



First record of *Telestes pleurobipunctatus* (Stephanidis, 1939) in freshwater of Al-Bireh Dam, Wadi Al-Ayoun, Hama, Syria

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Abstract

Despite a large number of studies on freshwater fish fauna in Syrian aquatic habitats lack of data exists for many. This study was conducted in Al-Bireh Dam, located in Wadi Al-Oyoun region, Hama Governorate of Syria and recorded *Telestes pleurobipunctatus* (Stephanidis, 1939) (Cyprinidae) for the first time. In April 2023, thirteen individuals of the species were caught using local fishing methods. The species is characterised by the presence of a dark band on the sides of the body extending from the front of the snout to the end of the caudal fin, and an orange spot at the base of the pectoral fin. This research sheds light on the qualitative composition of the fish fauna in Al-Bireh Dam Lake, as the species *T. pleurobipunctatus* is recorded for the first time in Syrian freshwaters.

Keywords: Al-Bireh dam; Cyprinidae; freshwater fish; Syrian freshwater; *Telestes pleurobipunctatus*

1 | INTRODUCTION

The biodiversity strategy in Syria emphasises the need to study the biodiversity of local fauna and protect it from threats and to put the foundations for the environmental and taxonomic map of Syrian animal and plant species (Galiya 2000). The NBSS (2016) indicated to the presence of about 2500 living species in Syria; 157 of which are freshwater fish species.

The first study of Syrian freshwater fish was conducted by Heckel (1843), who recorded 36 species under four genera. A list of 86 freshwater fish species is available in a study by Beckman (1962). A total of 66 species of fish were recorded in the Tigris and Euphrates rivers in Syrian territory (Coad 1991). A study of fish fauna in the Orontes River- Hama by Ibrahim *et al.* (2006) showed the presence of 48 fish species belong to 23 genera and 9 families. In a study on fish species dispersed in freshwater bodies in the coastal zone, which was carried out by Galiya and Fadel (2004), nine fish species from seven families

were recorded. Galiya *et al.* (2015) also recorded the presence of nine fish species in the waters of the 16 Tishreen Dam Lake. It has recently been mentioned that 95 species of freshwater fish belong to 40 genera and 15 families (NBSS 2016). Al-Majid (2019) recorded 24 species of fish in Lake Tishreen (Euphrates River) belonging to 18 genera. In a qualitative and quantitative study of fish fauna in the Drikish Dam Lake of Tartous, Syria five fish species were recorded (Hassan *et al.* 2021).

There are 56 species from 18 genera of the family Cyprinidae in Syria (NBSS 2016). In this study, *T. pleurobipunctatus* was recorded for the first time in Syrian freshwater. This research adds a new species to the list of Syrian freshwater fish, which will serve as baseline information for further research.

2 | METHODOLOGY

2.1 Description of the study area

Al-Bireh Dam is located in Wadi El-Oyoun region of Hama

Governorate in Syria. The location is at the eastern foot of Mount Nabi Matta at an altitude of 1100 m above sea level. The length of the dam is of 150 m and its depth is 17 m with a storage capacity of 100,000 cubic metres fed by mountain springs, river, streams, rain and snow. The region is characterised by low temperatures in winter (i.e. -2°C) and moderate summer (27°C ; Figure 1).



FIGURE 1 A view of study area, the Al-Bireh Dam, Syria.

2.2 Research methods

In April 2023, locally made beach traps (conical shaped trap of 2.5 m length) with 20 x 20 mm mesh were used to collect fish individuals ($n = 13$). The pH and water temperature of the study area were recorded by standard devices. Photographs and morphometric measurements of all individuals were taken and species were identified by using the standard taxonomic keys (Berg 1949; Beckman 1962; Pravdin 1966; Vesilave 1977; Sokolv 1989; Mark 2013; Nelson 2016). The individuals were preserved in 7% formaldehyde at the Postgraduate Studies Laboratory, Faculty of Science, Tishreen University (reference number Bio- V.P.C. 57).

3 | RESULTS AND DISCUSSION

During collecting of fish specimens from Al-Bireh Dam, *T. pleurobipunctatus* was caught by the research team members and identified as a new species in the habitat. Morphometric measurements of 13 individuals of *T. pleu-*

robipunctatus were recorded (Table 1). The total length of individuals ranged from 5 – 9.5 cm with an average (\pm SD) of 8.19 ± 1.21 cm, while the length of the head varied between 1 and 2.9 cm with an average of 1.7 ± 0.57 cm forming more than 20% of the total length. The maximum height ranged between 1.6 and 2.5 cm with an average of 5.57 ± 2.41 cm.

TABLE 1 Morphometric and meristic measurements of *Telestes pleurobipunctatus* caught in the Syrian freshwater, Hama, Syria.

Characters	Measurements (cm)			% of total length
	Min	Max	Mean \pm SD	
Morphometric				
Total length	7	9.5	8.19 ± 1.21	100.0
Standard length	5.7	8.3	6.90 ± 1.02	84.27
Body depth	1.6	2.5	2.41 ± 0.42	29.42
Pre-dorsal fin length	2.6	4.6	3.30 ± 0.97	40.29
Head length	1.5	1.2	1.72 ± 0.57	20.75
Snout length	0.2	0.4	0.30 ± 0.11	3.66
Eye diameter	0.1	0.2	0.12 ± 0.04	1.46
Dorsal fin base length	0.8	1	0.94 ± 0.08	11.47
Pectoral fin base length	0.3	0.3	0.37 ± 0.12	4.51
Pelvic fin base length	0.5	0.8	0.70 ± 0.22	8.54
Pelvic distance	3.2	4	4.18 ± 0.99	51.03
Height of dorsal fin	0.7	1.1	1.24 ± 0.30	15.14
Height of anal fin	0.7	0.8	0.78 ± 0.10	9.52
Height of pelvic fin	0.4	1.2	0.89 ± 0.29	10.86
Height of pectoral fin	1	1.1	1.07 ± 0.10	13.06
Distance between pelvic and pectoral fins	2.8	2.2	2.28 ± 0.40	27.83
Distance between pelvic and anal fins	1.6	1.4	1.46 ± 0.28	17.82
Caudal fin base length	0.6	0.6	0.76 ± 0.17	9.27
Length of upper lobe of caudal fin	0.3	1.6	1.57 ± 0.42	19.16
Length of lower lobe of caudal fin	0.2	1.4	1.20 ± 0.40	14.65
Meristic				
Lateral line scales (LL)	26	32	31.23 ± 2.20	
Scales below LL	4	5	4.76 ± 0.43	
Scales above LL	13	14	12.84 ± 0.80	
Number of gill raker	17	18	17.46 ± 0.51	
Dorsal fin rays	VII+13	VIII+14	VIII \pm 12	
Anal fin rays	VIII+5	VII+8	VIII \pm 6	
Total weight (g)	44	81	66 ± 31.11	

The species *T. pleurobipunctatus* is characterised by the presence of a dark line in the middle of the body (laterally) extending from the front of the snout to the caudal fin with width of four scales surmounted by a yellow line with three scales; the colour of the back is blackish. Abdomen is white with an orange spot at the base of the

pectoral fin (Figure 2). The number of gill arches on the first gill arch is 17, pharyngeal teeth 5 – 5 (Figure 3). These traits agree to what was mentioned by Shumka *et al.* (2020) and Kottelat and Freyhof (2007).



FIGURE 2 Lateral view of an individual of *Telestes pleurobipunctatus* caught from Al-Bireh Dam in April 2023.

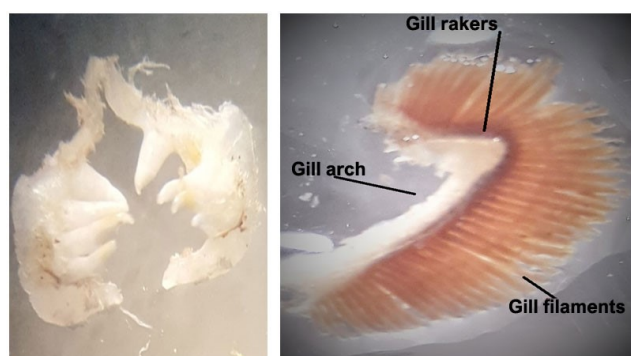


FIGURE 3 Pharyngeal teeth 5 – 5 (left) and first gill arch (17 – 18) rakers (right; 1x10X).

4 | CONCLUSIONS

The species *T. pleurobipunctatus* was recorded for the first time in Syrian freshwater and was caught with beach traps in April 2023. The findings of this study will serve as a baseline data for future research on the species concerned.

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CONFLICT OF INTEREST

We declare no conflict of interest.

AUTHORS' CONTRIBUTION

All authors contributed equally to the study conception and design, data collection and analysis. The first draft of the manuscript was written by Razan Hasan Balloul. Mohammad Youns Galiya and Ali Abdullatif Mansour critically reviewed the manuscript. All authors read and approved the final manuscript.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are avail-

able on a reasonable request from the corresponding author.

REFERENCES

- Al-Majid ZO (2019) Taxonomic study of fish fauna in Lake Tishreen (Euphrates River). Tishreen University Journal Biological Sciences Series 41(6): 233–246.
- Beckman WC (1962) The freshwater fishes of Syria and their general biology and management. FAO Fishery Biology, Rome. 297 pp.
- Berg LS (1949) Freshwater fishes of USSR and inside countries. Scientific Academy, Moscow 2: 470–925.
- Coad BW (1991) Fishes of the Tigris-Euphrates basin: a critical check-list. Canadian Museum of Nature, Ottawa, Canada. p. 22.
- Galiya MO (2000) Contribution to study of six species of the family (Blenniidae) in Lattakia. Tishreen University Journal Basic Sciences Series 22(9): 101–115.
- Galiya MO, Fadel IQ (2004) A contribution to the study of the biodiversity of young freshwater fish in some aquatic environments of the Syrian coast. Tishreen University Journal Basic Sciences Series 26(1): 224–205.
- Galiya MO, Hassan MO, Hammad BA (2015) A contribution to the study of the qualitative and quantitative composition of fish fauna in the 16 Tishreen Dam Lake (Al-Kabir Al-Shamali River - Syria). Tishreen University Journal for Studies and Scientific Research Basic Sciences Series 36(2): 276–261.
- Hasan MO, Al-Nasser AM, Alrakkad MA (2021) Qualitative and quantitative studies of the fish fauna in the Drieksh Dam Lake (Tartous, Syria). Tishreen University Journal for Research and Scientific Studies - Biological Sciences Series 43(2): 161–173.
- Heckel JJ (1843) Ichthyology in: J.russeger: reise in griechenland, Unteraegypten im nordlichen syrien and sudostlichen klenasiem, Stuttgart 1(2): 991–1099 (in German).
- Ibrahim AM, Galiya MO, Salloum MY (2006) Recording new fish species in the Orontes River basin within agricultural lands (their habitat and distribution). Tishreen University Journal for Studies and Scientific Research 28(3): 43–23.
- Kottelat M, Freyhof J (2007) Handbook of European freshwater fishes. Ichthyological Research, Berlin. 646 pp.
- Mark EV (2013) Britain's Freshwater Fishes. Princeton University, USA. 144 pp.
- NBSS (2016) National Biodiversity Study in the Syrian Arab Republic. Publications of the Ministry of State for Environmental Affairs. Biodiversity Unit, Damascus. 107 pp.
- Nelson JO, Terry CG, Mark VH, Wilson H (2016) *Fishes of the world*. John Wiley & Sons. 751 pp.
- Pravdin GV (1966) Methods in ichthyology. Moscow High

School, Moscow. 265 pp.

- Shumka S, Kalogianni E, Šanda R, Vukić J, Shumka L, Zimmerman B (2020) [Ecological particularities of the critically endangered killifish *Valencia letourneuxi* and its spring-fed habitats: a long-lost endemic species of south Albania](#). Knowledge and Management of Aquatic Ecosystems 421: 45.
- Sokolov VE (1989) Dictionary of animal names in five languages fishes. Russ Kyazyk Publishers, Moscow. 733 pp.
- Vesilave IA (1977) Guide to taxonomy of freshwater fish in fauna USSR, Moscow. 238 pp.