UDC: 597.08.591.9

Received: 5 May 2008

Channichthys mithridatis, a new species of icefishes (Perciformes: Notothenioidei: Channichthyidae) from the Kerguelen Islands (East Antarctica), with comments on the taxonomic status of _Channichthys normani_

G.A.Shandikov

V.N.Karazin Kharkiv National University (Kharkiv, Ukraine)
fishingnet@ukr.net

The sub-Antarctic genus *Channichthys*, endemic for the area of the Kerguelen-Heard Plateau of the Southern Ocean, includes 7 nominal species of unicorn icefishes: *C. rhinoceratus* Richardson, 1844, *C. rugosus* Regan, 1913, *C. velifer* Meissner, 1974, *C. panticapaei* Shandikov, 1995, *C. irinae* Shandikov, 1995, *C. bospori* Shandikov, 1995 and *C. aelitae* Shandikov, 1995. The last four were described on the basis of materials collected by the 1990 research expedition (the 23rd cruise of *R/V Professor Mesyatsev*) of YugNIRO to the Kerguelen Islands area. The lately described *C. normani* Balushkin, 1996 is considered to be a junior synonym of *C. panticapaei*. In the present paper a new, the eighth species of genus *Channichthys* is described – *C. mithridatis* sp. n. – green icefish (on the basis of 29 specimens), collected in the same (*R/V Professor Mesyatsev*) cruise. The new species is closely related to *C. irinae*, but in the most differs from it by the uniserial gill-rakers, frequency distribution and greater number of spines in first dorsal fin, relatively smaller eye, large mouth and by traits of biology – *C. mithridatis* is piscivorous, while *C. irinae* is a typical zooplankton consumer.

Key words: *green icefish, endemic, Southern Ocean, Kerguelen-Heard Submarine Ridge, biology, stages of gonad maturity*.

Introduction

The Antarctic notothenioid family Channichthyidae, or icefishes, is a unique group of vertebrates with colorless blood, the result of reduction (or absence) of haemoglobin in the blood cells. This family includes 11 genera and, according to my data, about 25 species (Shandikov, 2008); of these, 7 genera and 11 species have been recorded from the high-latitude area of the Indian Ocean sector of the Southern Ocean (see also: Andriashev and Neelov, 1978; Gerasimchuk et al., 1990). In the sub-Antarctic region of the Kerguelen Plateau and the Kerguelen-Heard Submarine Ridge Area the Channichthyidae is represented by two genera – *Champsocephalus*, with a single species *C. gunnari*, and the endemic genus *Channichthys* (Fig. 1), which, according to data (Shandikov, 1995a, b), comprises of 7 nominal species. The first three species, unicorn icefish – *C. rhinoceratus*, red icefish – *C. rugosus* and sail icefish – *C. velifer* were discovered by Richardson (Richardson, 1844), Regan (Regan, 1913) and Meissner (Meissner, 1974) respectively. Subsequently the two latter (probably by the mixing material including unrecognized different species) were synonymized with *C. rhinoceratus* by Hureau (Hureau, 1964) and Iwami and Kock (Iwami, Kock, 1990) accordingly. In his revisions Shandikov (Shandikov, 1995a, b, 1996) described 4 new species (charcoal icefish – *C. panticapaei*, pygmy icefish – *C. irinae*, big-eyed icefish – *C. bospori* and Aelita icefish – *C. aelitae*), confirmed the specific validity of *C. velifer* with a redescription of the holotype, and described *C.* aff. *rugosus* – a form presumably conspecific with *C. rugosus*. Redescriptions of the type specimens of *C. rhinoceratus* and *C. rugosus* lately published by Balushkin (Balushkin, 1996) confirm the specific validity of *C. rugosus*, as well as the fact that *C.* aff. *rugosus* and *C. rugosus* are conspecific. Meanwhile, up to the present time some biologists do not accept the taxonomical changes in the genus *Channichthys* being firmly convinced in extraordinary *"phenotypic plasticity"* of a single (*C. rhinoceratus*) or two species only (Eastman, Eakin, 2000; Duhamel et al., 2005; Kock, 2005).

The present paper presents the description of another new *Channichthys* species based on specimens from the same collection obtained by the author in 1990 at the Kerguelen Islands. The question of the taxonomic status of *C. normani*, described by Balushkin (Balushkin, 1996), and very recently considered by Shandikov (Shandikov, 2008) as a junior synonym of *C. panticapaei*, will be discussed below.

Material and methods

Specimens of a new above described species were collected by the author in the Kerguelen Islands area during the 1990 expedition of the Southern Scientific Research Institute of Marine Fisheries and Oceanography (YugNIRO, Kerch, Ukraine) by the research vessel *PROFESSOR MESYATSEV* (*PM*). Comparative material most of which was obtained in the same cruise includes 131 specimens of 7 *Channichthys* species: *C. rhinoceratus* (24), *C. rugosus* (18), *C. velifer* (10), *C. panticapaei* (30), *C. irinae*

(23), *C. bospori* (5), *C. aelitae* (3) and 18 specimens of another yet undescribed species *Channichthys* sp. Further data on material and synonymies are given by Shandikov (Shandikov, 1995b, 1996).

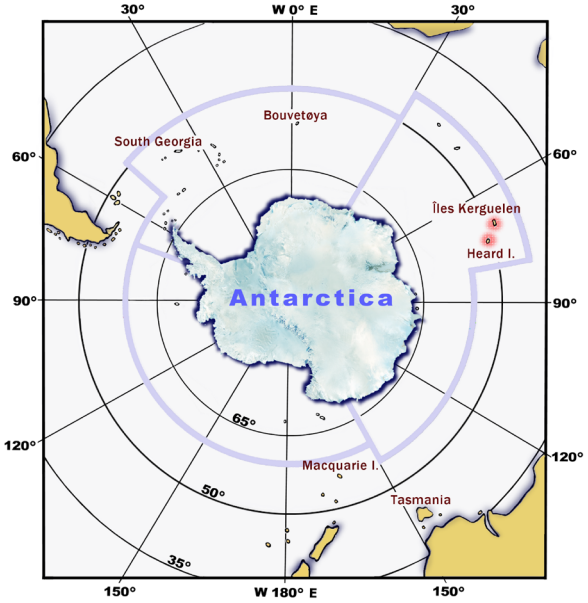

Fig. 1. Geographical distribution for endemic *Channichthys* species in the Southern Ocean is restricted to the waters of Kerguelen-Heard Submarine Ridge. Blue line on the map covers the area of concern to the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)

Measurements were taken with vernier callipers to the nearest 0.1 mm on specimens preserved in 10% formalin. The holotype and paratypes were transferred to alcohol and deposited in the Zoological Museum of Ukrainian National Academy of Sciences (IZANU, Kiev). Stages of gonad maturity (SGM) follow the six stage scale (I–VI) (see Shandikov, Faleeva, 1992).

C o u n t s . Bilateral counts, except for gill-rakers, are given for both (left/right) sides. Counts of groups of vertebrae and supraneurals (free interdorsal interneurals) follow Shandikov and Kratkiy (Shandikov, Kratkiy, 1990, 1991). D_1 – first dorsal fin, D_2 – second dorsal fin, A – anal fin, P – pectoral fin, V – pelvic fin.

M e a s u r e m e n t s . TL (total length) from lower jaw symphysis to rear edge of caudal fin, SL (standard length) from upper jaw symphysis to base of middle caudal fin rays respectively, lc (head length) from upper jaw symphysis to posteriormost tip of opercular spines, hco (head height at middle of eye), hc (head height at occipital) at front edge of supraoccipital, wc (head width) at rear edge of preopercles, ao (snout length, or pre-orbital distance) from upper jaw symphysis to front edge of bony orbit, o (orbit diameter) horizontal diameter of bony orbit, io (interorbital width) least distance between upper edges of bony orbits, po (postorbital) from rear edge of orbit to posteriormost tip of opercular spine, lmx (upper jaw length) from anterior end of premaxilla to rear end of maxilla, lmd (lower jaw length) from anterior end of dentary to rear end of angular bone, H (body depth) at origin of pelvic fins, h_5 (middle body depth) at level of 5th anal-fin ray, h (caudal peduncle depth) least depth of peduncle, lcp (peduncle length) from base of last anal-fin ray to vertical at base of middle caudal rays, aD (predorsal distance) from upper jaw symphysis to D_1 origin, aP (pre-pectoral distance) from upper jaw symphysis to upper end of P base, aV (pre-pelvic distance) from lower jaw symphysis to V origin, aA (pre-anal distance) from lower jaw symphysis to A origin, lD_1 (length of D_1 base) from base of first spine to base of last spine, lD_2 and lA (length of D_2 and A bases) from base of first ray to base of last ray, hD_1, hD_2 and hA (heights of median fins) = lengths of longest spine or longest ray, $h5D_1$ (length of 5th D_1 spine), iD (interdorsal distance) from base of last spine to D_2 origin, lP (P length) from base of uppermost ray to rear end of fin, lV (V length) from fin origin to tip of longest ray.

Results

Channichthys mithridatis sp. n., green icefish

Figures 2–4

Channichthys mithridatis Shandikov, 1995: Manilo 1997: 92 (*nomen nudum* in the list of IZANU fund collection of marine fishes. The name was mentioned by Leonid G.Manilo from my hand-written label, deposited to IZANU with the type specimens in 1995).

Material. 29 specimens. Counts and morphometric measurements are given for all studied specimens, radiographs – for 13 type specimens.

Holotype. IZANU 5111, adult male (SGM VI–II) TL 371 mm, SL 332 mm, *PM* cruise 23, trawl (bottom)

No. 91, Kerguelen Islands, 47°44'4 S, 71°31'6 E, depth 270–310 m, 10 August 1990, coll. G.A.Shandikov (Fig. 2).

Paratypes. 12 adults (post-spawning or firstly maturing): IZANU 5112, 7 males TL 316–365 mm, SL 280–327 mm and 5 females TL 312–437 mm, SL 275–387 mm, collection data the same as above.

Non-type material. YugNIRO, uncatalogued, 16 adults and subadults, 11 males TL 293–350 mm, SL 257–314 mm and 5 females TL 308–356 mm, SL 271–313 mm, collection data the same as above.

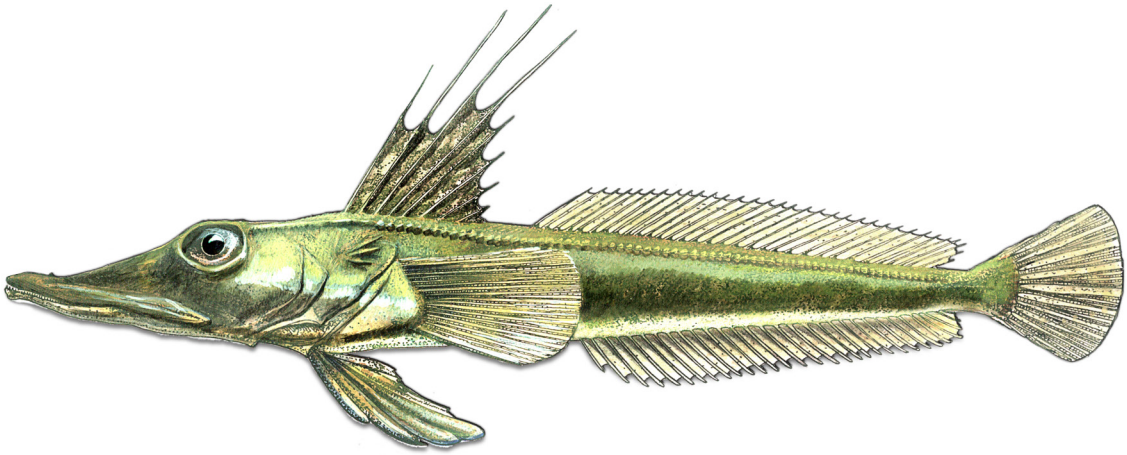

Fig. 2. *Channichthys mithridatis* sp. n., holotype, male, TL 371 mm, SL 332 mm, IZANU 5111

Diagnosis. Interorbital width narrow, 6.3–7.7 times in lc, 1.2–1.7 shorter than horizontal orbit diameter (Fig. 3). Eye large, orbit 4.5–5.6 times in lc and 2.1–2.7 in ao (Fig. 4). Posterior edge of maxilla extending below 1/2–2/3 of the orbit diameter. One row of rakers on lower part of 1st gill arch on the outer side of ceratobranchial. First dorsal fin very high, 2.9–4 times in SL, 2nd or 3rd spine longest. Fin membrane of D_1 not reaching tips of longest spines. Dorsal fins well separated, posterior edge of D_1 fin membrane not reaching 1st ray base of D_2. Rounded bony plates usually absent from anterior part of median lateral line. Tuberculation on frontals and on anterior dorsal spines very faint or absent; absent on maxilla, dentary and branchiostegals.

Description (data for paratypes and non-type specimens given in parentheses). Head length 37 (36–39)% SL; occipital head height 34 (30–38) approximately equal to head height at middle of eye 33 (29–35) and head width 32 (30–39)% lc. Snout wide, flattened and spatulated with slightly concave dorsal profile, its length slightly shorter or approximately equal to half of the head length 47 (46–49)% lc. Eye somewhat oval, relatively large 19 (18–22)% lc or 39 (37–47)% ao, always larger than interorbital width. Postorbital distance shorter than snout length 35 (28–41)% lc. Interorbital width narrow 13 (13–16)% lc, 41 (38–49)% hc or 70 (60–82)% o (see Fig. 3). Supraorbital outer bony edges of frontals moderately elevated. Rostral spine vertical, usually with posteriorly bent tip. Opercular spines well developed, with 4–6 separated developed tips (spines). Upper jaw relatively long 57 (52–61)% lc, extending to below middle or 2/3 of anterior part of eye. Lower jaw length 71 (66–75)% lc, not projecting or only slightly projecting beyond upper, teeth on symphysis not visible.

Head depth at orbital region 12 (11–13), at occipital region 13 (12–14), maximum body depth 14 (13–16), middle body depth 10 (9–11), caudal peduncle depth 4 (4)% SL. Pre-dorsal distance to D_1 35 (33–37), pre-pectoral distance 39 (37–40), pre-ventral distance 31 (29–33), pre-anal distance 57 (55–60), length of caudal peduncle 6 (6–8)% SL. First dorsal fin very high, origin above opercular spine and includes 8 (6–9) flexible spines (usually 7–8 spines: one non-type specimen had 6 and two paratypes had 9); anterior three (rarely four) spines long, of which 2nd or 3rd longest; height of D_1 27 (25–34)% SL, length of 5th spine significantly shorter than height of D_1 15 (11–19)% SL or 53 (46–61)% hD_1; length of base of D_1 41 (10–13)% SL. Fin membrane of D_1 not reaching tips of longest spines, its height about 61–74% hD_1. Second dorsal fin rays 33 (32–34); height of fin 9 (8–10), length of base 38 (36–41)% SL. Dorsal fins well separated, posterior edge of D_1 fin membrane not reaching the origin of D_2. Interdorsal space wide 8 (6–10)% SL or 70 (51–90)% lD_1, always shorter than length of 5th spine of D_1 – 53 (47–78)% $h5D_1$. Anal-fin rays 31 (30–32), usually 31–32; fin origins below bases of 4th or 5th rays of D_2; height of anal fin 7 (7–8), length of fin base 38 (34–38)% SL. Pectoral fin rays 21/21 (19–21), usually 20–21, length of pectoral fin 19 (17–20)% SL; posterior edge of fin extending above to origin of 1st to 2nd anal fin rays. Pelvic fin somewhat longer than pectoral 19 (20–25)% SL, often extending to anus or origin of 1st anal-fin ray. Caudal fin with 11 branched rays, of which 5 upper; 14 principal rays, attached to one upper (7 rays) and two lower hypural plates, including the parhypural (5 and 2, in 1 spec. ?6 and 1 rays accordingly); upper procurrent rays 9–10 and lower 9–10

(rarely 8). Caudal fin truncate, posteroventral margin rounded.

Tuberculation (granulation) faint. Weakly developed, smooth and flattened bony tubercles present on postlacrimals and tubular bony plates of lateral lines, on posterior part of lower jaw (articular) in 1–3 irregular rows; usually present on occipital and orbital regions of frontals and 1st to 3rd spines of D_1, rarely present on rostral ridges and lacrimals; in some fish few tubercles or small bony granules with sharpened tips may be present on outer side of pelvic fin spine. Absent on maxilla, anterior part of lower jaw (dentary) and branchiostegals.

C. mithridatis *C. panticapaei* *C. rhinoceratus*

Fig. 3. Dorsal view of heads of three *Channichthys* species (specimens preserved in formalin). In *C. mithridatis* (SL 272 mm) interorbital width is smaller than orbit diameter (60–82 % o), while in *C. panticapaei* (SL 322 mm) and *C. rhinoceratus* (SL 315 mm) interorbital width very wide – always larger than orbit diameter

Teeth on jaws small and sharp, slightly retrorse: 4–6 irregular rows at front of upper jaw and 4–5 rows on symphysis of lower jaw.

Gill-rakers flattened, plate-like, dentigerous: 2 (1–2) rakers on upper part of 1st arch and 12 (11–16) rakers on lower part only on outer side of ceratobranchial (two non-type specimens had 1 raker on the inner side and one specimen had 2 rakers).

Dorsal lateral line with 69/75 (61–78) tubular bony plates (scales), with flattened, weakly developed lateral margins. Posterior part of median lateral line (canal) with 14/12 (7–17) tubular bony plates. Anterior part of median line, represented by free neuromasts, as a rule (in 23 specimens, including holotype, 79% of the lot), without bony plates or with few 1–4 (in 2 specimens 8/9 and 11/19) very small, soft, semitranslucent rounded ones.

Cephalic sensory canals. Supraorbital canal with 8–11, usually 8 or 9 pores, including the pore behind the coronal commissure, of which 1 is central. Infraorbital canal with 8 or 9 (rarely 10) pores, temporal canal with (5?)6 pores, supratemporal commissure with 3 pores, and preoperculo-mandibular canal with 12–14 pores.

Total vertebrae 56 (55–58), of which there are 23 (23–25) abdominal and 33 (31–33) caudal; vertebrae to 1st D_1 interneural 2; interdorsal supraneurals 4 (3–5).

Coloration. The general body and head coloration in live fishes varies from light green to dark olive, top of head somewhat darker than body. Three or four darker cross bars (two of them below D_2) present on body of some specimens. Ventral part of head, breast, belly and narrow body sectors over anal

fin are white, without any signs of pigmentation. Conspicuous silver-white spots at bases of pectorals and between pelvic fins. General body coloration in males is more uniform than in females: coloration is darker to almost black on body below median line and on lateral sides of head: on snout, cheeks and opercle. Females have lighter coloration: some specimens with rather numerous small dark spots; darker coloration below median lateral line, typical characteristic for mature males, is absent in females. Rays of pectoral, second dorsal and caudal fins are light, sometimes grey-green, fin membranes are light, greenish, transparent. Anal fin is uniformly white. Dorsal spines dark-greenish or grey, color of fin membrane varying from grey-black to black with lighter silver sectors along rays. Pelvic fins grey or greenish-black on upper surface and white on lower. Mouth cavity, jaw membranes and gill-rakers not pigmented.

In formalin-preserved specimens the greenish coloration fades to grey-brownish or light brown.

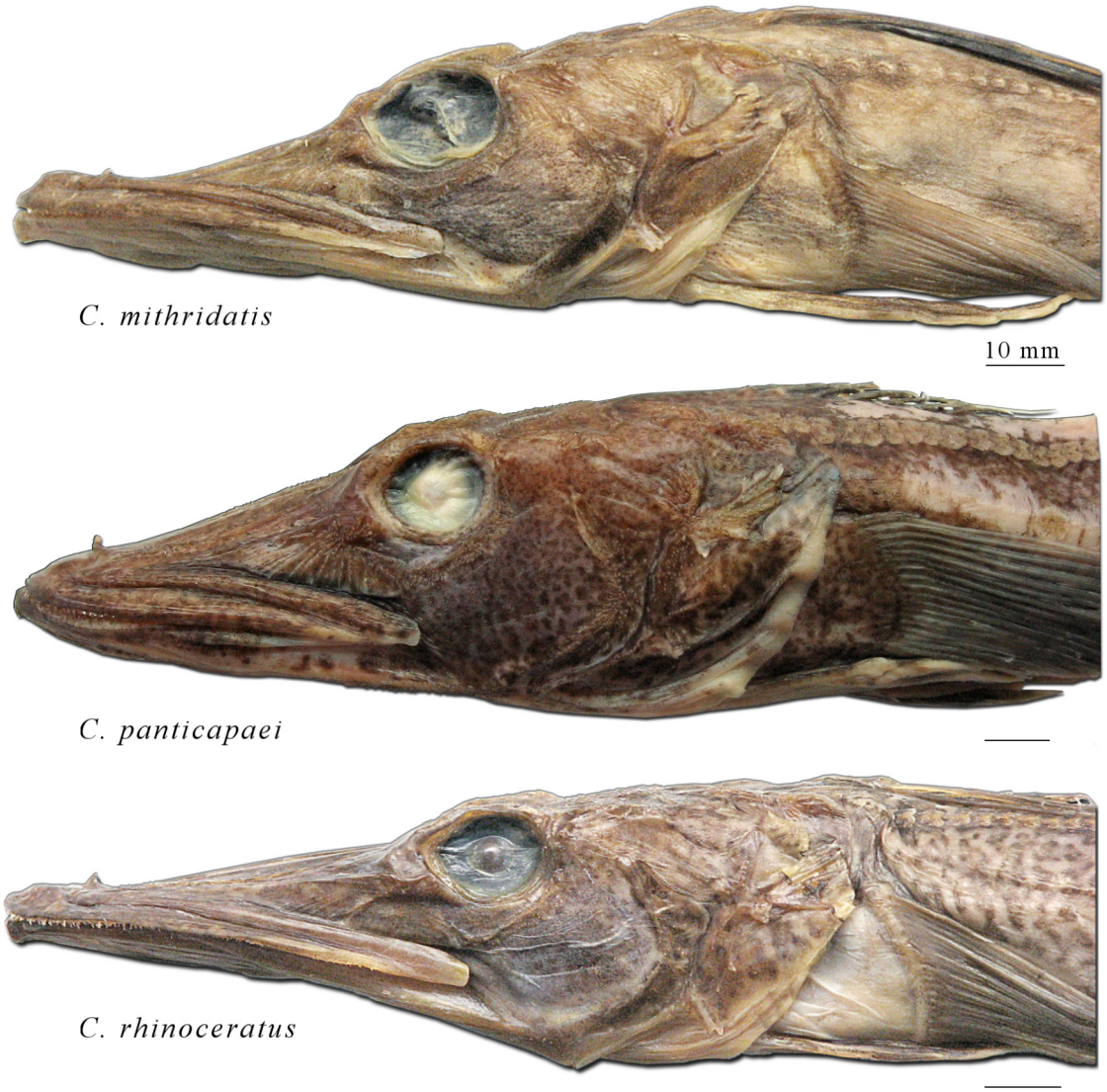

Fig. 4. Lateral view of three *Channichthys* species (the same specimens which showed at Fig. 3). In *C. mithridatis* the eye diameter (37–47 % ao) is greater than in *C. panticapaei* and *C. rhinoceratus*, while in the latter species the one is the smallest within the genus (28–32 % ao). The characteristic marbled coloration of *C. rhinoceratus* distinctly differs this species from the other congeners too

Mode of life. Like its congeners, *C. mithridatis* is a demersal species. But its “light” slender appearance with faint tuberculation, relatively thin flexible bony elements and features of coloration with completely white ventral part of body and silver-white spots at the breast give a look to this species as somewhat pelagic or semipelagic fish which at least can spend enough time over a bottom. As the stomach contents revealed, fish were preyed upon. Females mature at a TL of about 30–32 cm (SL 26–28 cm). The SGM of the fish examined varied in firstly maturing specimens, those which would have spawned the next year (subadults), from stage II in males and stage III in females to post-spawning stages VI–II and VI–III in

adults. Ripe or near-ripe individuals were not captured. Most of the mature fish, caught with a TL over 33–34 cm, had spawned already. Spawning was completed at least a month or two before capture, i.e. in May–June. The largest known specimen of this species is a post-spawning female TL 437 mm (SL 387 mm).

Distribution. Shelf waters of Kerguelen Islands. Caught in 2 bottom trawls at depths of 250–310 m in an area barren of benthic fauna.

Etymology. The scientific name of the new species is derived from the Latin spelling of the name of the Pontic (Bosporus) Tzar *Μιθριδατης* – *Mithridates*, who ruled Panticapaeum (antique name of the city of Kerch). YugNIRO, in the city of Kerch, which has conducted Antarctic investigations for over 35 years, is located at the foot of a mountain named after *Mithridates*.

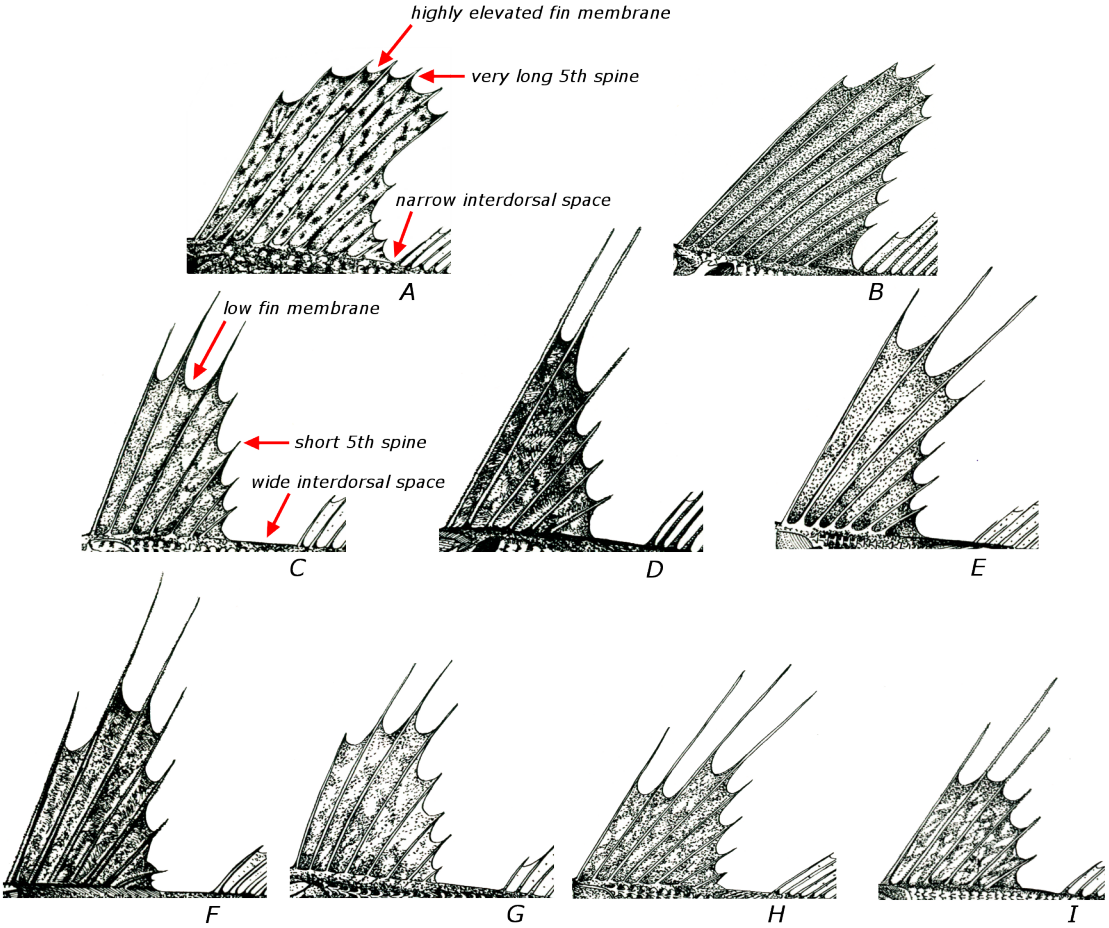

Fig. 5. Two types of shape of the first dorsal fin in nine *Channichthys* species off the Kerguelen Islands based on the all studied material (160 specimens). Type I (only two species) – trapezoid reminiscent shape with highly elevated (to the tips of spines) fin membrane, long 5th and 6th spines and narrow interdorsal distance: A – *C. velifer,* adult female, TL 444 mm, SL 400 mm, IZANU 5115; B – *C. rugosus*, adult male, TL 283 mm, SL 255 mm, YugNIRO uncatalogued. Type II (all other species) – more triangular shape with lower fin membrane not reaching the tips of spines (the upper edge of the fin membrane attaches to the longest spines at 38–83 % of its height), significantly short 5th and 6th spines and very wide interdorsal distance; C – *C. rhinoceratus*, adult male, TL 410 mm, SL 386 mm, IZANU 5114; D – *C. panticapaei*, holotype, adult male, TL 384 mm, SL 348 mm, IZANU 5109; E – *C. irinae*, holotype, adult pre-spawning (SGM III–IV) male, TL 240 mm, SL 209 mm, IZANU 5103; F – *C. bospori*, holotype, adult pre-spawning (SGM IV) male, TL 388 mm, SL 350 mm, IZANU 5106; G – *C. aelitae*, holotype, adult pre-spawning (SGM IV) male, TL 375 mm, SL 334 mm, IZANU 4575a; H – *C. mithridatis*, holotype, adult post-spawning (SGM VI-II) male, TL 371 mm, SL 332 mm, IZANU 5111; I – *C.* sp., adult post-spawning (SGM VI–III) female, TL 355 mm, SL 316 mm, IZANU 5116. Arrows indicate distinctions between the two types

Discussion

C. mithridatis is closely related to *C. irinae* but mainly differs from it by the arrangement and number of gill-rakers (in *C. mithridatis* 11–16 rakers on the lower part of 1st gill arch arranged in a single row on the outer side of the ceratobranchial, in *C. irinae* 21–30 rakers arranged in two long rows on the outer and inner

sides of the cerato- and hypobranchials); greater number and another frequency distribution of spines in D_1 – (6)7–8(9) (mean 7.8) as opposed to 5–7(8) (mean 6.3) and other characters, in particular, by relatively smaller eye (in *C. mithridatis* – 18–22 % lc and 37–47 % ao, in *C. irinae* – 21–25 % lc and 46–56 % ao) and more large mouth by position of rear edge of maxilla (in *C. mithridatis* extending below 1/2–2/3 of eye and in *C. irinae* – below 1/5–1/3). The new species differs from *C. irinae* also by greater length (attains TL 437 mm and SL 387 mm as opposed to TL 259 mm and SL 232 mm) and traits of its biology. *C. mithridatis* can be characterised as piscivorous, while *C. irinae* is a typical zooplankton consumer. The length of firstly maturing females of *C. mithridatis* is 30–32 cm TL, while *C. irinae* matures at 24–25 cm TL. The 1990 time of spawning of *C. mithridatis*, was at least 2 months earlier (i.e. May–June) than that of *C. irinae* (late July–August).

It differs from other congeners (except *C. rugosus*) mainly by the narrow interorbital width (13–16 % lc), noticeably smaller than eye diameter (in *C. rhinoceratus*, *C. aelitae* and *C. panticapaei* io is 19–23 % lc and significantly more than eye diameter (see Fig. 3), in *C. velifer* and *C. bospori* io is 16–20 % lc); from *C. panticapaei* and *C. aelitae* differs by not projecting lower jaw, from *C. velifer* and *C. rugosus* it differs in the shape of D_1, lower number of dorsal spines – D_1 (6)7–8(9) as opposed to 8–11 (Fig. 5) and the coloration; by faint tuberculation, lower number and different arrangement of gill-rakers (see above) differing from *C. panticapaei* and *C. bospori* which have 18–31 gill-rakers arranged in long rows on both sides of the lower part of the arch. More detailed data on the above mentioned species is presented in the Key to the species of the genus *Channichthys* by Shandikov (Shandikov, 1995b).

Concerning the taxonomic status of *Channichthys normani*, which was described by Balushkin (Balushkin, 1996, pp. 10–11, Fig. 4) from only holotype, I consider this scientific name as a junior synonym of *Channichthys panticapaei*. Drawings of the same specimen probably were first published by Norman (Norman, 1938, Fig. 47) under the name *Chaenichthys rhinoceratus*. Subsequently this picture was attributed to *C. panticapaei* (Shandikov, 1995a, pp. 5 and 9). During my visit to the Zoological Institute of the Russian Academy of Sciences (ZISP, St. Petersburg) in 1995 I had the opportunity to examine this specimen (currently deposited at the British Museum of Natural History) and to inform Dr. A.Balushkin that I recognised the above mentioned specimen as belonging to one of the undescribed species in my revision, which I was preparing for publication. Otherwise, Balushkin's description of *C. normani* is almost similar to my data on above mentioned specimen and to the original description of *C. panticapaei* (Shandikov, 1995a, pp. 5–9, Fig. 1) based on 24 specimens, as well as to its subsequent redescription from 30 specimens (Shandikov, 1995b, pp. 11–13, Fig. 4).

To the same species *C. panticapaei* will possibly be attributed the specimen on photo recently published by Duhamel with co-authors (Duhamel et al., 2005, p.367) under the name *C. rhinoceratus*. The strong bony ridges and tuberculation on the dorsal surface of head, wide interorbital space, as like as a uniformly very dark coloration distinctly visible on the photo, supports this conclusion. Also, the description of this species (the same paper, p.366) shows important morphological characters, e.g. counts in pectoral and second dorsal fins and features of coloration based on 16 specimens, as like as the number of gill-rakers (the latter data cited by the authors on Iwami and Kock, 1990). These data also show the evidence of mixed materials which include some different species, particularly (perhaps) *C. rugosus*.

Meanwhile, a fresh specimen on the photo which published by the authors on the page 371 (under the name *Channichthys* sp.) is the real *C. rhinoceratus* judging its characteristic marbled coloration, faint tuberculation and slender whippy-like appearance with very low first dorsal fin (see Fig. 3–5 and also Shandikov, 1995a, b).

Acknowledgements

I would like to thank the artist, Mrs. Oksana Serdyuk (Kerch, Ukraine) for her helping in drawings of the new species, and Mrs. M.D.Gan'kovskaya (ZISP) for the radiographs. Special thanks to Dr. Nina Bogutskaya (ZISP) and also Prof. Demetrio Boltovskoy (Universidad de Buenos Aires, Argentina) for his kind support during the preparation of the manuscript in Argentina. The comments of Dr. P.C.Heemstra (J.L.B. Smith Institute of Ichthyology, Grahamstown, South Africa) significantly improved the manuscript.

References

Andriashev A.P., Neelov A.V. A new icefish (*Chionobathyscus dewitti* gen. et sp. n.) from bathyal depths of East Antarctic (*in Russian*) // In: Morphology and Systematics of Fishes. – Leningrad: Zoological Institute of USSR Academy of Sciences, 1978. – P. 5–12.

Balushkin A.V. Similarities between icefishes from the family Channichthyidae (Notothenioidei, Perciformes) with notes on the species composition of the family, and description of a new species off the Kerguelen Islands *(in Russian)* // Voprosy Ikhtiologii. – 1996. – Vol.36, №1. – P. 5–14.

Duhamel G., Gasco P., Davaine P. Poissons des îles Kerguelen et Crozet. Guide régional de l'océan Austral. – Paris: Muséum national d'Histoire naturelle, 2005. – 419p.

Eastman J.T., Eakin R.R. An updated species list for notothenioid fish (Perciformes; Notothenioidei), with comments on Antarctic species // Archive of Fishery and Marine Research. – 2000. – Vol.48, №1. – P. 10–20.
Gerasimchuk V.V., Neelov A.V., Tankevich P.B., Shandikov G.A. Fishes of the Davis and Mawson Seas and the Pryds Bay (according to materials of the scientific-commercial expeditions by AzcherNIRO in 1978 and 1983) *(In Russian)* // In: Ecology and Morphology of Fishes. – Proceedings of the Zoological Institute of USSR Academy of Sciences. – Leningrad, 1990. – Vol.222. – P. 18–41.
Hureau J.-C. Sur la probable identit, des deux especes du genre *Chaenichthys* de la famille des Chaenichthyidae // Bulletin du Muséum national d'Histoire naturelle, Serie 2. – 1964. – Vol.36, №4. – P. 450–456.
Iwami T., Kock K.-H. Channichthyidae (icefishes) // In: O.Gon & P.C.Heemstra (Eds.) Fishes of the Southern Ocean. – J.L.B.Smith Institute of Ichthyology. – Grahamstown, South Africa, 1990. – P. 381–400.
Kock K.-H. Antarctic icefishes (Channichthyidae): a unique family of fishes. A review, Part I // Polar Biology. – 2005. – Vol.28. – P. 862–895.
Manilo L.G. Fishes of Oceans. Catalogue of collections of the Zoological Museum, National Natural History Museum, Ukrainian Academy of Sciences *(in Russian).* – Kiev: Zoological Museum, National Natural History Museum, Ukrainian Academy of Sciences, 1997. – 138p.
Meissner E.E. A new species of icefish from the Southern Ocean *(in Russian)* // Vestnik Zoologii. – 1974. – №6. – P. 50–55.
Norman J.R. Coast fishes. Part III: The Antarctic Zone // Discovery Reports. – 1938. – Vol.18. – P. 1–105.
Regan C.T. The Antarctic fishes of the Scottish National Antarctic Expedition // Transactions of Royal Society. – Edinburgh, 1913. – Vol.49. – P. 229–292.
Richardson J. Description of a new genus of gobioid fish // Annals & Magazine of Natural History. – 1844. – Vol.13. – P. 461–462.
Shandikov G.A. A new species of icefish *Channichthys panticapaei* sp. n. (Channichthyidae, Notothenioidei) from the Kerguelen Island (Antarctica) *(in Russian)* // Proceedings of the Southern Scientific Research Institute of Marine Fisheries & Oceanography. – Kerch, Ukraine, 1995a. – Special issue №1. – 9p.
Shandikov G.A. To the question about the composition of icefish species of the genus *Channichthys* (Notothenioidei, Channichthyidae) in the Kerguelen Islands area with description of three new species *(in Russian)* // Proceedings of the Southern Scientific Research Institute of Marine Fisheries & Oceanography. – Kerch, Ukraine, 1995b. – Special issue №2. – 18p.
Shandikov G.A. On taxonomic status of *Channichthys velifer* (Pisces: Perciformes, Channichthyidae) from the Kerguelen Submarine Ridge Area (East Antarctica) *(in Russian)* // Vestnik Zoologii. – 1996. – №3. — P. 13–20.
Shandikov G.A. On the species composition of icefishes (Perciformes: Channichthyidae) in the Kerguelen Islands Area (East Antarctica) // In: International Antarctic Conference IAC2008 "Ukraine in Antarctica – National Priorities and Global Integration". – Kyiv, 2008. – P.41.
Shandikov G.A., Faleeva T.I. Features of gametogenesis and sexual cycles of six notothenioid fishes from East Antarctica // Polar Biology. – 1992. – №11. – P. 615–621.
Shandikov G.A., Kratkiy V.Y. On the capture of the second specimen of *Gvozdarus svetovidovi* (Nototheniidae) in the Commonwealth Sea (Eastern Antarctic) *(in Russian)* // Voprosy Ikhtiologii. – 1990. – Vol.30, №3. – P. 505–508.
Shandikov G.A., Kratkiy V.Y. Capture of a second specimen of *Gvozdarus svetovidovi* (Nototheniidae) in the Sodruzhestvo Sea (East Antarctica) // Journal of Ichthyology. – 1991. – Vol.30, №8. – P. 143–147.

Channichthys mithridatis – новий вид білокровних риб (Perciformes: Notothenioidei: Channichthyidae) від островів Кергелен (Східна Антарктика), з коментарями про таксономічний статус _Channichthys normani_

Г.О.Шандиков

Поширений у Південному океані ендемічний для шельфових вод островів Кергелен та Херд й таласобатіалі банок підводного хребту Кергелен-Херд субантарктичний рід білокровних риб *Channichthys* об'єднує 7 номінальних видів білокровок: носорогу білокровку *C. rhinoceratus* Richardson, 1844, руду білокровку *C. rugosus* Regan, 1913, парусну білокровку *C. velifer* Meissner, 1974, вугільну білокровку *C. panticapaei* Shandikov, 1995, карликову білокровку *C. irinae* Shandikov, 1995, більшооку білокровку *C. bospori* Shandikov, 1995 та білокровку «Аеліти» *C. aelitae* Shandikov, 1995. Останні 4 види були описані за матеріалами колекції, зібраної автором біля островів Кергелен у 1990 р. під час науково-дослідної експедиції ПівденНІРО (23-й рейс НДС «Профессор Месяцев»). Щодо виду *Channichthys normani* Balushkin, 1996, пізніше

описаного від островів Кергелен, то він розглядається як молодший синонім *C. panticapaei*. У цій роботі описано (за 29 екз.) новий, 8-й вид роду *Channichthys* – *C. mithridatis* sp. n. (зелена білокровка), здобутий у тім же рейсі НДС «Профессор Месяцев» у 1990 р. Новий вид морфологічно найбільш близький до *C. irinae*, але відрізняється від нього головним чином однорядними зябровими тичинками, розташованими тільки на зовнішньому боці зябрової дуги, частотою розподілення та більшим числом колючих променів у 1-му спинному плавці, відносно меншим діаметром ока, більшим ротом, забарвленням та особливостями біології – *C. mithridatis* – рибоїдний хижак, тоді як *C. irinae* – типовий зоопланктофаг, у шлунках якого відмічені евфаузієві рачки *Thysanoessa macrura*.

Ключові слова: *зелена білокровка, ендемік, Південний океан, підводний хребет Кергелен-Херд, біологія, стадії зрілості гонад*.

Channichthys mithridatis – новый вид белокровных рыб (Perciformes: Notothenioidei: Channichthyidae) от островов Кергелен (Восточная Антарктика), с комментариями о таксономическом статусе _Channichthys normani_

Г.А.Шандиков

Обитающий в Южном океане эндемичный для шельфовых вод островов Кергелен и Хёрд и талассобатиали банок подводного хребта Кергелен-Хёрд субантарктический род белокровных рыб *Channichthys* включает 7 номинальных видов белокровок: носорогую белокровку *C. rhinoceratus* Richardson, 1844, рыжую белокровку *C. rugosus* Regan, 1913, парусную белокровку *C. velifer* Meissner, 1974, угольную белокровку *C. panticapaei* Shandikov, 1995, карликовую белокровку *C. irinae* Shandikov, 1995, большеглазую белокровку *C. bospori* Shandikov, 1995 и белокровку «Аэлиты» *C. aelitae* Shandikov, 1995. Последние 4 вида были описаны по материалам коллекции, собранной автором в научно-исследовательской экспедиции ЮгНИРО у о-вов Кергелен в 1990 г. в 23-м рейсе НИС «Профессор Месяцев». Вид *Channichthys normani* Balushkin, 1996, описанный позднее от о-вов Кергелен, рассматривается как младший синоним *C. panticapaei*. В настоящей работе описывается (по 29 экз.) новый, 8-й вид рода *Channichthys* – *C. mithridatis* sp. n. – зелёная белокровка, пойманная в том же 23-м рейсе НИС «Профессор Месяцев» в 1990 г. Новый вид морфологически наиболее близок к *C. irinae*, но отличается от него главным образом однорядными жаберными тычинками, расположенными только на внешней стороне жаберной дуги, частотой распределения и большим числом колючих лучей в 1-м спинном плавнике, относительно меньшим диаметром глаза, большим ртом, окраской и особенностями биологии – *C. mithridatis* – хищник, питающийся рыбой, тогда как *C. irinae* – типичный зоопланктофаг, в пище которого отмечены эвфаузиевые рачки *Thysanoessa macrura*.

Ключевые слова: *зелёная белокровка, эндемик, Южный океан, подводный хребет Кергелен-Хёрд, биология, стадии зрелости гонад*.

Представлено: Л.К.Пшеничновим
Рекомендовано до друку: В.А.Бондаренком