

## THE KVARNER POPULATION OF *Gobius couchi* (TELEOSTEI, GOBIIDAE), A FISH NEW TO THE ADRIATIC FAUNA

MARCELO KOVAČIĆ

Prirodoslovni muzej Rijeka, Lorenzov prolaz 1, HR-51000 Rijeka, Croatia

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*Gobius couchi* Miller & El-Tawil, 1974 was collected by SCUBA diving in the infralittoral zone at Oštro, in the Kvarner area, northern Adriatic Sea. This is the first record in the Adriatic Sea, and the second finding in the Mediterranean Sea of this previously considered north-eastern Atlantic species.

**Keywords:** Gobiidae, *Gobius couchi*, Adriatic Sea, first finding

**Kovačić, M.: Kvarnerska populacija vrste *Gobius couchi* (Teleostei, Gobiidae), nove vrste ribe za Jadransko more. Nat. Croat., Vol. 10, No. 1., 1–10, 2001, Zagreb.**

Primjerci vrste *Gobius couchi* Miller & El-Tawil, 1974 sakupljeni su u infralitoralnoj zoni tijekom autonomnog ronjenja na postaji Oštro, u području Kvarnera, u sjevernom Jadranskom moru. To je prvi nalaz te vrste u Jadranu, za koju se donedavno smatralo da je sjevero-istočno atlantska vrsta, i drugi nalaz u Sredozemnom moru.

**Ključne riječi:** Gobiidae, *Gobius couchi*, Jadransko more, prvi nalaz

### INTRODUCTION

During the last decade the use of SCUBA techniques has enlarged knowledge of the diversity, habitat preferences and abundance of the gobiid fauna of the Adriatic Sea. Several gobiid species have been recorded recently for the first time for the Adriatic Sea (KOVAČIĆ, 1995; KOVAČIĆ, 1999; PALLAORO & KOVAČIĆ, 2000). Two new species of gobies have been described from Adriatic specimens (MILLER, 1992; KOVAČIĆ & MILLER, 2000).

Specimens of *Gobius couchi* Miller & El-Tawil, 1974, another goby new to the Adriatic ichthyofauna, were collected by SCUBA diving at the locality of Oštro, in the Kvarner area (Fig. 1). The previously known distribution of this species was limited to the British Isles (MILLER & EL-TAWIL, 1974; MINCHIN, 1988) and western Mediterranean (STEFANNI & MAZZOLDI, 1999).

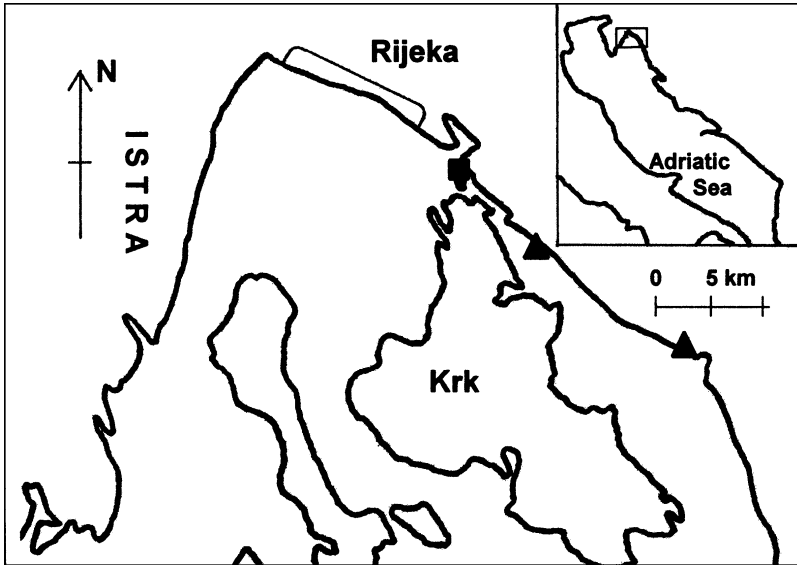


Fig. 1. The Kvarner area, Croatia. Collecting site Oštro (■) and sites where *G. couchi* was only observed (▲).

## MATERIAL AND METHODS

**Material.** The specimens were collected by M. Kovačić, at Oštro, Kvarner area, Croatia. They are deposited at the Prirodoslovni muzej Rijeka (PMR).

Two males, 53.8+12.3 and 52.4+12.3 mm, August 27, 1996, PMR VP 811; male, 43.6+10.1 mm, October 19, 1996, PMR VP 812; male, 43.9+10.4 mm, November 15, 1996, PMR VP 813; male, 44.3+11.1 mm, November 21, 1996, PMR VP 814; female, 51.7+12.3 mm, January 28, 1997, PMR VP 815; female, 50.6+12.1 mm, February 10, 1997, PMR VP 816; two males, 46.5+11.9 mm and 41.0+10.6 mm, February 19, 1997, PMR VP 817; three males, 53.9+13.1, 47.4+11.9 and 47.6+11.4 mm, May 27, 1997, PMR VP 818; seven females, 44.5+10.7, 44.5+10.5, 43.2+10.3, 42.6+9.7, 41.6+9.7, 40.7+8.3 and 35.8+7.6 mm, May 27, 1997, PMR VP 819; two males, 49.4+11.7 and 33.9+7.8 mm, June 25, 1997, PMR VP 820; four females, 44.1+9.9, 43.7+10.0, 41.5+9.2 and 36.0+8.3 mm, June 25, 1997, PMR VP 821; three males, 48.3+11.3, 44.7+11.2 and 25.8+5.9 mm, September 17, 1997, PMR VP 822; female, 36.2+8.1 mm, September 17, 1997, PMR VP 823.

**Methods.** Morphometric and meristic methods as in MILLER (1988). Fin abbreviations: A, anal fin; C, caudal fin; D1, D2, first and second dorsal fins; P, pectoral fin; V, pelvic disc. Morphometric abbreviations: Ab, anal fin base; Ad and Aw, body depth and width at anal fin origin; Cl, caudal fin length; CHd, cheek depth; CP and CPd, caudal peduncle length and depth; D1b and D2b, first and second dorsal fin

base; E, eye diameter; H and Hw, head length and width; I, interorbital width; Pl, pectoral fin length; PO, postorbital length; SL, standard length; SN, snout length; SN/A and SN/AN, distance from snout to vertical of anal fin origin and anus; SN/D1 and SN/D2, distance from snout to origin of first and second dorsal fins; SN/V, distance from snout to vertical of pelvic fin origin; V/AN, distance from pelvic fin origin to anus; Vd, body depth at pelvic fin origin; Vl, pelvic fin length. Terminology of lateral-line system follows SANZO (1911) and MILLER (1986). Abundance was estimated using twelve transects parallel to the shoreline as in AHNELT & KOVAČIĆ (1997). Transects of 10 m length and 2 m width were laid at depths between 5 m and 8 m, in the characteristic habitat of *G. couchi* at Oštro. The benthic communities were classified according to PERES & GAMULIN-BRIDA (1973).

## RESULTS

### Morphology

Body proportions are given in Tab. 1. Anterior nostril short, tubular, with triangular process from inner part of rim. Branchiostegal membrane attached along entire lateral margin of isthmus from immediately anterior to pectoral margin.

Fins. D1 VI; D2 I/13; A I/12 (11:3, 12:25, 13:1); C 16–17 articulated rays, 14–15 branched (14:11; 15:18); P 16–17 (left and right side: 16 and 16:6, 16 and 17:4, 17 and 17:19). Fin-bases and lengths in proportion to standard body length given in Tab. I. D1 rays not elongate. P with ends of two uppermost rays free from membrane. V truncated to slightly emarginated (the shortest branches of V5 compared to the longest branches of V4: 84.7–100.0 %,  $95.4 \pm 3.6$ ); anterior membrane height in midline about 1/3 length of pelvic spinous ray (24.0–43.3 %,  $32.6 \pm 5.3$ ). C rounded.

Scales. Body covered with ctenoid scales. Predorsal area, including nape, and breast scaled. Opercle and cheek naked. Scales in lateral series 38–43 (29 specimens, left and right side: 38:2, 39:8, 40:21, 41:17, 42:7, 43:3), in transverse series 11–12 (29 specimens, left and right side: 11:49, 12:9).

Coloration (Fig. 2). In life (from photographs in the habitat) upper part of body mottled greyish brown to fawn, underside whitish and flecked yellow. Nine dark blotches along lateral midline, longer than deep, including two below D1, five below D2, and two on caudal peduncle. Head similar to body, nape brown to fawn, side of head fawn, two dark marks on cheek and one on opercle. Underside of head pigmented, with three spots. Median fins and P transparent, except for spots. D1 with three horizontal rows of dark spots. D2 with four distinct spots on spinous ray and a few horizontal rows across fin. P with dark mark in upper fin origin. V grey to dark. C with five to six vertical rows of dark spots and scattered traces of yellow color. A grey, rays almost yellow, one horizontal row of dark spots at fin-base. Preserved specimens paler, with darker parts turned pale brown and bright parts turned dusky. No distinct sexual dimorphism is evident among collected specimens.

**Tab. 1.** Body proportions of *G. couchi*. Values for females and males are range, and in parentheses, mean and standard deviation.

Sex	Males	Females
n	15	14
SL (mm)	25.8–53.9	35.8–51.7
%SL, H	26.2–29 (28.1±0.9)	27.4–30.9 (28.8±1)
Hw	19.4–22.9 (21.1±1)	19.5–22.3 (21.1±0.7)
SN/D1	31.6–36.4 (34.1±1.6)	32.8–38.2 (35.2±1.3)
SN/D2	50.5–53.8 (52.3±1)	51.4–56.8 (53.5±1.5)
SN/AN	52.6–55.9 (53.7±0.1)	52.6–58 (55.2±1.5)
SN/A	54.2–60.8 (56.9±1.8)	55.2–61.3 (59.4±1.8)
SN/V	28.9–31.5 (30.2±0.7)	28.8–31.7 (30.4±0.9)
CP	16.5–19.9 (18±0.9)	16–19.2 (17.5±0.9)
D1b	16.3–19.3 (17.7±0.8)	15.5–20.3 (17.5±1.2)
D2b	30.1–35.9 (32.4±1.5)	30–33.3 (31.6±1)
Ab	21.1–27.5 (25.1±1.7)	20.7–25.7 (23.1±1.4)
Cl	22.9–25.9 (23.9±0.9)	20.4–24.8 (22.9±1.2)
Pl	20.4–25.9 (23.7±1.6)	21.6–25.5 (23.4±1.2)
Vl	19.7–23.7 (21.3±1.1)	18.6–23.1 (21.1±1.3)
Vd	17.8–20.9 (19.2±0.7)	18.8–22.7 (20.2±1.1)
Ad	16–18.1 (17.1±0.5)	15.1–20.3 (17.6±1.3)
Aw	11.6–14.3 (13.2±0.8)	11.6–15.8 (13.4±1)
CPd	8.8–11.3 (10.6±0.6)	9.2–10.8 (10.2±0.5)
V/AN	21.7–27 (23.5±1.3)	22.9–26.7 (24.8±1.1)
%CP, CPd	47.7–66.2 (58.8±5)	52.4–66.2 (58.3±4.4)
%H, SN	23.9–32.1 (27.6±2.5)	24.5–30.9 (26.9±2)
E	23.9–29 (26.5±1.8)	24.5–28.3 (26.2±1.2)
PO	41.9–52.2 (46±3.7)	42–51 (46.9±2.7)
CHd	17.4–24.4 (20.7±2.3)	18–23.1 (20.7±1.3)
Hw	68.5–80.6 (75.3±3.4)	67.4–77.4 (73.3±3.2)
%E, I	18.2–30.3 (24.8±3.8)	17.9–32.4 (21.4±4.2)
%V/AN, Vl	84.2–101 (90.9±4.3)	74.8–95.7 (85.3±5.2)

Lateral-line system (Fig. 3). Head with anterior and posterior oculoscapular, and preopercular canals, with pores  $\sigma$ ,  $\lambda$ ,  $\kappa$ ,  $\omega$ ,  $\alpha$ ,  $\beta$ ,  $\rho$ ,  $\rho^1$ ,  $\rho^2$ , and  $\gamma$ ,  $\delta$ ,  $\varepsilon$  respectively; anterior oculoscapular canal with pore  $\alpha$  at the rear of orbit. Rows and number of sensory papillae (counted on 29 specimens) as follows: (1) *preorbital*: snout with five median preorbital series, row r divisible into two sections, superior inner  $r^1$  (3–5) and inferior outer  $r^2$  (3–4), row  $s^1$  (3–5) below pore  $\sigma$ ,  $s^2$  (3–7) and  $s^3$  (3–6) more me-



Fig. 2. *Gobius couchi*, female, 41.0 + 9.2 mm, Oštro, Kvarner area, Croatia, September 6, 2000.

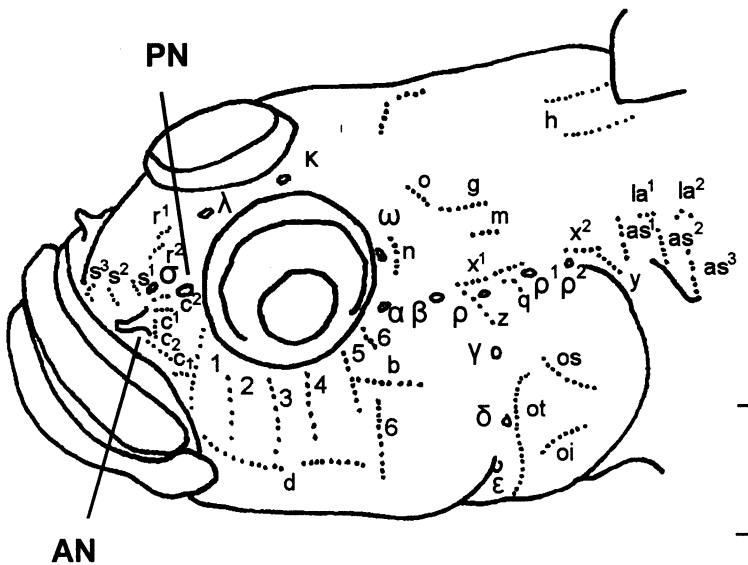


Fig. 3. *Gobius couchi*, head lateral-line sensory papillae and canal pores of male, 53.8+12.3 mm, PMR VP 811. AN, PN, anterior and posterior nostrils; see other terminology in text. Scale = 3 mm.

dially. Lateral series *c* in four parts: superior ( $c^2$ ) in two rows, upper (3–5) and lower (3–8); middle  $c^1$  (4–7); inferior upper  $c_2$  (3–7) and lower  $c_1$  (3–4). (2) *suborbital*: six transverse suborbital rows (1–6) of sensory papillae, rows 2 and 3 separated from orbit, inferior segment of row 6 not greatly extended below level of row *d* (1: 7–14, 2: 4–9, 3: 4–10, 4: 6–12, 5: 7–15, 6s: 5–7, 6i: 8–13). Longitudinal row *b* (8–14) reaches row 5. Longitudinal row *d* (17–28) divided below third suborbital row. Two aberrations of important suborbital sensory papillae characters were observed: single specimen (53.8+12.3 mm, PMR VP 811) had row 7 (3) present at pore  $\alpha$ , and another one (43.7+10.0 mm, PMR VP 821) had continuous row *d*. (3) *preoperculo-mandibular*: external row *e* and internal row *i* divided into anterior (*e*: 18–24, *i*: 11–19), and posterior sections (*e*: 16–26, *i*: 12–18); row *f* (6–8). (4) *oculoscapular*: anterior longitudinal row  $x^1$  (8–15) above pore  $\rho^1$ , posterior longitudinal row  $x^2$  (3–7) above  $\rho^2$ ; row *z* (4–9) with lower end at pore  $\gamma$ , row *q* (2–7) between pores  $\rho$  and  $\rho^1$ , row *y* (2–5) behind pore  $\rho^2$ . Axillary rows  $as^1$  (4–8),  $as^2$  (3–10),  $as^3$  (5–12),  $la^1$  (1–4) and  $la^2$  (1–4) well developed. (5) *opercular*: transverse row *ot* (15–27); superior longitudinal row *os* (8–12); and inferior longitudinal row *oi* (5–12). (6) *anterior dorsal*: anterior transverse row *n* (5–12) behind pore  $\omega$ , row *g* (5–8) ending behind lateral part of row *o*, row *o* (4–8) separated from fellow in dorsal midline, row *m* (3–7), row *h* (7–15).

## Ecology

*G. couchi* was found in the Kvarner area at depths between 3 m and 20 m. However, it occurred most frequently from 5 m to 10 m on gently sloping bedrock grooved with channels and pools filled with sand. Individual stones and boulders of different size (from less than 10 cm to more than 50 cm) were rarely present. The bedrock and the boulders were covered with photophilic algae. The algal cover varied from small (*Acetabularia mediterranea*, *Dictyota dichotoma*, *Dictyota linearis*, *Jania rubens*, *Padina pavonica*) to large photophilic macroalgae (*Cystoseira adriatica*, *Cystoseira spicata*, *Sargassum* sp.). The characteristic invertebrate macrofauna of this habitat belongs to the biocenosis of photophilic algae (*Verongia aerophoba*, *Anemonia sulcata*, *Balanophyllia europea*, *Caryophyllia* sp., *Ostrea edulis*, *Rocellaria dubia*, *Serpula vermicularis*, *Sphaerechinus granularis*) and to the biocenosis of the well sorted fine sands of the nearby sandy bottom (*Cerianthus membranaceus*, *Condylactis aurantiaca*, *Eunice aphroditios*, *Letmonice hystrix*, *Sabella pavonina*, *Sabella spallanzani*, *Astropecten aurantiacus*, *Holothuria forskali*, *Holothuria tubulosa*, *Phallusia mammilata*). A mobile layer of algae, consisting mainly of *Polysiphonia* spp., covered the bottom in the lower part of the depth range of *G. couchi* (>10 m) at Oštro during the warm months of the year (JAKLIN & ARKO PIJEVAC, 1997). Common fish species observed with *G. couchi*, were the epibenthic *Gobius cruentatus*, *Gobius geniporus*, *Gobius roulei*, *Parablennius tentacularis* and the hyperbenthic *Coris julis*, *Symphodus cinereus*, *Symphodus ocellatus* (Tab. 2). Cryptobenthic fishes were also recorded in the same habitat as *G. couchi*. *Chromogobius zebratus* was found under boulders, *Odondebuenia balearica* in small holes on boulder surface and *Zebrus zebrus* among large algae (*Cystoseira* spp.). Specimens of *G. couchi* were usually seen alone, lying on the bottom close to a shelter. Their hiding places are holes and crevices in bedrock, but they also hide under

**Tab. 2.** Fish species recorded in the habitat with *G. couchi*.

Hyperbenthic	
Labridae	<i>Coris julis</i>
	<i>Symphodus cinereus</i>
	<i>Symphodus ocellatus</i>
	<i>Symphodus tinca</i>
Serranidae	<i>Serranus hepatus</i>
	<i>Serranus scriba</i>
Epibenthic	
Blenniidae	<i>Parablennius rouxi</i>
	<i>Parablennius tentacularis</i>
Gobiidae	<i>Gobius bucchichi</i>
	<i>Gobius cruentatus</i>
	<i>Gobius geniporus</i>
	<i>Gobius roulei</i>
	<i>Gobius vittatus</i>
Tripterygiidae	<i>Tripterygion delaisi</i>
Cryptobenthic	
Gobiidae	<i>Chromogobius zebratus</i>
	<i>Odondebuenia balearica</i>
	<i>Zebrus zebrus</i>

individual stones and boulders. Compared to the syntopic *G. cruentatus*, *G. geniporus* and *G. roulei* it seems to be a somewhat more timid species. Some specimens of *G. couchi* were probably hidden in shelters during the counting on transects. Therefore, the recorded abundance of specimens present on the open bottom must be interpreted as minimum estimates of population density, rather than an average. The estimated abundance on transects varied between 0.02 and 0.08 ind./m<sup>2</sup>, and the mean density over all twelve transects was 0.06 ind./m<sup>2</sup>. Among epibenthic fish species on transects *G. roulei* (0.32–0.63 ind./m<sup>2</sup>, mean 0.46 ind./m<sup>2</sup>) and *G. geniporus* (0.13–0.28 ind./m<sup>2</sup>, mean 0.20 ind./m<sup>2</sup>) were more numerous than *G. couchi*.

### Geographical distribution

*G. couchi* is known to date from the north-eastern Atlantic: Helford Creek, Cornwall, England; Lough Hyne, south-western Ireland and Mulroy Bay, Northern Ireland (MILLER & EL-TAWIL, 1974; MINCHIN, 1987; MINCHIN, 1988), the western Mediterranean: Ischia Island, Naples, Italy (STEFANNI & MAZZOLDI, 1999) and the Adriatic Sea: the Kvarner area (present data) (Fig. 1).

## DISCUSSION

The specimens collected in the Kvarner area generally agree well with the original description of *G. couchi* (MILLER & EL-TAWIL, 1974). Their coloration and the pattern of sensory canals and lateral-line system correspond to the population at Helford Creek, the type locality. The present data also correspond completely to the short description of specimen from Ischia Island (STEFANNI & MAZZOLDI, 1999). However, some differences from the morphological data in MILLER & EL-TAWIL (1974) are observed. Fins differ in the number of branched rays on C (14–15 against 15–16) and the shape of V (rounded to truncate against truncate to slightly emarginated). Scales differ in the counts of transverse series (11–12 against 12–14). Ranges of number of sensory papillae in some lateral-line rows partially disagree. The significance of differences in the ranges of morphometric values could not be established since the individual data for each specimen from Helford Creek were not available in MILLER & EL-TAWIL (1974). However, the present morphometric data given as percentages in Tab. 1 were recalculated in ratios for comparison with MILLER & EL-TAWIL (1974). Complete or almost complete disagreement of ranges was found for %SL, H; %SL, Hw; %SL, SN/D1; %SL, D1b; %SL, CPd; %E, I, despite the similar morphometric method used. The significance of the observed morphological differences between the population in the Kvarner area and the population at Helford Creek will be recognizable only after similar types of data have been obtained from populations that are probably present between these two distant localities.

Habitat utilization of the Kvarner population differs from that in previous findings. *G. couchi* occupied quite diverse habitats among these locations: from sandy bottom with *Cymodocea nodosa* (Ischia Island, Naples, Italy) (STEFANNI & MAZZOLDI, 1999), through transition zone between rocky littoral and sandy bottom (Kvarner area, Croatia, present study) to slopes of rocky rubble (Mulroy Bay, Northern Ireland) (MINCHIN, 1988), and intertidal bottom of stones, pebbles and muddy shelly sand (Helford Creek, Cornwall, England) (MILLER & EL-TAWIL, 1974). Depths of all the findings were within the depth range of the infralittoral zone, except for the intertidal population at Helford Creek. Rough estimations of the species abundance of MILLER & EL-TAWIL (1974) and present data are similar, despite habitat differences. The syntopic fishes at the Adriatic location differ to some extent from the Western Mediterranean location (STEFANNI & MAZZOLDI, 1999), and fairly disagree with fish assemblages at the Atlantic locations (MILLER & EL-TAWIL, 1974; MINCHIN, 1988).

Although the species is recorded at a small number of locations, it may be expected to occur throughout the presently known geographical distribution. The late description (in the nineteen-seventies) of the epibenthic, medium-sized goby *G. couchi* and records from only a few locations until today have probably resulted from its superficial similarity to common *Gobius* species (*G. bucchichi*, *G. paganellus*, juveniles of *G. niger* and *G. geniporus*), rather than from species rareness.



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## REFERENCES

- AHNELT, H. & M. KOVAČIĆ, 1997: A northern Adriatic population of *Thorogobius macrolepis* (Gobiidae). – *Cybium* **21** (2), 149–162.
- JAKLIN, A. & M. ARKO-PIJEVAC, 1997: Benthic biocoenosis of the Sv. Marko Islet (Rijeka Bay). – *Periodicum biologorum* **99** (2), 219–228.
- KOVAČIĆ, M., 1995: *Gobius roulei* De Buen, 1928 (Pisces, Teleostei, Gobiidae), a Fish new to the Adriatic Fauna. – *Natura Croatica* **4** (4), 173–184.
- 1999: *Gammogobius steinitzi* Bath, 1971, a fish new to the Adriatic Sea. – *Natura Croatica* **8** (1), 1–7.
- KOVAČIĆ, M. & P. J. MILLER, 2000: A new species of *Gobius* (Teleostei: Gobiidae) from the northern Adriatic Sea. – *Cybium* **24** (3), 231–239.
- MILLER, P. J., 1986: Gobiidae. – In: WHITEHEAD, P. J. P., M.-L. BAUCHOT, J.-C. HUREAU, J. NIELSEN & E. TORTONESE (eds.): *Fishes of the North-eastern Atlantic and the Mediterranean*, 3. UNESCO. Paris, 1019–1085.
- 1988: New species of *Corcyrogobius*, *Thorogobius* and *Wheelerigobius* from West Africa (Teleostei: Gobiidae). – *J. Nat. Hist.* **22**, 1245–1262.
- 1992: A new species of *Didogobius* (Teleostei: Gobiidae) from the Adriatic Sea. – *J. Nat. Hist.* **26**, 1413–1419.
- MILLER, P. J. & M. Y. EL-TAWIL, 1974: A multidisciplinary approach to a new species of *Gobius* (Teleostei: Gobiidae) from southern Cornwall. – *J. Zool., Lond.* **174**, 539–574.
- MINCHIN, D., 1987: Fishes of the Lough Hyne Marine reserve. – *J. Fish Biol.* **31**, 343–352.
- 1988: Couch's goby, *Gobius couchi* (Teleostei: Gobiidae), from Irish waters. – *J. Fish Biol.* **33**, 821–822.
- PALLAORO, A & M. KOVAČIĆ, 2000: *Vanneaugobius dollfusi* Brownell, 1978 a rare fish new to the Adriatic Sea. – *J. Fish Biol.* **57**, 255–257.
- PERES, J. M. & H. GAMULIN-BRIDA, 1973: Biological Oceanography: Benthos, benthic bionomy of the Adriatic sea (in Croatian). – *Školska knjiga*, Zagreb, pp 493.
- SANZO, L. 1911: Distributione delle papille cutanee (organi ciatiforme) e suo valore sistematico nei Gobi. – *Mitt. Zool. Stat. Neapel* **20**, 249–328.
- STEFANNI, S. & C. MAZZOLDI, 1999: The presence of Couch's goby in the Mediterranean Sea. – *J. Fish Biol.* **54**, 1128–1131.

## S A Ž E T A K

**Kvarnerska populacija vrste *Gobius couchi* (Teleostei, Gobiidae),  
nove vrste ribe za Jadransko more**

M. Kovačić

Primjerci vrste *Gobius couchi* Miller & El-Tawil, 1974 sakupljeni su u infralitoralnoj zoni tijekom autonomnog ronjenja na području Kvarnera, u sjevernom Jadranskom moru. To je prvi nalaz ove vrste u Jadranu, koju se sve do nedavno smatralo sjevero-istočno atlantskom vrstom, i drugi u Sredozemnom moru. Ukupna dužina 29 sakupljenih primjeraka kretala se od 31,7 do 67,0 mm. Merističke vrijednosti kvarnerske populacije: D1 VI; D2 I+13; A I+12 (11–13); P 17 (16–17). Ljuske u bočnom nizu: 38–43. Sustav bočnih pruga: niz  $x_1$  naprijed završava iza pore  $\beta$ , niz  $d$  podjeljen je u dva dijela, a pora  $\alpha$  smještena je uz stražnji rub oka. Boja tijela je smeđa do siva, s tamnim pjegama uz središnji dio boka, a trbušni dio je žut do bjelkast. Primjerci su nađeni na otvorenom prostoru dna, najčešće na dubinama 5–10 metara. Dno se tu sastojalo uglavnom od osnovne stijene prekrivene fotofilnim algama, te pijeska i valutica. Česte ribe u staništu s glavočem *G. couchi*, su nekoliko vrsta porodice Gobiidae i Labridae te babica *Parablennius tentacularis*. Uspoređeni su dobiveni rezultati jadranskih primjeraka vrste *G. couchi* s otprije poznatim podacima o morfologiji (morfometrija, meristika, broj papila) i ekologiji (stanište, biocenoza, riblje zajednice) ove vrste.