

***Heros acaroides* HENSEL, 1870 – a valid species of *Australoheros* (Teleostei: Perciformes: Cichlidae) from the Patos-Mirim lagoon system, south Brazil**

INGO SCHINDLER¹, FELIPE P. OTTONI² & MOREVY M. CHEFFE³

¹ Warthestr. 53a, 12051 Berlin, Germany
ingoschindler(at)web.de

² Laboratório de Ictiologia Geral e Aplicada, Departamento de Zoologia, Universidade Federal do Rio de Janeiro, Cidade Universitária, Caixa Postal 68049, CEP 21994-970, Rio de Janeiro, RJ, Brazil
fpottoni(at)yahoo.com.br

³ Setor de Ictiologia, Divisão de Fauna, Grupo Especial de Estudo e Proteção do Ambiente Aquático do Rio Grande do Sul, Rua Tiradentes 2247, CEP 96010-165, Pelotas, RS, Brazil
mcheffe(at)hotmail.com

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> Abstract

Heros acaroides HENSEL, 1870 is resurrected from synonymy of *Chromis facetus* JENYNS, 1842 (currently known as *Australoheros facetus*) and re-described on the basis of its type series and fresh material, collected in the vicinity of its type locality (Porto Alegre, Rio Grande de Sul, Brazil). A lectotype is designated. It differs from *Australoheros facetus* by its mouth shape (jaws subequal versus lower jaw projecting over upper jaw; comparative thick lips versus thin lips) and smaller scales on cheeks (cheek scale rows 4 or usually 5 vs. usually 3 in *A. facetus*). It differs from *A. taura* (a species occurring in the same drainage) by the presence of a conspicuous midlateral stripe, a well developed caudal fin base spot (vs. no prominent spot in *A. taura*) and by a higher body depth (42.7–49.0 % SL versus 40.1–42.4 % of SL in *A. taura*).

> Resumo

Heros acaroides HENSEL, 1870 é ressuscitado da sinonímia de *Chromis facetus* JENYNS, 1842 (atualmente *Australoheros facetus*) e adicionalmente re-descrito baseado na série tipo e em material recém coletado, próximo à localidade tipo (Porto Alegre, Rio Grande de Sul, Brasil). Um lectótipo é designado. Ela difere de *Australoheros facetus* pela forma da boca (mandíbulas com o mesmo comprimento vs. mandíbula inferior se projetando a frente da mandíbula superior; lábios comparativamente mais largos vs finos) e escamas menores na bochecha (4 ou geralmente 5 séries de escamas na bochecha vs geralmente 3 em *A. facetus*). Difere de *A. taura* (uma espécie que ocorre na mesma bacia) pela presença de uma faixa longitudinal conspícua e mácula da base da nadadeira caudal bem desenvolvida (vs. mácula pouco desenvolvida em *A. taura*) e por possuir uma maior altura do corpo (42,7–49,0 % CP) do que *A. taura* (40,1–42,4 % CP).

> Key words

Systematic, ichthyology, Cichlasomatini, *Australoheros acaroides*, lectotype, *Australoheros facetus*, Rio Grande de Sul, Brazil.

Introduction

Heros acaroides was originally described by HENSEL (1870) on the basis of specimens he had collected in the vicinity of Porto Alegre (Rio Grande de Sul, Brazil). The taxon was later treated as a synonym of

Chromis facetus JENYNS, 1842 by STEINDACHNER (1875), an opinion accepted by most authors until recently (e. g. MALABARBA, 1989; KULLANDER, 2003; ŘÍČAN & KULLANDER, 2008). In 2006, ŘÍČAN and KUL-

LANDER erected the genus *Australoheros* for REGAN's (1905) 'Section 3' (also called '*Cichlasoma*' *facetus* group by KULLANDER, 1998 and STAWIKOWSKI & WERNER, 1998), with *Chromis facetus* as the type species. Since then, both nominal species are included in *Australoheros*.

This Neotropical cichlid genus is the southernmost member of the tribe Heroini. The species of the genus are distributed in the La Plata basin, the rio Paraná, rio Paraguay and rio Uruguay drainages, in the east Atlantic coastal rivers of Uruguay and Brazil (up to the state of Bahia) and in the southern parts of the São Francisco drainage (STAWIKOWSKI & WERNER, 1998; ŘIČAN & KULLANDER, 2008; OTTONI & COSTA, 2008; OTTONI & CHEFFE, 2009). Recently published species descriptions, reviews and regional revisions of the genus lift up the number of nominal species taxa to over 15 (CASCIOTTA *et al.*, 2006; ŘIČAN & KULLANDER 2003, 2008; OTTONI & COSTA, 2008; OTTONI *et al.*, 2008; OTTONI & CHEFFE, 2009). In these papers, however, the taxon *Heros acaroides* was not particularly considered and simply treated as a synonym of *Australoheros facetus* without examining its type specimens. This is why we re-examined the type specimens of *Heros acaroides* HENSEL. As a result we find it specifically different from *Australoheros facetus*, hence, resurrect it from the synonymy as *Australoheros acaroides* (a lectotype is designated) and re-describe it on the basis of both its types and additional material collected in the vicinity of its type locality.

Material and Methods

Type specimens of *Heros acaroides* examined in this study are from the fish collection of the ZMB, Museum für Naturkunde – Leibniz-Institut für Evolutions- und Biodiversitätsforschung an der Humboldt-Universität zu Berlin (Germany). New material is deposited in UFRJ, Universidade Federal do Rio de Janeiro, Rio de Janeiro (Brazil), CIMC, divisão de Fauna, Grupo Especial de Estudo e Proteção do Ambiente Aquático do Rio Grande do Sul, Rio Grande do Sul (Brazil) and MCP, Museu de ciências e tecnologia da Pontifícia Universidade Católica do Rio Grande do Sul, Pontifícia Universidade Católica do Rio Grande do Sul, Rio Grande do Sul (Brazil).

For species delimitation we adopt here the method described and discussed by DAVIS & NIXON (1992) and discriminate species on divergent diagnostic character states (or on a specific combination of different character states).

The techniques for taking measurements and meristic data follow those described in KULLANDER (1986).

Measurements were made with an electronic digital calliper reading to the nearest 0.1 mm and given as percentages of the standard length (SL). Figures in brackets after counts indicate the number of specimens examined with that condition. Scale rows are numbered as described in KULLANDER (1990). Following this terminology, E0 is the horizontal row of scales including the lower lateral line and E1 is the horizontal row dorsally above E0. Nomenclature of bar pattern and general format of the description follows OTTONI & COSTA (2008). Examined material of *A. acaroides* is listed under the species account. Comparative material used as listed in OTTONI & COSTA (2008), OTTONI *et al.* (2008) and OTTONI & CHEFFE (2009).

Australoheros acaroides (HENSEL, 1870)

Fig. 1–2

Heros acaroides HENSEL, 1870: 54 (bei Porto Alegre in stagnierenden Gewässern).

Acara faceta (non JENYNS, 1842) STEINDACHNER (1874): 8–9 (*H. acaroides* in synonymy).

Acara autochthon (non GÜNTHER, 1862) COPE (1894): 107 (rio Jacuí drainage).

Examined material

Type specimens: ZMB 7455, 2 ex., 34.4–71.2 mm SL, Brazil, Rio Grande de Sul, rio Cadea [Cadeia] (the larger specimen is designated here as the lectotype and the other as paralectotype); *coll.* R. HENSEL. ZMB 7454, 3 ex., 16.3–18.2 mm SL, Brazil, Rio Grande de Sul, Porto Alegre; *coll.* R. HENSEL (paralectotypes). ZMB 25109, 2 ex., 34.2–62.6 mm SL, Brazil, Rio Grande de Sul, rio Cadea [Cadeia]; *coll.* R. HENSEL (paralectotypes). ZMB 25179, 7 ex., small (<18 mm SL) and in bad condition, not measured; *coll.* R. HENSEL (paralectotypes).

Non type specimens: UFRJ 7754, 2 ex. (D&C), 36.4–52.3 mm SL, Brazil, Rio Grande de Sul, Turuçu County, rio Turuçu basin, Laguna dos Patos drainage; *coll.* M.M.CHEFFE, G.N. MAURÍCIO and M.M. BURNS, 06 Apr. 2002. CIMC 6260, 5 ex., 109.3–120.1 mm SL, Brazil, Turuçu County, lagon near the Mr. Fetter farm, rio Turuçu basin, Laguna dos Patos drainage; *coll.* M.M. CHEFFE, M.M. BURNS & G.N. MAURÍCIO, 18. Oct. 1999. CIMC 13076, 1 ex., 115.8 mm SL, Brazil, São Lourenço do Sul County, dam in Pacheca locality, rio Camaquã basin; *coll.* M.M. CHEFFE & N.H. JAEGER, 06. Oct. 2000. CIMC 14012, 3 ex., 48.2–118.4 mm SL, Cachoeira do Sul County, swamp of arroio Capané, rio Jacuí drainage; M.M. CHEFFE, R.K. BALTAR & L.S. ROSA, 11. Nov. 2003. CIMC 8002, 3 ex., 106.5–119.2 mm SL, Brazil, Rio Grande do Sul, Pelotas County, dos Trilhos stream, arroio Santa Bárbara basin, Lagoa Mirim drain-



Fig. 1. Lectotype of *Australoheros acaroides*, ZMB 7455.

age; coll. M.M. CHEFFE, F.L. SILVEIRA & D. ALESSANDRETTI, 06 Dec. 2000. MCP 9221, 5 ex., 96.2–47.8 mm SL, Brazil, Rio Grande do Sul, road Santa Maria to Vera Cruz, rio Jacuí basin (29° 48'S 53° 17'W); coll. C.A.S. LUCENA, L.R. MALABARBA & R.E. REIS, 16 Sept. 1983. MCP 9698, 1 ex., 48.9 mm SL, Brazil, Rio Grande do Sul, Guaíba County, arroio Faxina (30° 05'S 50° 02'W); coll. J. BERTOLETTI, L. MALABARBA, M. LUCENA & I. COSTA, 01 Dec. 1983. MCP 9758, 1 ex., 57.7 mm SL, Brazil, Rio Grande do Sul, Guaíba County, little beach from the Pintada island (30° 00'S 51° 17'W); C.A.S. LUCENA & L.R. MALABARBA, 15 Dec. 1983.

Diagnosis. *Australoheros acaroides* differs from all the species of the *A. forquilha*, *A. scitulus* and *A. kaaygua* groups by having a well developed caudal-fin base spot (*vs.* spot absent or weakly developed as a pigmented narrow bar); from *A. minuano* and all the species of the *A. facetus* group by having a well developed longitudinal stripe (*vs.* weakly developed) and three abdominal bars versus four (except in *A. guarani*); from all the species from *A. kaaygua* group by having more pectoral rays (14 *vs.* 12–13); from *A. facetus* by having a isognathous jaw (*vs.* prognathous); and, from *A. facetus* and *A. guarani* by having modally 5 cheek scales rows (*vs.* three in *A. facetus* and four in *A. guarani*).

Description. Measurements are summarized in Table 1; counts (fin rays and scales) from up to 14 specimens (including types), osteological data from 2 cleared & stained specimens (UFRJ 7754). See Figure 1 and 2 for general appearance.

Body moderately deep and laterally compressed. Predorsal contour curved, ventral contours of head

more or less evenly arched, with slight concavity in front of orbit, abdominal contour straight. Head moderately short, widest at its rear portion. Nostrils at middle between tip of snout and anterior margin of orbit. Opercle not serrated. Mouth terminal, jaws isognathous, lips comparatively thick, in smaller specimens narrow. Number of lower jaw teeth 12 or 14 in one outer hemiseries, upper jaw tooth row with 11 or 13 teeth in one outer hemiseries. Microbranchiospines present only on external side of ceratobranchial 4. Ceratobranchial 5 partly sutured medially and relatively robust, with 7–8 (2) teeth along midline and 23–26 (2) teeth along posterior margin. Posterior teeth tend to be laterally more compressed. Posterior and medial teeth larger than lateral and anterior teeth. Posterior teeth unicuspid, curved forward. Large laterally compressed teeth bicuspid, with second cusp raising anteriorly the shelf. Epibranchial 1 with a long process, epibranchial 2 with two long tubular processes (cf. OTTONI & COSTA 2008: fig. 4a and 4c). Ectopterygoid wide (cf. OTTONI & COSTA, 2008: fig. 3b). Caudal peduncle deeper than long. Trunk and caudal peduncle covered with ctenoid scales. Chest scales ctenoid. Sides of head (opercle, subopercle and interopercle) covered with cycloid scales. Preopercle without scales. Dorsal fin origin placed at level of posterior margin of opercle. Dorsal fin rounded, pointed on posterior region. Tip of dorsal fin reaching vertical through half of caudal fin. Dorsal fin scaled from dorsal-fin spine 8 to posterior origin of fin base. Anal fin rounded anteriorly, pointed posteriorly. Anal-fin base scaled from anal-fin spine 6. Tip of anal fin reaching vertical through half of caudal fin. Dorsal and anal fins with ctenoid scales on their basal third. Caudal fin long with convex

Tab. 1. Body proportions of *Australoheros acaroides*. Measurements of lectotype (ZMB 7455) and nine additional specimens; min = lowest value, max = highest value, mean = arithmetic mean, sd = standard deviation.

	MCP 9221	MCP 9221	MCP 9221	MCP 9221	MCP 9221	MCP 9698	MCP 9758	UFRJ 7754	UFRJ 7754	ZMB 7455	min	max	mean
Standard length (mm)	96.2	54.0	49.3	55.5	47.8	48.9	57.7	52.3	36.4	71.2	36.4	96.2	
% standard length													
Head length	33.5	35.0	34.4	34.9	33.1	36.8	35.8	36.7	34.6	33.4	33.1	36.8	34.8
Body depth	48.0	44.4	45.2	42.7	43.0	49.0	47.1	44.2	43.1	48.9	42.7	49.0	45.6
Predorsal length	38.4	41.1	40.7	42.8	41.0	42.6	41.9	44.5	42.3	44.0	38.4	44.5	41.9
Prepelvic length	40.3	40.7	41.3	39.8	41.4	43.4	41.7	42.8	41.2	42.7	39.8	43.4	41.5
Caudal peduncle depth	18.1	15.5	16.8	15.4	17.3	17.3	17.8	16.4	16.2	17.6	15.4	18.1	16.8
Caudal peduncle length	9.9	12.9	11.3	9.9	10.8	12.3	6.9	10.9	10.4	5.7	5.7	12.9	10.1
Dorsal-fin base length	59.7	56.4	57.8	56.3	57.7	55.9	63.4	59.6	58.2	61.5	55.9	63.4	58.7
Anal-fin base length	29.0	27.4	27.1	25.7	27.8	27.0	28.5	25.6	26.4	27.9	25.6	29.0	27.2
Pelvic-fin spine length	13.0	15.3	15.2	14.0	14.6	16.5	15.4	14.7	14.8	–	13.0	16.5	14.8
Pelvic-fin length	26.8	25.1	23.9	26.3	25.5	26.8	26.6	28.1	24.7	27.7	23.9	28.1	26.2
Pectoral-fin length	24.5	25.3	25.9	24.8	26.3	27.8	27.3	29.1	26.4	29.8	24.5	29.8	26.7
Caudal-fin length	26.5	25.0	26.9	25.2	26.5	27.4	29.8	32.7	31.0	29.0	25.0	32.7	28.0
Last dorsal-fin spine length	13.7	15.5	15.0	16.9	13.3	17.7	16.9	14.5	13.7	17.0	13.3	17.7	15.4
Last anal-fin spine length	14.5	18.5	15.0	13.3	17.9	14.7	15.7	15.3	14.6	–	13.3	18.5	15.5
% head length													
Head depth	110.8	101.0	107.6	92.2	100.6	103.3	90.8	89.1	87.3	–	87.3	110.8	97.1
Orbital diameter	24.4	28.5	29.4	29.8	28.3	26.1	27.0	31.3	31.7	31.3	24.4	31.7	28.8
Snout length	36.5	32.8	31.1	30.4	33.3	35.0	32.3	32.8	33.3	34.3	30.4	36.5	33.2
Head width	60.6	52.0	54.1	52.5	54.3	56.1	49.7	52.6	53.9	–	49.7	60.6	54.0
Interorbital width	45.8	43.3	42.9	47.4	43.2	47.2	41.5	41.1	41.3	38.8	38.8	47.4	43.3

distal margin. Caudal fin with smaller ctenoid scales covering about one third of fin. Pectoral fin rounded, reaching about first anal-fin spine or vertical trunk bar 4. Pelvic fin pointed, fin base on vertical through third or fourth spine of dorsal fin. Tip of pelvic fin reaching vertical through second spine of anal fin.

Scales in E0 row 23(3) or 24(4); in row E1 24(2) or 25(5). Predorsal scales about 12–13 along mid-line. Upper lateral line scales 15(2), 16(4), 17(7) or 18(1), lower lateral-line scales 7(1), 8(3), 9(6) or 10(3). Scales between upper lateral line and dorsal fin 4–5 anteriorly, 2 posteriorly. Lower lateral line continued on caudal fin by 1(4) or 2(3) scales. Cheek scale rows 4(1) or 5(4). Pectoral fin 12(2), 13(3) or 14(4). Dorsal fin XVI.8(1), XVI.9 (5), XVI.10(5), XVII.9(2) or XVII.10(1). Anal fin VI.8(2), VI.9(1), VII.7(3), VII.8(6), VII.9(1) or VIII.7(1). Caudal fin rays 3+8+8+3 (2). Proximal radials on dorsal-fin base 26(2), proximal radials on anal-fin base 12–14 (2), precaudal vertebrae 13(2), caudal vertebrae 13(2), rib pairs 10(2). Gill rakers on first ceratobranchial 5–7+16–18.

Colouration in alcohol. (Based on recently collected specimens). Side of body light brown with seven dark brown trunk bars (bars 1–5 continuous, 6–7

interrupted above longitudinal stripe) between caudal peduncle and posterior margin of opercle. Three abdominal bars. Trunk bars usually forked ventrally. Trunk bar 5 unforked dorsally and connected to trunk bar 6, above upper lateral line. Trunk bar 6 interrupted between longitudinal stripe and upper lateral line. Trunk bar 7 forked dorsally and interrupted above longitudinal stripe. Posterior part of trunk bar 7 with same width as anterior one. Trunk bar 1 in arch form, much wider than in its congeners. Three dark spots: one well developed round spot on caudal-fin peduncle on lower lateral line; second spot on junction between longitudinal stripe and trunk bar 4; third spot on posterior margin of opercle and longitudinal stripe. Well developed brown interrupted longitudinal stripe (much more developed than in its congeners) between trunk bar 1 to preopercle, lighter and less conspicuous between trunk bars 1–4, darker between trunk bar 4 and vertical head bar 1.

Side of head with three brown bars, all continuous; head bar 1 on post-orbital region close to eye, head bars 2–3 on supra-orbital zone between the eyes; head bar 2 on posterior orbital margin touching head bar 1 just above preopercle; head bar 3 curved and directed to snout. Head darker than trunk, particularly on dorsal part between head bars 2–3. Dorsal fin light brown,



Fig. 2. *Australoheros acaroides* from Laguna dos Patos basin, UFRJ 7754.



Fig. 3. Small swamp close to Pacheca in São Lourenço do Sul County (50° 42' W, 31° 10' S), Rio Camaquã basin, Laguna dos Patos drainage, habitat of *Australoheros acaroides*.

slightly invaded by dark brown trunk bars. Anal-fin colour pattern similar to dorsal fin. Caudal fin light brown, darker near caudal peduncle. Pectoral fin light brown, pelvic fin slightly darker.

Colouration in life. See figure 2. Side of body light brown, with seven dark brown bars. Side of head with the same coloration as trunk, with three brown bars. Eyes with red iris, not crossed by longitudinal stripe or bars.

Dorsal and anal fin light brown. Caudal fin light brown with two reddish regions (one postero-dorsal and second postero-ventral). Pelvic fin light brown, darker near spine. Pectoral fin yellowish.

Habitat and ecological notes. *Australoheros acaroides* inhabits streams with moderate current and arenaaceous and argillaceous substratum. In the dry periods it inhabits deeper parts of the streams, usually shaded by vegetation. It also occurs in marginal

lagoons and flooded regions of great rivers (e.g. rio Jacuí, rio Camaquã; see Fig. 3). The species tolerates moderately salt water in some lagoons and estuaries. HARTZ et al. (2000) characterized this species as diurnal and its preferred diet as diptera larvae, macrophytes, cladocera, hirudinea and some aquatic acaris. *Australoheros acaroides* frequently occurs in sympatry with nine other cichlid species: *Cichlasoma portalegrense* (HENSEL, 1870), *Crenicichla lepidota* HECKEL, 1840, *Crenicichla punctata* HENSEL, 1870, *Geophagus sp.*, *G. brasiliensis* (QUOY & GAIMARD, 1824), *Gymnogeophagus gymnogenys* (HENSEL, 1870), *Gymnogeophagus labiatus* (HENSEL, 1870), *Gymnogeophagus lacustris* REIS & MALABARBA, 1988 and *Gymnogeophagus rhabdotus* (HENSEL, 1870).

Distribution. Lower and middle parts of the rio Jacuí drainage, lago Guaíba and its tributaries and Patos-Mirim Lagoon System in the coastal plain (Fig. 4).

Etymology. The species epithet was not explained by HENSEL (1870). It is probably composed from “Acará” an Amerindian word used for South American cichlids (historically it was linked as a genus group taxon with *Cichlasoma*- and *Aequidens* like species) and -oides from the Greek suffix “-oides” (= “like” or “similar”), referring to an appearance similar to the species of the genus *Acara* HECKEL, 1840.

Discussion

With more than 4 anal-fin rays, a similar body shape and bar pattern as in *A. facetus* (the type species of the genus), *Heros acaroides* fits the characteristics of the genus *Australoheros* ŘÍČAN & KULLANDER, 2006.

The species taxon was described by HENSEL (1870), a German naturalist who lived from 1863 to 1866 in Brazil (mainly in Porto Alegre, Rio Grande de Sul). He collected particularly in the vicinity of Porto Alegre and around the German colonies north of that city (MALABARBA, 1989). The collecting site of *A. acaroides* is given by HENSEL (1870: 55) as “bei Porto Alegre in stagnierenden Gewässern” [= near Porto Alegre in stagnant waters]. However, on the bottle of ZMB 7455 and ZMB [25109] the collecting site is stated as “Rio Cadeia” (to be read as rio Cadeia; HENSEL, 1970). Hence, the exact type-locality is the rio Cadeia (tributary to rio Caí, Guaíba lake basin) Porto Alegre County (in XIX Century). HENSEL (1870) did not mention the exact number of specimens examined by him. Thus, all specimens of *A. acaroides* of HENSEL’s collection are syntypes. To stabilise the taxonomy of the species, we designated here the largest type



Fig. 4. Collecting sites of *A. acaroides*. Type locality is indicated by the black square.

specimen as the lectotype (ZMB 7455, SL 71.2 mm). The remaining syntypes become paralectotypes.

Only few years after the original description of *Heros acaroides* the taxon was synonymized with *Chromis facetus* JENYNS, 1842 (type-locality Maldonado, Uruguay) by STEINDACHNER (1875). This was subsequently accepted by other authors (e. g. REGAN, 1905; KULLANDER, 2003; MALABARBA, 1989; ŘÍČAN & KULLANDER, 2006, 2008; OTTONI & COSTA, 2008). But the comparison of the type specimens of *A. acaroides* with *A. facetus* (recently re-described by ŘÍČAN & KULLANDER, 2008) shows significant differences between both species. *Australoheros acaroides* can reliably be distinguished from *A. facetus* by the shape and position of its mouth (isognathous snout versus prognathous and slightly upturned mouth in *A. facetus*), thicker lips (versus thinner), lower number of external gill rakers on first ceratobranchial (usually 6 versus usually 8) and higher number of cheek scale rows (4 or usually 5 versus usually 3).

According to OTTONI & COSTA (2008), ŘÍČAN & KULLANDER (2003) and ŘÍČAN & KULLANDER (2008), there are three available taxa usually treated as junior synonyms of *A. facetus* viz. *Chromys oblonga* CASTELNAU, 1855, *Heros autochthon* GÜNTHER, 1862 and *Heros jenynsii* STEINDACHNER, 1869. *Heros acaroides* differs from *Chromys oblonga* by having more dorsal-fin spines (16–17 vs. 15). HENSEL (1870) distinguished his *Heros acaroides* from *Heros autochthon* (both now known as *Australoheros*) by a higher number of cheek scale rows (4 or 5 vs. 3 in *H. autochthon*, *sensu* GÜNTHER, 1862). This distinguishing character state is confirmed here. A comparison of the comprehensive description of *Heros jenynsii* provided

by STEINDACHNER (1870) with the re-description of *A. facetus* by ŘÍČAN & KULLANDER (2008) confirms that both (*Heros jenynsii* and *Chromis facetus*) are conspecific. Therefore the differences described above between *A. acaroides* and *A. facetus* are also valid for *Heros jenynsii*.

In conclusion, it is evident that *Heros acaroides* HENSEL from the Laguna dos Patos basin is a valid species of the genus *Australoheros*.

The *Australoheros* collected in the basin of the Laguna dos Patos were generally identified as *A. facetus* (see MALABARBA 1989). Recently, however, ŘÍČAN & KULLANDER (2006, 2008) recognized with *Australoheros* sp. "Jacuí" a possibly undescribed species from the Laguna dos Patos basin. As we did not examine specimens of this form for the present study, we are unable to decide its taxonomic status.

With the description of *A. taura* from the upper rio das Antas, rio Jacuí drainage, OTTONI & CHEFFE (2009) recently distinguished a further species from the Patos-Mirim lagoon system. The comparison of the specimens of *A. acaroides* examined herein and *A. taura* shows that *A. acaroides* has a deeper body (42.7–49.0 % SL) than *A. taura* (40.1–42.4 % of SL) and that it differs from that species by possessing a conspicuous midlateral stripe and a caudal fin base spot (versus lack of a prominent midlateral stripe and caudal fin base spot in *A. taura*; cf. OTTONI & CHEFFE, 2009).

The fresh material of *A. acaroides* was collected in the lower and middle parts of the rio Jacuí drainage, lago Guaíba and its tributaries and the Patos-Mirim lagoon system in Rio Grande de Sul. Despite minor differences (possibly due to slightly variations in obtaining the data) between type specimens, new specimens and specimens from different locations, we treat them all as conspecific and discriminate *A. acaroides* from the remaining species of the genus as stated in the diagnosis and in the discussion above.

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