags 810-811). – MRAC A7-009-P-0794-0796, 3, 77.0-86.8 mm SL; same data; 12 Jul 2006. – MRAC A7-009-P-0797, 1, 89.8 mm SL; same data; 6 Feb 2007. – MRAC A7-009-P-0798-0799, 2, 70.2-71.3 mm SL; DRC: Lower Congo: Inkisi River, Kinsende village, 5°23'10.0"S 15°15'17.1"E; Wamuini, 2 Sep 2006. – MRAC A7-009-P-0800, 1, 92.4 mm SL; DRC: Lower Congo: Inkisi Basin: Wungu River, Kiyenga village, 5°31'47.9"S 15°16'56.0"E; Wamuini, 30 Sep 2006. – MRAC A7-009-P-0801, 1, 78.5 mm, same data; 19 Jan 2007. – MRAC A7-009-P-0802-0803, 2, 73.6-88.7 mm SL; DRC: Lower Congo: Inkisi Basin: Luguga River, Kiyanika village, 5°16'32.7"S 15°12'36.3"E; Wamuini, 27 Aug 2006. – MRAC A7-009-P-0804, 1, 109.0 mm SL; same data; 28 Aug 2006 (DNA sample: tag 709). – MRAC A7-009-P-0805-0807, 3, 90.5-96.7 mm SL; same data; 12 Jan 2007. – MRAC A7-009-P-0808, 1, 104.0 mm SL; DRC: Lower Congo: Inkisi Basin: Fidi River, Kiyenga village; 5°31'33.8"S 15°16'41.0"E; Wamuini, 4 Sep 2006. – MRAC A7-009-P-0809-0810, 2, 89.5-90.0 mm SL; DRC: Lower Congo: same data; 6 Sep 2006 (DNA sample: tags 741-742). – MRAC A8-006-P-0001, 1, 52.4 mm SL; DRC: Lower Congo: Inkisi Basin: Bongolo River, Kinsende village, 5°23'10.7"S 15°15'25.2"E; Wamuini, 1 Oct 2007. – MRAC A8-006-P-0002-0015, 14, 24.6-108.5 mm SL; DRC: Lower Congo: Inkisi Basin: N'Soni River, Yanama village, 5°24'08.2"S 15°10'16.6"E; Wamuini, 18 Oct 2007. – MRAC A8-006-P-0016-0017, 2, 99.4-101.5 mm SL; DRC: Lower Congo: Inkisi Basin: Ngeba River, Ngeba village, 5°11'01.5"S 15°12'23.1"E; Wamuini, 26 Sep 2007. – MRAC A8-006-P-0018-0019, 2, 94.5-107.4 mm SL; same data; 25 Jan 2008. – MRAC A8-006-P-0020, 1, 92.5 mm SL; same data; 26 Jan 2008. – MRAC A8-006-P-0021, 1, 91.5 mm SL; DRC: Lower Congo: Inkisi Basin: Vila River, Kitona village, 5°35'22.4"S 15°06'18.9"E; Wamuini, 15 Oct 2008. – MRAC A8-006-P-0022, 1, 80.8 mm SL; DRC: Lower Congo: Inkisi Basin: Lukusu River, Ngeba village, 5°13'36.9"S 15°13'02.0"E; Wamuini, 27 Sep 2007. – MRAC A8-006-P-0023-0024, 2, 88.4-101.9 mm SL; DRC: Lower Congo: Inkisi Basin: Fidi River, Kiyenga village, 5°31' 33.8"S 15°16'41.0"E; Wamuini, 8 Oct 2007. – MRAC A8-006-P-0025-0026, 2, 82.5-104.9 mm SL; DRC: Lower Congo: Inkisi Basin: Luguga River, Kiyanika village, 5°16'32.7"S 15°12'36.3"E; Wamuini, 28 Sep 2007. – MRAC A8-006-P-0027, 1, 91.5 mm SL; DRC: Lower Congo: Inkisi River, Kinsende village, 5°23'10.0"S 15°15'17.1"E; Wamuini, 23 Oct 2007.

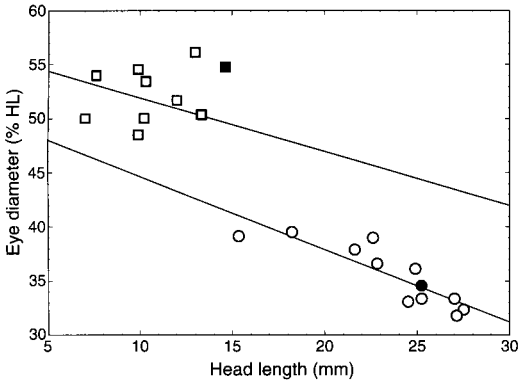

Fig. 5. Scatterplot of eye diameter (in % HL) against head length for *Nannopetersius mutambuei* (● holotype, ○ paratypes) and *N. lamberti* (■ holotype, □ other specimens).

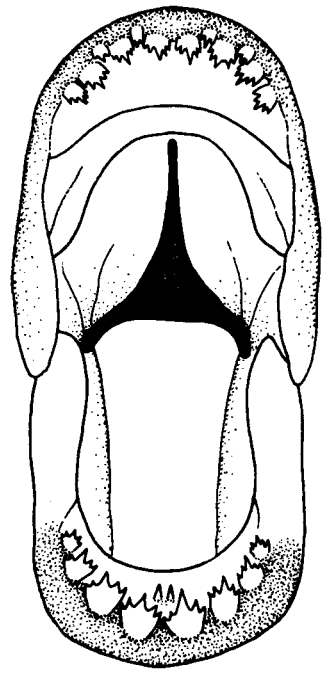

Fig. 6. *Nannopetersius mutambuei*, MRAC A6-007-P-0227-0230, 87.1 mm SL; mouth open in lingual view.

Diagnosis. *Nannopetersius mutambuei* is distinguished from its two congeners by the following combination of characters: lateral line with 28-30 scales and 27-30 pored scales (vs. 30-35 and 32-35 in *N. ansorgii*; 28-33 and 27-33 in *N. lamberti*); 5½-6½ scales between the origin of the dorsal fin and the lateral line (vs. 6½ in *N. ansorgii* and 6½-7½ in *N. lamberti*); 10-13 gill rakers on the ceratobranchial of the first branchial arch (vs. 14-17 in *N. ansorgii* and 10-12 in *N. lamberti*); length of caudal peduncle 135.7-151.9 % of its depth (vs. caudal peduncle nearly as long as deep in *N. ansorgii* (95.0-125.0 %) and *N. lamberti* (96.7-120.8 %)) (Fig. 3); snout length 26.6-29.2 % (vs. 18.4-23.0 % in *N. lamberti*) (Fig. 4); eye diameter 31.7-39.6 % HL (vs 46.0-56.2 % in *N. lamberti*) (Fig. 5); and no broad dark medio-lateral band in life, however present in preserved specimens, and no additional black spots on caudal and distal blackish band on anal fin (vs. a faint dark medio-lateral band, in preserved specimens, hardly visible anteriorly but better marked on the caudal fin and no additional back spots on caudal and anal fin in *N. ansorgii*; and a broad, black, medio-lateral band in life as well as preserved specimens, distal part of both upper and lower caudal-fin lobe with a black spot and distal margin of anal fin blackish in *N. lamberti*).

Description. Based on the holotype and 11 paratypes. Morphometric and meristic data are given in Table 1-2. Small-sized species (up to 107.4 mm SL). Fronto-parietal fontanel elongate in 11 specimens and more pointed in one specimen (89.3 mm SL). Snout somewhat shorter than eye. Mouth terminal with a slightly prominent lower jaw. Gill rakers on first gill arch thin and relatively well-spaced. Teeth of outer row of upper jaw alternating with those of inner row. Teeth of outer row of upper jaw tricuspide, teeth of inner row a little larger and with five cusps (Fig. 6). Usually 4 teeth (exceptionally 5) on outer and 8 teeth (exceptionally 7) on inner row of upper jaw. In both specimens with 5 outer teeth, inner row with only 7 teeth and with one of these outer teeth (the 2nd or the 4th) not alternating with teeth of outer row. External mandibular (dentary) teeth with 5 cusps. Both inner teeth of lower jaw (dentary) small and conical. Complete lateral line with 28-30 scales and 27-30 pored scales. Dorsal fin with 2 simple and 8 branched rays. Pectoral fin longer than pelvic fin but not reaching base of latter. Pelvic fin originating approximately below third branched ray of dorsal fin. Caudal fin forked with sharp-pointed lobes. Dorsal-fin rays filamentously elongated in mature males, exceeding head length (100.0-136.8 % HL); in females less than head length (72.7-90.4 % HL). Distal edge of anal fin more or less concave in males, almost straight in females.

Coloration. In life, general colour silvery with greenish dorsal region. Caudal and adipose fin bright red. Anal, pectoral, pelvic and dorsal-fin base yellowish; distal edge of fins reddish. Peripheral parts of iris reddish. Blackish opercular spot. No dark mid-lateral band visible in living specimens.

In preserved specimens, general colour brownish on dorsal midline and dorsal flank above black mid-lateral band, whitish on ventral midline and ventral flank up to black mid-lateral band. Black mid-lateral band extending from posterior margin of operculum to caudal-fin base up to posterior edge of median caudal-fin rays. Humeral spot sometimes visible but often hidden by dark mid-lateral band.

Etymology. This species is dedicated to Professor Mutambue Shango [General Academic Secretary of ERAIFT (École Régionale post-universitaire d'Aménagement et gestion Intégrée des Forêts et territoires Tropicaux, Kinshasa, DRC)] who collected fishes from the Inkisi River basin in 1985 and 1986 and deposited them at the MNHN and MRAC.

Distribution. Based on the presently available collections *N. mutambuei* seems to be endemic to the Inkisi River basin, upstream of the Sanga dam (Fig. 7).

Discussion

According to Stiassny & Schaefer (2005) and Paugy & Schaefer (2007), systematic studies on Alestidae have lagged behind in comparison with their neotropical characiform counterparts. As such, the relationships among genera within the family remain largely unstudied to date and comprehensive morphological evidence is unavailable for purposes of establishing unambiguous diagnoses for the vast majority of the included genera (Paugy & Schaefer, 2007).

Table 1. Morphometric data for *Nannopetersius mutambuei* and *N. lamberti*. H, holotype.

	N. mutambuei						*N. lamberti*					
	H	holotype+paratypes					H	holotype+paratypes+others				
		min	max	mean	n	SD		min	max	mean	n	SD
Total length	126.9	81.3	134.0	115.9	12	16.3	72.9	32.0	91.7	66.5	18	19.1
Standard length	99.6	63.4	107.4	92.8	12	13.0	57.8	25.2	75.2	53.0	18	15.4
In percent of standard length												
Body depth	36.5	31.9	36.5	33.5	12	1.3	38.6	28.4	38.6	34.2	18	2.7
Head length	25.3	24.1	26.1	25.3	12	0.6	25.3	22.9	27.9	25.3	18	1.4
Predorsal length	45.8	44.6	48.3	46.2	12	1.1	46.4	42.9	50.0	47.1	18	1.7
Prepectoral length	28.2	23.6	28.2	25.8	12	1.4	26.3	22.4	26.3	24.3	18	1.8
Prepelvic length	52.2	47.7	54.4	50.9	12	1.9	49.3	44.6	51.6	47.5	18	1.9
Preanal length	70.8	68.5	73.5	70.2	12	1.4	68.2	63.2	71.4	67.4	18	1.8
Longest dorsal fin ray length	34.8	18.8	34.8	25.9	12	5.5	41.5	28.4	56.9	39.8	18	10.0
Dorsal fin base length	13.1	11.5	14.4	13.0	12	0.9	14.2	11.5	15.7	15.0	18	1.2
Dorsal-adipose distance	27.1	26.0	28.5	26.9	12	0.7	27.9	21.4	27.9	24.5	18	1.7
Anal fin base length	19.7	18.0	22.2	19.9	12	1.2	25.6	16.7	25.6	23.2	18	1.9
Caudal peduncle length	14.0	13.5	15.2	14.3	12	0.6	10.2	9.6	12.5	11.2	18	0.9
Caudal peduncle depth	10.9	9.0	11.0	10.0	12	0.5	10.6	8.7	10.9	10.0	18	0.6
In percent of head length												
Snout length	29.2	26.6	29.2	28.1	12	0.9	19.9	18.4	23.0	21.1	18	1.4
Head width	47.2	44.4	50.9	47.7	12	1.7	51.4	42.1	52.2	47.3	18	3.0
Eye diameter	34.5	31.7	39.6	35.6	12	2.9	54.8	46.0	56.2	50.3	18	3.2
Interorbital distance	31.9	29.9	32.8	31.3	12	0.9	30.8	21.4	32.1	28.4	18	2.5
Caudal peduncle length (% of its depth)	135.7	135.7	151.9	143.5	12	5.0	96.7	96.7	120.8	113.1	18	8.7
Snout length (% of eye diameter)	84.5	69.4	89.0	79.6	12	7.6	36.3	34.1	50.0	42.1	18	4.4
Eye diameter (% interorbital distance)	108.1	102.3	130.4	113.9	12	9.9	177.8	150.0	233.3	179.1	18	22.5

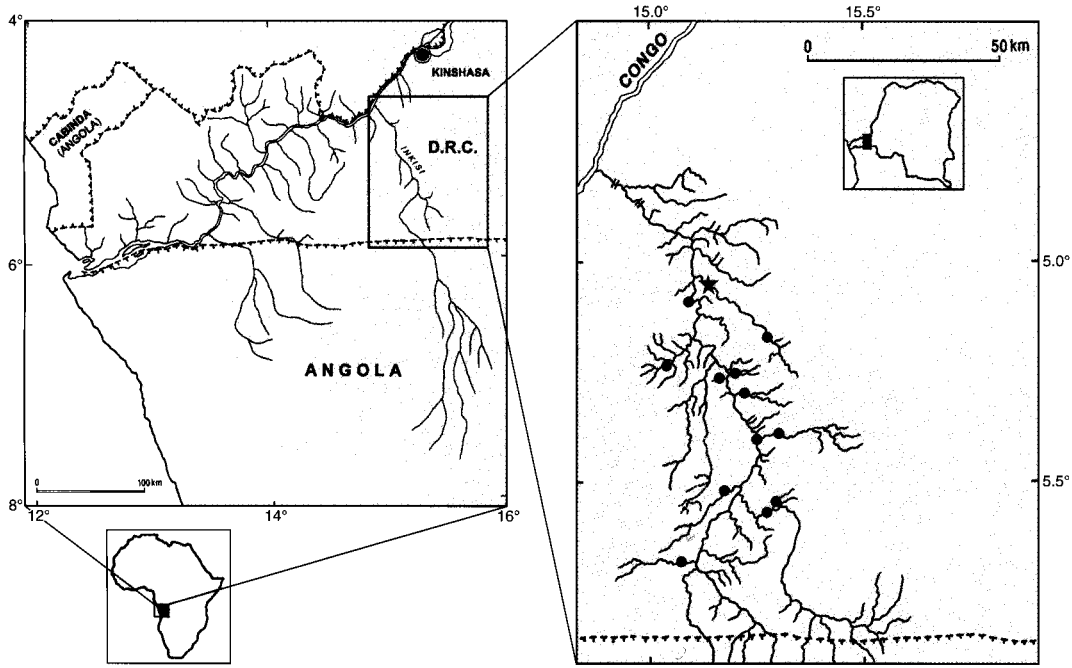

Fig. 7. Distribution of *Nannopetersius mutambuei*: ★ type locality; • other localities.

Poll (1967) presented a revision of Petersiini and defined its genera. According to Poll (1967) the genus *Nannopetersius* is diagnosed by: body depth 29-40 % SL; head length 25-29 % SL; prominent lower jaw; 4/8-9 teeth in the upper and 8/2 in the lower jaw; alternating external premaxillary teeth; 3-5 cusps in the external row and 4-7 in the inner row of the upper jaw, 3-7 in the external row and 1 in the inner row of the lower jaw; filamentous dorsal fin in males; non-filamentous caudal fin; dorsal fin with 2 unbranched rays and 8 branched rays; anal fin with 2-4 unbranched rays and 19-22 branched rays; 10-17 gill rakers on the ceratobranchial of the first branchial arch; 28-34 + 1-2 longitudinal line scales; 6.5-7.5 scales above and 3.5 scales below the lateral line; lateral line complete with 27-34 pored scales; faint or broad mid-lateral band, in preserved specimens, more or less visible from the posterior edge of the eye or the operculum to the end of the median caudal-fin rays, with or without a visible humeral spot situated along the anterior part of the mid-lateral band; fins not or slightly darkened (see also Paugy & Schaefer, 2007).

Currently only two species are placed in the genus: *N. ansorgii* and *N. lamberti*. Both species are reported from the Lower Guinea and Congo ichthyofaunal provinces; in addition the former is also known from the Quanza ichthyofaunal province (Schaefer, 2007).

Nannopetersius mutambuei appears to be morphologically more similar to *N. lamberti* than to *N. ansorgii*. This is illustrated by a number of characters: the number of gill rakers on the ceratobranchial of the first branchial arch, which is 10-13 (10-12 in *N. lamberti*, 14-17 in *N. ansorgii*), the length of the longest dorsal-fin ray, 73.1-137.5 % HL (60.0-115.0 in *N. lamberti*, 55.0-110.0 in *N. ansorgii*) and the mid-lateral band, well visible along the entire length amongst preserved specimens (well visible in *N. lamberti*, not very distinct anteriorly, larger and more visible posteriorly on the caudal peduncle in *N. ansorgii*).

Géry (1977, 1995) considered that the degree of difference between the genera *Brachypetersius*, *Nannopetersius* and *Phenacogrammus* is not sufficient to maintain their generic status. Therefore, he grouped them into *Phenacogrammus*, which, according to Poll (1967), is distinguished from the aforementioned genera by the length of the lateral line (incomplete in *Phenacogrammus* and *Bathyaethiops*, but complete in *Nannopetersius* and *Brachypetersius*). Paugy (1990), on the contrary,

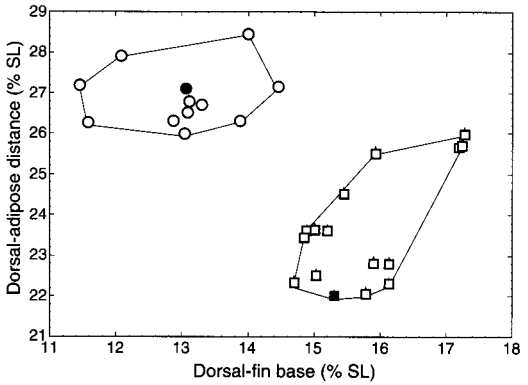

Fig. 8. Scatterplot of dorsal-adipose distance (in % SL) against dorsal-fin base length (in % SL) for *Nannopetersius. mutambuei* (● holotype, ○ paratypes) and *N. lamberti* (■ holotype, □ other specimens).

followed the work of Poll (1967) in his revision of the West African Petersiini. Stiassny & Schaefer (2005) and Paugy & Schaefer (2007) stressed the present lack of in-depth studies. Therefore, despite the current problems of generic diagnoses, Stiassny & Schaefer (2005) as well as Paugy & Schaefer (2007) follow the generic division and differential diagnoses of Poll (1967) for reasons of nomenclatural stability.

Morphologically, the species of *Nannopetersius* resemble especially the species of the genus *Brachypetersius*. However, in *Nannopetersius* there are 6.5-7.5 scales (vs. 4.5-5.5 in *Brachypetersius*) between the lateral line and the dorsal-fin origin. In addition, the dorsal fin is filamentous in mature males (vs. not so in *Brachypetersius*) (Poll, 1967). The latter feature motivated us to assign the new species to *Nannopetersius*. Nevertheless, it is the only character justifying its attribution to this genus as the number of scales between the lateral line and the origin of the dorsal fin (5.5-6.5) is intermediate between the two genera.

At present the only known *Brachypetersius* species reported from the Lower Congo is *B. huloti*. Comparison of *N. mutambuei* with *B. huloti* revealed that they are easily distinguished by a higher number of lateral line scales [28-30 (median 29) vs. 23-27 (25)]; a higher number of predorsal scales (10 vs. 9); a greater dorsal-adipose distance [26.0-28.5 (mean 26.9) % SL vs. 22.0-26.0 (23.7)]; and a smaller dorsal-fin base length [11.5-14.4 (mean 13.0) % SL vs. 14.7-17.3 (15.7)] (Fig. 8).

The Inkisi River basin has been poorly studied and therefore its ichthyofauna is not well known. Currently, four endemic fish species are known from the basin: *Barbus vanderysti*, *Varicorhinus robertsi* (Cyprinidae), *Schilbe zairensis* (Schilbe-

Table 2. Meristic data for *Nannopetersius mutambuei* and *N. lamberti*. H, holotype; n, number of specimens.

		N. mutambuei				
	H	holotype + paratypes				
		min	max	median	n	frequency
Lateral line scales	29	28	30	29	12	28(3), 29(7), 30(2)
Pored lateral line scales on body	28	27	30	29	12	27(1), 28(2), 29(6), 30(3)
Unpored lateral line scale on caudal fin	1	0	2	1	12	0(5), 1(6), 2(1)
Scales above lateral line	5½	5½	6½	6	12	5½(6), 6½(6)
Scales below lateral line	3½	3	3½	3½	12	3(1), 3½(11)
Scales between lateral line and pelvic-fin base	2½	2	3½	2½	12	2(1), 2½(11)
Predorsal scales	10	10	11	10	12	10(9), 11(3)
Caudal peduncle scales	10	8	10	9	12	8(1), 9(7), 10(4)
Gill rakers	21	20	23	21	12	19(1), 20(4), 21(6), 23(1)
Gill rakers on ceratobranchial	12	10	13	12	12	10(1), 11(4), 12(6), 13(1)
Gill rakers on epibranchial	8	8	8	8	12	8(11), 9(1)
Teeth in outer row of upper jaw	4	4	5	4	12	4(10), 5(2)
Teeth in inner row of upper jaw	8	7	8	8	12	8(12)
Teeth in outer row of lower jaw	8	8	8	8	12	8(12)
Teeth in inner row of lower jaw	2	2	2	2	12	2(12)
Dorsal-fin rays	II, 8	II, 8	II, 8	II, 8	12	II,8(12)
Anal-fin rays	III, 22	III, 22	III, 24	III, 23	12	21(1), 22(5), 23(6)

idae), and *Aphyosemion labarrei* (Nothobranchidae). Presently, *B. mutambuei* can be considered endemic to the basin but it is not possible to affirm that it is restricted to this basin only.

The Inkisi River basin is the largest of the Lower Congo River basin tributaries. The river drains an area of 13,500 km². The main river is interrupted by two falls. The first one, the Zongo fall (height: 58 m), is situated at approximately six kilometres from the confluence with the Congo River. The second one, the Sanga fall (height: 24 m) is situated approximately 10 km further upstream from the Zongo fall and is rather a heavy slope (approximately 25 %). On both falls a hydroelectric reservoir has been erected. These falls, especially the Zongo fall, and now in addition the dams, constitute an important barrier to upstream migration of fishes and as a result isolate the ichthyofauna of the Inkisi River basin from that of the Congo main stream. These conditions might have favoured speciation in the Inkisi River basin. Indeed, all presently known endemics to the Inkisi River basin are found above the Zongo fall only.

Comparative material. *Nannopetersius lamberti*: Republic of Congo: MRAC 153760, holotype, 57.8 mm SL; PK 98, Sunda-Pointe Noire, ±4°20'S 12°09'E. – MRAC 153761-769, 9 paratypes, 25.2-50.0 mm SL; same data as holotype. – MRAC 91-69-P-8-12, 5, 60.8-75.2 mm SL; Ngoma na Ngoma River at confluence with Loungolibi, ±4°08'S 12°18'E. – MRAC 92-125-P-0237-0244, 1 of 8, 72.0 mm SL; Ngoma na Ngoma River, upstream of confluence with Loungolibi, ±04°08'S 12°18'E. – MRAC 92-125-P-0221-0227, 2 of 7, 63.4-67.6 mm SL; Ngoma na Ngoma River at confluence with Kouboulou, upstream of confluence with Loungobili, ±4°09'S 12°19'E.

Brachypetersius huloti: DRC: MRAC 68616, holotype, 75.8 mm SL; Yangambi, Losambila River, ±0°45'N 24°18'E. – MRAC 120961-965, 3 of 5, 40.3-60.0 mm SL; Yangambi, Lomboma River, ±0°47'N 24°28'E. – MRAC 120966-967, 2, 47.1-54.0 mm SL; Yangambi, Lubilu River, ±0°42'N 24°36'E. – MRAC 120972-980, 2 of 9, 57.0-77.0 mm SL; Yangambi, Isalowe River, ±00°46'N 24°29'E. – MRAC 120983, 1, 60.5 mm SL; Yangambi, Upper Lubilaie, ±0°53'N-24°29'E. – MRAC 120993, 1, 70.7 mm SL; Yangambi, Isalowe River, ±0°46'N 24°29'E. – MRAC 120996-121000, 2 of 5, 34.0-60.0 mm SL; Yangambi, Lomboma River, ±0°47'N 24°28'E. – MRAC 121001-010, 5 of 10, 30.2-65.7 mm SL; Yangambi, Isalowe River, ±0°46'N 24°29'E. Republic of Congo: MRAC 125096, 1, 55.7 mm SL; Mtupu River, Brusseaux village (on the line Brazzaville-Pointe Noire), ±4°15'S 14°36'E. – MRAC 125288-125291, 4, 33.7-63.9 mm SL; Brusseaux on Congo-Ocean, head of Fulakari River, ±4°15'S 14°36'E.

	N. lamberti				
H	holotype + paratypes + others				
	min	max	median	n	frequency
32	30	33	31	18	30(8), 31(3), 32(4), 33(3)
31	29	32	30	18	29(3), 30(8), 31(2), 32(6)
1	0	2	1	18	0(7), 1(10), 2(1)
6½	6½	7½	6½	18	6½(13), 7½(5)
3	2	3	2½	18	2(1), 2½(16), 3(1)
2	2	2½	2	18	2(16), 2½(2)
11	10	12	11	18	10(3), 11(11), 12(4)
9	8	10	9	18	8(5), 9(7), 10(6)
19	17	19	18	18	17(3), 18(10), 19(5)
12	10	12	11	18	10(3), 11(11), 12(4)
6	6	7	6	18	6(17), 7(1)
4	4	4	4	18	4(18)
8	8	8	8	18	8(18)
8	8	8	8	18	8(18)
2	2	2	2	18	2(18)
II, 8	II, 8	II, 8	II, 8	18	II,8(18)
III, 22	III, 20	III, 22	III, 22	18	20(1), 21(2), 22(15)

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