

IDENTIFICATION OF *MICROPANCHAX SCHEELI*
(CYPRINODONTIFORMES: POECILIIDAE: APLOCHEILICHTHYINAE)
WITH THE DESCRIPTION OF A NEW SPECIES OF THE GENUS *POROPANCHAX*

by

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ABSTRACT. - Two small poeciliid fish species from the West African coastal plains were identified in literature as *Aplocheilichthys macrophthalmus scheeli* or *Aplocheilichthys scheeli*. Both share the characteristic of extraordinarily long filamentous pelvic-fins in males but differ in habitat, male coloration and supra-orbital neuromast pattern. The type specimens of *Aplocheilichthys macrophthalmus scheeli* were compared to specimens identified as such in museum collections. Based on the type series and additional material *Aplocheilichthys macrophthalmus scheeli* is reclassified as *Micropanchax scheeli*. The other species previously identified as *Aplocheilichthys macrophthalmus scheeli* is described herein as *Poropanchax stigmatopygus*.

RÉSUMÉ. - Identification de *Micropanchax scheeli* (Cyprinodontiformes: Poeciliidae: Aplocheilichthyinae) avec la description d'une nouvelle espèce du genre *Poropanchax*.

Deux petites espèces de Poeciliidae des plaines côtières d'Afrique de l'Ouest étaient identifiées dans la littérature comme *Aplocheilichthys macrophthalmus scheeli* ou *Aplocheilichthys scheeli*. Les deux partagent la présence, chez les mâles, de nageoires pelviennes extraordinaires en long filament, mais diffèrent par leur habitat, la coloration des mâles et la disposition supra-orbitale des neuromastes. Les spécimens-types d'*Aplocheilichthys macrophthalmus scheeli* ont été comparés aux spécimens identifiés comme tels dans les collections des musées. Sur la base d'une série-type et de matériel additionnel, *Aplocheilichthys macrophthalmus scheeli* est redéfinie comme *Micropanchax scheeli*. L'autre espèce, précédemment identifiée comme *Aplocheilichthys macrophthalmus scheeli*, est décrite ici comme *Poropanchax stigmatopygus*.

Key words. - Poeciliidae - *Poropanchax stigmatopygus* - *Micropanchax scheeli* - West Africa - Systematics - New species.

In 1932 Meinken described the poeciliid fish *Aplocheilichthys macrophthalmus*. The type specimens originated from an aquarium fish import that was collected in the vicinity of Lagos, Nigeria. In subsequent studies, *A. macrophthalmus* was divided into three subspecies; the nominal subspecies, *A. macrophthalmus hannerzi* Scheel, 1968 and *A. macrophthalmus scheeli* Roman, 1970. In Wildekamp (1995), *A. macrophthalmus hannerzi* was regarded as a colour morph of *A. m. macrophthalmus*. *Aplocheilichthys macrophthalmus scheeli* was described from specimens collected from the Utonde and Ekuko Rivers in Rio Muni (= Equatorial Guinea) in Roman (1970). The main characteristics used for separating *A. macrophthalmus scheeli* from the nominal subspecies were the extraordinarily long filamentous pelvic-fins in males and lower number of scales in the mid-longitudinal series. Also specimens collected by Scheel from a Lobe River tributary between Kribi and Ebolowa, in Cameroon were regarded in Roman (1970) as identical to *A. macrophthalmus scheeli*. The description of *A. macrophthalmus scheeli* was repeated in Roman (1971).

Here specimens collected from various localities in the West African coastal plains, including the lower Lobe River and the Utonde basins, previously attributed to the genus *Aplocheilichthys*, are compared with the type specimens of *A. macrophthalmus scheeli*. It was found that specimens from the lower Lobe River differ in several aspects from the types of *A. macrophthalmus scheeli*, and those from the Utonde River, and that in the specimens studied two types can be distinguished. Both types share the character of extremely long filamentous pelvic-fins in adult males. They differ distinctly in the supra-orbital neuromast pattern, number of scales on the mid-longitudinal series, coloration of the adult male and habitat. Populations of both types were identified in museum collections, as well as in literature, as *A. macrophthalmus*, *A. macrophthalmus scheeli* or *A. scheeli*, creating a taxonomically unsatisfactory situation.

As a result of the study of the type specimens of *A. macrophthalmus scheeli* this taxon is redefined as *Micropanchax scheeli*. The other type, amongst others occurring in the lower Lobe River, is described herein as *Poropanchax stigmatopygus* new species.

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MATERIAL AND METHODS

Material examined

Micropanchax scheeli. - MCSBCN 79; holotype *Aplocheilichthys macrophthalmus scheeli*; Rio Muni (Equatorial Guinea), Rio Utonde, B. Roman, 29 Aug. 1966. MCSBCN 79, allotype *Aplocheilichthys macrophthalmus scheeli*; Rio Muni (Equatorial Guinea), Rio Utonde, B. Roman, 29 Aug. 1966. MCSBCN 79; 5 paratypes *Aplocheilichthys macrophthalmus scheeli*; Rio Muni (Equatorial Guinea), Rio Utonde, 12 km from its mouth, B. Roman, 19 Aug. 1966. MCSBCN 78 *Aplocheilichthys macrophthalmus macrophthalmus*; Rio Muni (Equatorial Guinea), affluent of the Aye River, B. Roman, 2 Jul. 1968. MRAC 164711-721; 11 paratypes *Aplocheilichthys macrophthalmus scheeli*; Rio Muni, 9 km from Bata, Ekuko River; B. Roman, 21 Jun. 1968. MRAC 73-39-P-1972-982; *Aplocheilichthys scheeli*; Cameroon, Bibundi, Lower Ombe River, Estuary, J.J. Scheel, 19 Jan. 1969. MRAC 73-02-P-2590-594; Rio Muni, km 15 route Bata - Rio Benito; D. Thys van den Audenaerde, 17 Dec. 1964. MRAC 90-19-P-239-310; *Aplocheilichthys scheeli*; Nigeria, Rumuokparali, New Calabar River, C.B. Powell, 24 Apr. 1989. MRAC 90-19-P-311-339; *Aplocheilichthys scheeli*; Nigeria, Rumuokparali, New Calabar River, C.B. Powell, 30 Jan. 1990. MRAC 91-10-P-486-491; Nigeria, New Calabar River, Akpor; C.B. Powell, 5 Jan. 1991. MRAC 91-52-P-1-3; *Aplocheilichthys scheeli*; Nigeria, Lagos, Kuramo Waters, G. Jome, Jan. 1989. MRAC A2-031-P-1-42; *Micropanchax scheeli*; Equatorial Guinea, Creek emptying in Rio Ue, Rio Utonde system (01°55.02'N-09°49.72'E; F). Malumbres, F. Garcia Lora and J.L. Blanco, 26 Feb. 2002.

Poropanchax stigmatopygus. - MCSBCN 78; *Aplocheilichthys macrophthalmus macrophthalmus*; Rio Muni, Rio Mami, affluent of Kie, near Ebebiyin; B. Roman, 10 Aug. 1967. MCSBCN 78; *Aplocheilichthys macrophthalmus macrophthalmus*; Rio Muni, Bata at Bolondo; B. Roman, 28 Jun. 1968. MRAC 77-17-P-863-936; *Aplocheilichthys scheeli*; Cameroon, 19 km S.E. from Kribi, Akok; A.C. Radda, 14 Feb. 1972. MNHN 1997-181-182; *Aplocheilichthys scheeli*; Gabon, Creek 30 km S. of Port Gentil flowing into Animba River, 2 km from the mouth (0.945°S-8.945°E); H.M. Auguste, Jul. 1995. MNHN 1998-0483; *Aplocheilichthys scheeli*; Gabon, Creek 30 km S. of Port Gentil flowing into Animba River, 2 km from the mouth; H.M. Auguste, 9 Nov. 1997.

Aplocheilichthys spilauchen. - MCSBCN 77; Rio Muni (Equatorial Guinea), Utonde River, 12 km from its mouth; B. Roman, 19 Aug. 1966. MCSBCN 77; Rio Muni (Equatorial Guinea), small river between Sente and Rio Benito; B. Roman, 1 Jul. 1968.

Poropanchax luxophthalmus. - MRAC 91-067-P-0098-0100; Nigeria, sandy floodplain channel (Osoko Creek), Niger River (05°08'N-06°23'E); C.B. Powell, 01-27 Jul. 1991.

Poropanchax normani. - BMNH 1948.1.14: 258-260; Sudan, Bisseliya; D.J. Lewis, Jan. 1948. BMNH 1968.16.10: 19; Sudan, White Nile, El Araish near Tonga; A.O. El Qadi, 1947. MNHN

1965-700; Central African Republic, Aouk near Golongosso, Chad basin; A. Stauch, 31 Mar. 1962.

Micropanchax keilhacki. - HOB; Benin, Mouth of Mono River, Agamé; H. Brachet, 8 Mar. 1979.

METHODS

Institutional collections and abbreviations: this study is based on preserved specimens in the collections of the Museo del Colegio la Salle Bonanova de Ciencias Naturales, Barcelona, Spain (MCSBCN), Musée Royal de l'Afrique Centrale, Tervuren, Belgium (MRAC), Muséum national d'Histoire naturelle, Paris, France (MNHN), Natural History Museum, London, United Kingdom (BMNH) and the personal collection of H.O. Berkenkamp, Wilhelmshaven, Germany (HOB).

Morphological measurements and counts follow Amiet (1987). Measurements, including sub-units of head, are presented as percentages of standard length (SL).

Terminology of cephalic squamation patterns follows Hoedeman (1958) and nomenclature of head sensory systems is according to Clausen (1967).

MICROPANCHAX SCHEELI (ROMAN, 1970)

(Figs 1, 2)

Aplocheilichthys macrophthalmus scheeli Roman, 1970; *Aplocheilichthys scheeli* Wildekamp, 1990;

Poropanchax scheeli Huber, 1999a;

Holotype. - MCSBCN 79, male 23.3 mm SL; Rio Muni: Rio Utonde; B. Roman, 29 Aug. 1966.

Allotype. - MCSBCN 79, female 23.1 mm SL; collecting data as holotype.

Paratypes. - MCSBCN 79, 20 spms 22.5-16 mm SL; collecting data as holotype.

Paratypes. - MCSBCN 79, 19 spms 22-15 mm SL; idem.

Note: as holotype the male specimen was regarded that is illustrated in Roman (1970 and 1971). The female on these illustrations was selected as allotype. All other specimens were regarded as paratypes. After study the holo-, allotype and paratypes are stored in separate containers within the collection MCSBCN 79.

Paratypes. - MRAC 164711-164721, 11 spms 23.1-13.2 mm SL; Rio Muni: Fleuve Ekuko, km 9 de Bata; B. Roman, 21 Jun. 1968.

Diagnosis

Distinguished from all other species of the subfamily Aplocheilichthyinae by the following combination of fea-

tures: extended second and third pelvic-fin rays in male, tips reaching to caudal-fin base; supra-orbital neuromasts in open groove; preopercular neuromast system tubular with six exposed pores; reticulated pattern on sides; male reflective colours evenly distributed over the sides; G-type cephalic squamation; 24-27 scales in mid-lateral series; rows of dark red spots on anal and caudal-fin of male; polychromatic in male coloration.

Description

Small aplocheilichthyine fish with large eyes. Body elongate, laterally compressed. Snout pointed, mouth directed upward, cleft oblique. Eye large, 1.8 to 2.5 times in head length. Dorsal profile slightly curved. Dorsal- and anal-fin set back, well behind the middle of the body. Beginning of dorsal-fin over 8-10th anal-fin ray. Dorsal-fin rays 6-8, anal-fin 12-14. Dorsal- and anal-fins of male pointed, caudal-fin trapezoidal. Rays two and three of male pelvic-fins extremely long and projecting from the fin membrane and, in some specimens, extending to caudal-fin base. Pectoral-fins set high. Female pelvic-fins not extended as in males. Transverse rows of scales above pelvic-fins, 8, circum-peduncular scales 12. Supra-orbital neuromast systems in short open groove, its length less than half the diameter of the eye. Groove lined with 4 low lobes, a pair on each side. Preopercular neuromast system tubular with six pores. Cephalic squamation G-type, no H-scales present. Fully grown males more compact than females.

Live coloration

Male

Body yellow-grey to pale olive, slightly transparent, ventral area silver. Sides with a light blue, spotted iridescence that is most intense on the posterior part of the sides. Scales on back, upper and median parts of sides, with narrow dark borders, producing a weak reticulation. Dorsal-fin pale yellow with rows of dark red spots. Anal-fin pale yellow with horizontal rows of dark red spots. Caudal-fin pale yellow with curved rows of dark red spots. Two colour phenotypes can be identified; white and red, according to colour of margins of dorsal-fin, upper and lower margins of caudal-fin and colour of extended pelvic-fins.

Female

Translucent pale grey with silver abdominal region. Small golden spots may be present on sides, usually on or near the mid-lateral axis. Scales on sides with narrow grey margin. All fins colourless without markings. Both sexes with a narrow dark band from the caudal-fin base, following the lower body profile and ending between the pelvic-fins. Male and female have a distinct reflective blue spot in the upper part of the eye-iris.

Preserved coloration

Depending on length of preservation the body colour of specimens preserved in alcohol varies from yellow-grey to pale creamy yellow. On the mid-lateral axis a distinct narrow dark longitudinal stripe. Above and below this line the scale pockets are lined with melanophores, giving a reticulated appearance. A second longitudinal line follows the lower body profile from between the pelvic-fins to the base of the caudal-fin. All unpaired fins varying between transparent creamy to colourless. In males remnants of the spots in the unpaired fins may be present.

Distribution

Coastal waters, lagoons, mouths of rivers and estuaries, from the Kuramo Waters east of Lagos in southwestern Nigeria to the mouth of the Benito River, southern Equatorial Guinea.

Ecological notes

All known populations of *Micropanchax scheeli* were obtained from brackish habitats such as coastal lagoons and river mouths. The fish lives in schools varying between a few to several hundreds of specimens. In most occasions *M. scheeli* is accompanied by schools of *Aplocheilichthys spilauchen* (Duméril, 1861).

POROPANCHAX STIGMATOPYGUS NOV. SP.

(Fig. 3)

- Aplocheilichthys* c.f. *macrophthalmus* Scheel, 1969;
Aplocheilichthys macrophthalmus macrophthalmus Roman, 1971 (in part);
Aplocheilichthys scheeli Daget, 1979;
Aplocheilichthys macrophthalmus scheeli Radda & Pürzl, 1983;
Poropanchax scheeli Huber, 1999b.
Holotype. - MNHN 1978-742, male, 24.3 mm SL; Cameroun: bas Sanaga; D. Depierre, 1978.
Paratypes. - MNHN 1978-742, male, 23.8 mm SL and female, 20.7 mm SL; collection data as holotype.
Note: for holotype the male specimen, marked with a label, was selected.

Diagnosis

Distinguishable from all other species of the subfamily Aplocheilichthyinae by the following combination of features: supra-orbital neuromast systems tubular, exposed by three, occasionally two, pores in adults; preopercular neuromast system tubular with five pores; G-type cephalic squamation, H-scales may be present; 27-29 scales on mid-lateral series; male reflective chromatophores in three longitudi-



Figure 1. - *Micropanchax scheeli*, wild-caught male, not preserved; Equatorial Guinea, creek emptying in Rio Ue, Rio Utonde system. (Photo: F.J. Malumbres).

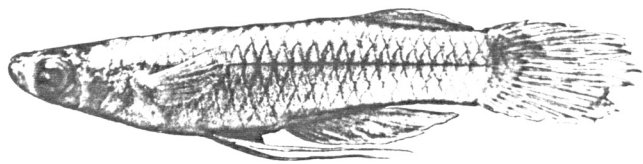


Figure 2. - *Micropanchax scheeli*, holotype, MCSBCN 79, male 23.3 mm SL; Rio Muni: Rio Utonde; B. Roman, 29 August 1966. (Reproduced from Roman, 1971).

nal lines; extended second and third pelvic-fin rays in male; dark spot above anus in both sexes.

Description

Morphometric characters are given in table I. Small Aplocheilichthyine fish. Body elongate, laterally compressed. Snout pointed, mouth directed upward, cleft oblique. Eye large, 1.9 to 2.1 times in head length. Dorsal profile straight to slightly curved. Dorsal- and anal-fin set back, behind the middle of the body. Dorsal-fin pointed, ending in a short filament. Anal-fin pointed. Caudal-fin truncated. Rays two and three of male pelvic-fins extremely long and filamentous and may extend well beyond end of anal-fin base. Pectoral-fins set high. Female pelvic-fins not extended.



Figure 3. - *Poropanchax stigmatopygus*, wild-caught male, not preserved; Cameroon; Creek emptying in Niete River, Lobe system, southeast of Kribi. (Photo: R.H. Wildekamp).

Table I. - Morphometric characters of the type specimens of *Poropanchax stigmatopygus* new species, expressed in percentages of standard length. Standard length given in mm.

	Holotype	Paratypes	
	male	male	female
Standard length (mm)	24.3	23.8	20.7
Body depth	21.8	19.7	19.3
Body width	9.9	11.8	13.0
Head length	24.7	23.1	23.7
Eye diameter	9.9	10.5	11.6
Interorbital width	9.9	10.5	10.6
Snout length	4.9	5.9	5.8
Pre-dorsal length	65.8	65.5	69.6
Pre-anal length	62.1	59.7	57.5
Pre-ventral length	42.0	39.1	41.5
Length base dorsal fin	11.5	9.2	9.7
Length base anal fin	15.2	13.4	12.6
Length ventral fin	35.4	37.8	15.0

Beginning of dorsal-fin over 6-8th anal-fin ray. Dorsal-fin rays 6-8, anal-fin rays 11-14. Scales on mid-lateral series 27-29. Transverse rows of scales above pelvic-fins 8, circum-peduncular scales 12. Supra-orbital neuromast systems tubular, their length longer than half the diameter of the eye. Each system exposed by 2-3 pores. Preopercular neuromast systems tubular with five pores each. Cephalic squamation G-type, H-scales may be present. Adult males more compact than females.

Live coloration

Male

Body colour yellowish grey, slightly transparent, becoming whiter towards the abdomen. Sides with three horizontal lines of reflective light blue spots. The upper line follows the upper body profile, the middle runs along the mid-lateral body axis and the lower line follows the lower body profile. Between the lower two lines irregularly dispersed light blue spots are present. Scales on back and sides with narrow dark margins, giving a weak reticulation. Dorsal-fin pale orange without markings. Anal-fin pale orange with narrow orange margin. Caudal-fin pale orange, the outer margin deeper and darker orange. Pelvic-fins and extensions yellow-orange. Pectoral-fins hyaline.

Female

Translucent pale grey with silver abdominal region. Small light blue spots may be present on sides, usually on or near the mid-lateral line. Scales on sides with narrow grey margins. All fins colourless without markings. Both sexes with a distinct reflective blue spot in the upper part of the eye-iris.

Preserved coloration

Depending on length of preservation in alcohol the body colour varies from yellow-grey to pale creamy yellow. On the mid-lateral axis a narrow dark longitudinal line. A second longitudinal line follows the lower body profile from between the pelvic-fins to the base of the caudal-fin. All unpaired fins varying between transparent creamy to colourless.

Distribution

Small rivers and creeks on the coastal plains of Cameroon, Equatorial Guinea and northwestern Gabon. From the Sanaga estuary, Cameroon southward to Port Gentil in northwestern Gabon.

Ecological notes

All known populations of *P. stigmatopygus* were obtained from fresh water habitats such as small rivers and creeks with a moderate flow, living in small schools, usually not far from the bordering vegetation. In its natural habitat it was often found together with *Procatopus* or *Plataplochilus* species, as other representatives of the poeciliid family.

Etymology

From the Latin *stigma* = stigma or mark and from the Greek *pygê* = anus. Referring to the dark spot at the anus of both sexes. Gender masculine.

DISCUSSION

The Aplocheilichthyine fish *Aplocheilichthys macrophthalmus* was described by Meinken in 1932. The type specimens were obtained from an import of ornamental fishes that were collected in the vicinity of Lagos, Nigeria. Scheel (1968) reviewed *A. macrophthalmus* and its known range of distribution was expanded to the coastal plains of southern Benin, through southern Nigeria to the adjacent part of west Cameroon.

Aplocheilichthys macrophthalmus was divided into three subspecies; the nominal subspecies, living in southern Benin, southern Nigeria and southwestern Cameroon, *A. macrophthalmus hannerzi* Scheel, 1968 from the delta of the Niger River and *A. macrophthalmus scheeli* Roman, 1970 originating from Equatorial Guinea and the adjacent southwestern Cameroon. The original description of *A. macrophthalmus scheeli* was repeated in Roman (1971). Roman (1971) also reported *A. macrophthalmus macrophthalmus* from three localities in Rio Muni. In Wildekamp (1995) *A. macrophthalmus hannerzi* was regarded as a colour morph of *A. macrophthalmus macrophthalmus*. The validity of the name *A. macrophthalmus* was discussed in Huber (2000).

Fundulopanchax luxophthalmus Brüning, 1929, was given priority over *A. macrophthalmus* and placed in the genus *Poropanchax* Clausen (1967). Without comments the name *luxophthalmus* was already accepted in Seegers (1997).

Aplocheilichthys macrophthalmus scheeli was described in Roman (1970) from specimens he collected from the Utonde River in Rio Muni (now Equatorial Guinea). The main characters used for separating *A. macrophthalmus scheeli* from the nominal subspecies were the extraordinarily long filamentous pelvic-fins, although a lower number of scales on the lateral series were also noted. Based on the former character Roman (1970) also included specimens, collected by Scheel in 1969, from a tributary to the Lobe River located between Kribi and Ebolowa in *A. macrophthalmus scheeli*. The taxonomic status of *A. macrophthalmus scheeli* specimens, collected from the Estuary of the Sanaga River, Cameroon, was discussed in Daget (1979), who regarded them as a distinct species, *A. scheeli*.

Scheel (1969) reported on the specimens collected by him in the Lobe River basin, south of Kribi, west Cameroon. He identified these as *A. macrophthalmus*, as well as populations collected by him from the edge of the mangroves in the harbour of Ekondo Titi (Meme basin) and from the mouth of the Ombe River in Bipindi, west Cameroon. The fish from the Lobe River basin was also identified as *A. macrophthalmus* in Radda (1971) and in Radda and Pürzl (1983), as *A. macrophthalmus scheeli*. Seegers (1997) and Huber (1999b) identified this Lobe River population as *A. scheeli* or *Poropanchax scheeli* respectively. Scheel (1969) indicated that this Lobe River fish carries a tubular supra-orbital neuromast system with three pores. Scheel's finding is confirmed in the present study. This in contrast to the Ekondo Titi and Bibundi specimens that have a supra-orbital neuromast system in short open grooves. In Wildekamp (1990) the populations having a tubular supra-orbital neuromast system with three pores were regarded as different species from those having a short and open groove supra-orbital neuromast system. Differences in male colour and colour pattern supported this proposal.

This created the unsatisfactory situation that two different species of fish are given the names *A. macrophthalmus scheeli*, *A. scheeli*, or *P. scheeli* in literature and museum collections. To establish its correct identity the type specimens of *A. macrophthalmus scheeli* were studied in the MCSBCN and MRAC. It was found that the holotype and the allotype (both MCSBCN 79) are in a fairly good state of preservation. Only most of the scales on the upper surface of the head of the holotype and allotype are lost. Of the latter most of the tips of the caudal-fin rays are broken, giving this fin a square appearance. The condition of the paratypes (also MCSBCN 79) is quite good, only the tips of some of the unpaired fins are broken. Also the condition of the paratypes from the Ukuko River (MRAC 164711-164721) collection

is good. The long filamentous pelvic-fins are lost in all type specimens. The specimens studied, all have a supra-orbital neuromast system that is housed in a short (less than half the diameter of the eye) open groove lined with 4 low lobes.

As a result *Aplocheilichthys macrophthalmus scheeli* Roman, 1970 is redefined as *Micropanchax scheeli*. Scheel's (1969) Lobe River fish is described as *Poropanchax stigmatopygus* new species.

Specimens identified in Roman (1971) as *A. macrophthalmus macrophthalmus* were also studied. With the exception of the two, originating from an affluent of the Aye River that are regarded here as identical to *M. scheeli*, all specimens studied were identified as *P. stigmatopygus*. Most of the specimens studied were identified by their tubular supra-orbital neuromast systems with three pores. In others the covering tissue of the tubular system was collapsed and (partly) attached to the bottom of the underlying groove. This hampered the identification but in most cases some of the pores are still visible. The longer size of this neuromast system (longer than the diameter of the eye), without lobes, always enabled a proper identification. This identification was in all cases supported by the very distinct dark mid-lateral line and reticulation on the sides of the preserved *M. scheeli* specimens. This is in contrast to a narrower and lesser visible line and the absence of reticulation on the sides of these preserved *P. stigmatopygus* specimens. Live male *M. scheeli* specimens can be distinguished by the reflective colour evenly distributed over the sides. This in contrast to male *P. stigmatopygus* which have their reflective colour concentrated in three parallel horizontal lines. In this aspect *P. luxophthalmus* males have only two reflective parallel horizontal lines (median and lower) and thus can be distinguished optically from *P. stigmatopygus* males.

Apart from the morphological differences mentioned both species have a different habitat. *Micropanchax scheeli* prefers a brackish environment while *P. stigmatopygus* is always found in freshwater habitats. The preference of *M. scheeli* for brackish habitats is shared only with *A. spilauchen* and *Micropanchax keilhacki* Ahl, 1928. *Micropanchax scheeli* can be distinguished with ease from *A. spilauchen* by its distinctly smaller size and barred pattern of the males of *A. spilauchen*.

Micropanchax keilhacki is a little known species described from two specimens from the Togo lagoon near Djeta, southeastern Togo. These type specimens were not mentioned in the Paepke and Seegers (1986) critical catalogue of types in the collection of the Zoological Museum of Berlin. Their whereabouts are presently unknown. The only specimen of *M. keilhacki* studied was identified by and obtained from Berkenkamp. This specimen resembles *M. scheeli* in aspects of cephalic squamation and supra-orbital neuromast systems. It shares the tubular preopercular neuromast system; the number of exposing pores is seven,

versus six for *M. scheeli*. The *M. keilhacki* specimen lacks the pointed dorsal- and anal-fins, the trapezoidal caudal-fin and filamentous pelvic-fins. It is suggested that this specimen is a female. Based on the information available it cannot be excluded that *M. scheeli* is a possible synonym of *M. keilhacki*. More specimens of the latter have to be studied, as well as the molecular characters of the species involved to draw final conclusions. For the time being *M. scheeli* is regarded as a distinct species.

Recently, Huber (1999b) reported the collection of *Poropanchax scheeli* from a locality 30 km south of Port Gentil, northwestern Gabon. The specimens of this population all show characters that identify it as *M. stigmatopygus*. Most specimens of this population, however, have two pores instead of three exposing the tubular supra-orbital neuromast system. This corroborates Huber's (1999a) decision to synonymise *Congopanchax* Poll, 1971 with *Poropanchax*.

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