

## ***Cobitis evreni* sp. Nova-A New Spined loach Species (Cobitidae) from the Southern Turkey**

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**Abstract:** The new species *Cobitis evreni* sp.n (Southern Turkey). Distinguished from all other members of *Bicanestrinia* subgenus by following characters: the lack of a black spot on caudal base, reduced of 3rd Gambetta zone, absence of 5th Gambetta zone. The shape of the mouth, suborbital spines, laminae circularis and scales.

**Key words:** *Cobitis evreni*, new species, Turkey

### **INTRODUCTION**

*Cobitis* loach is one of the Palearctic primary freshwater fish groups represented with 12 species in Turkey (Nalbant *et al.*, 2001). Of these, *Cobitis vardarensis* specimens from northwest part of Turkey, redescribed as a new species, *C. pontica* (Vasil'eva and Vasil'ev, 2006). At least with one valid additional species, *Cobitis phrygica* (Battalgazi, 1944) from Gemis. Acygol (Erk'akan *et al.*, unpublished MS), 13 species were known. In this study, we described another new species from Kömür stream, Ceyhan basin, southeast part of Turkey, which belongs to *Bicanestrinia* subgenus (Bacescu, 1961).

### **MATERIALS AND METHODS**

The specimens of a new species *Cobitis evreni* sp. n from the Komur Stream, Goksun (a tributary of Ceyhan River, southern Turkey) were collected in June 2008 by electro-fishing equipment. Twenty six morphometric characters such as standard length (SL: till the beginning of caudal fin rays), head length, head depth at nape, body depth at the level of pectoral origin, maximum body depth, longitudinal eye diameter, interorbital length, snout length, postorbital length, maxillar barbel length, length and depth of dorsal fin, length and depth of anal fin, length of pectoral fin, length of ventral fin, length of caudal fin, predorsal distance, postdorsal, preanal, preventral and postventral distances, pecto-ventral

length, ventral-anal length, length and depth of caudal peduncle were measured, according to Banarescu *et al.* (1972), Vasil'eva (1988) and Vasil'eva *et al.* (1998) and 5 meristic characters (unbranched and branched rays in dorsal, anal, ventral, pectoral and caudal fins) were counted in each specimens. Meristic counts and morphometric measurements made by the same person (S.C. Ozeren) in order to avoid differences in estimates. All drawings were made by F. Erk'akan. Specimens are preserved in HUIC: the collection of the Ichthyology Museum, Department of Biology, Hacettepe University (Ankara).

### **RESULTS AND DISCUSSION**

#### ***Cobitis evreni* sp. nov.**

**Holotype:** HUIC-CEY-2, male, 82.0 mm SL, Kömür Stream-Göksun-Kahramanmaras, Turkey 38°00'52.24"N; 36°30'31.11"E; June, 17, 2008, Erk'akan collec.

**Paratypes:** HUIC-CEY-2, 4 specimens, 82.0-117.0 mm SL, bearing same locality and data as holotype, Erk'akan collec.

**Diagnosis:** *Cobitis evreni* differs from the other species of *Bicanestrinia* subgenus by the following characters: The lack of 5th Gambetta zone, reduced third Gambetta zone, colouration, the structure of laminae circularis, mouth, scales and body.

Table 1: Morphometric characters of *Cobitis eweni*

Characters	Holotype (Male)	Paratypes minimum-maximum (x±SE) n = 4
Standard length (mm)	82.00	82.0 - 117.0
<b>Standard length (%)</b>		
Head length	20.24	18.55 - 20.45 (19.79±0.3)
Head depth	10.00	9.06 - 10.30 (9.79±0.3)
Body depth	16.11	11.50 - 16.10 (14.29±0.9)
Depth of pectoral origin	14.15	11.79 - 14.29 (13.10±0.5)
Predorsal distance	50.52	48.20 - 50.98 (49.83±0.5)
Postdorsal distance	36.34	36.00 - 37.98 (37.05±0.4)
Preventral distance	52.93	52.14 - 53.20 (52.69±0.2)
Postventral distance	42.44	40.10 - 43.85 (42.71±0.7)
Preal distance	73.05	73.05 - 76.61 (74.51±0.6)
Dorsal fin length	9.02	8.12 - 9.33 (8.72±0.2)
Dorsal fin height	19.27	14.70 - 19.27 (16.04±0.8)
Anal fin length	6.10	6.10 - 7.77 (7.17±0.3)
Anal fin height	12.56	12.23 - 13.56 (12.73±0.2)
Ventral fin length	12.20	10.29 - 12.20 (11.16±0.3)
Pectoral fin length	16.83	10.85 - 16.83 (13.05±0.9)
Pectoventral distance	31.46	31.11 - 33.70 (32.06±0.5)
Ventral-anal distance	17.43	17.40 - 21.97 (19.56±0.9)
Caudal peduncle length	15.37	11.07 - 15.37 (12.93±0.7)
Caudal peduncle height	9.76	8.00 - 9.76 (8.94±0.7)
Caudal fin length	17.07	16.07 - 17.88 (17.01±0.3)
<b>Head length (%)</b>		
Head depth	49.40	46.63 - 52.28 (49.48±0.9)
Body depth	79.52	58.38 - 79.52 (72.12±3.8)
Depth of pectoral origin	69.88	60.91 - 69.88 (66.12±1.7)
Snout length	42.17	41.12 - 48.91 (43.85±1.3)
Eye diameter	19.28	16.75 - 19.28 (18.23±0.5)
Postorbital length	54.22	48.03 - 54.22 (50.38±1.1)
Interorbital length	18.06	15.21 - 18.07 (16.40±0.6)
3 <sup>rd</sup> barb all length	18.07	14.90 - 18.07 (15.83±0.6)

**Description:** Body structure of *Cobitis eweni* sp. nov. illustrated in Fig. 1. Morphometric characters are given in Table 1 body is compressed and elongated. Body depth 6.2-8.7 (7.1) times in the standard length. Body least depth is 1.4-1.6 (1.4) times in the caudal peduncle. Big head and its length 4.9-5.4 (5.1) times in the standard length and 1.6 times in the body depth. Head depth is 1.9-2.1 (2.0) times in the head length. Eyes are relatively big and eye diameter is longer than interorbital width. Suborbital spine is bicuspid. Snout length is shorter than postorbital length. Anterior nare forming a short tube whereas posterior nasal opening oval. Mouth arched, upper lip unfurrowed, lower lip interrupted into 4 lobes whereas the inner lobes bigger than outer lobes. Barbels and lips covered with papillae.

Dorsal fin with 2 simple and 7 branched rays; anal fin with 2 simple and 4 or 5 branched rays; pectoral fins with one simple and 7 or 8 branched rays; ventral fins with one simple and 5 branched rays and branched caudal fin rays between 15 and 16. Margin of dorsal and anal fin convex, caudal fin is slightly emarginate. In males, pectoral fins with 2 laminae circularis. Dorsal and ventral fin base nearly the same vertical, approximately in the middle of the body. Predorsal and preventral distance is almost equal and length is 2.0 and 1.9 times in the standard length,

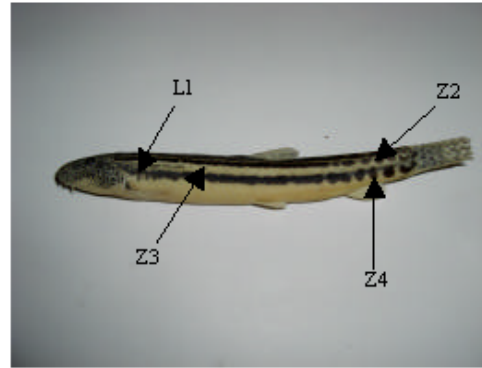


Fig. 1: Kömür stream-Göksun-Ceyhan Basin-17.06.2008, Z2: Gambetta zone; Z3: Gambetta zone; Z4: Gambetta zone; L1: Line lateral

respectively. Keel below the caudal peduncle is well developed. Scales are rounded with a small eccentric focus.

**Colour pattern:** In fresh material, abdomen is light ochre and the pectoral, ventral and anal fins with yellow. Pigmentation of the dorsal part of the body is black stained. Four Gambetta pigmentation zones are present. First zone is profusely spotted in black. The 2nd zone with relatively big black spots and longitudinally fused on the caudal peduncle, the 3rd zone is reduced. Fourth zone forming a continuous black stripe ending with big black spots at the caudal peduncle. Head sprinkled with numerous small black dots (Fig. 1).

**Sexual dimorphism:** Males are smaller than females and have proportionally longer pectoral, anal and ventral fins. Two laminae circularis are present in males.

**Etymology:** The name of this species given after Evren Erk'akan, who is the son of Füsün Erk'akan.

**Distribution:** Up to date, *Cobitis eweni* is known only from the Kömür Stream, located in Göksun on the southeast part of Turkey, Ceyhan Basin.

**Remarks:** A new species of *Cobitis* differs from all other members of *Bicanestrinia* subgenus by the lack of 5th Gambetta zone, reduced third Gambetta zone, the lack of a black spot at the caudal base and irregular big black spots on the posterior part of the second Gambetta zone. Fourth zone forming a continuous black stripe ending with big black spots at the caudal peduncle (Fig. 1). Males have a well developed 2 laminae circularis represented by a lameller process on the first and second pectoral ray. The structure of the lameller process of the

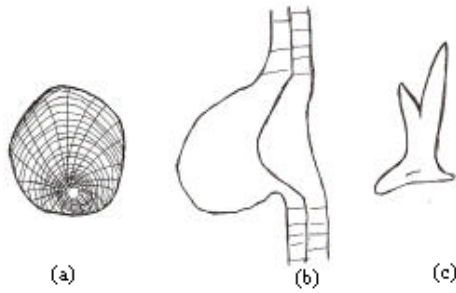


Fig. 2: (a) Scale (b) Laminae circularis (c) Suborbital spine

second pectoral ray is stronger and bigger than the first one (Fig. 2). Mouth shape and body structure differ from other species of *Bicanestrinia* group. Keel below the caudal peduncle is well developed.

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