SHORT COMMUNICATION

Maximum size of reticulated leatherjacket, *Stephanolepis diaspros* Fraser-Brunner, 1940 (Tetraodontiformes: Monacanthidae), for the Turkish Seas

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Abstract

A specimen of Lessepsian migrant, *Stephanolepis diaspros*, 257 mm in total length, was caught on 10 January 2018 by a scoop net in Göltürkbükü fishing port, Güllük Bay, on the sandy bottom at a depth of 1 m. This record was the maximum size for both the Turkish seas and the Mediterranean.

**Keywords:** Lessepsian migrant, maximum size, Güllük Bay, Aegean Sea

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Reticulated leatherjacket, *Stephanolepis diaspros* Fraser-Brunner, 1940, lives inshore in sandy and rocky habitats with vegetation to a depth of 20 m. They feed on small rock-dwelling organisms, especially small invertebrates that are plucked from rocks (Golani et al. 2006; Froese and Pauly 2018). Its common size is 7-15 cm, with the maximum has been recorded as 20 cm (Golani et al. 2006) and 25 cm TL (Froese and Pauly 2018). *S. diaspros* entered through the Suez Canal into the eastern and central Mediterranean, reaching Tunis and southern Italy, although originally its distribution included the Red Sea and the Arabian Gulf (Tortonese 1986; Froese and Pauly 2018).

*S. diaspros* is one of the very first Lessepsian settlers in the Mediterranean, where it was recorded first in the Palestinian coast by Steinitz (1927). Since then it was recorded first from Iskenderun Bay in the 1950s (Kosswig 1950), the species is now well-known in the Turkish coasts. *S. diaspros* is especially well established in the eastern Mediterranean. In the Aegean Sea, *S. diaspros* was reported for the first time in 1943 (Tortonese 1947) and since then *S. diaspros* has been well established in the region, reaching as far as to the Sea of Marmara (Bilecenoğlu
and Yokeş 2013). Additionally, it reached to the Adriatic Sea (Dulčić and Pallaroro 2003), Gulf of Palermo, Sicily (Catalano and Zava 1993), Tunisia (Ben Amor and Capapé 2008; Zouari-Ktari et al. 2008) and Maltese waters (Deidun et al. 2015).

On 10 January 2018, a specimen of *S. diaspros* (Figure 1) with 257 mm in total length (TL) was captured by a scoop net in Göltürkbükü fishing port (37°07′41″N-27°22′46″E), Güllük Bay on sandy bottom at a depth of 1 m (Figure 2). The specimen was measured to the nearest millimetre, fixed in 5 % formaldehyde solution and deposited in the Ichthyological Collection of Fisheries Faculty, Ege University, with the catalogue number: ESFM-PIS/2018-01. Description, measurements and percentage in total length (Table 1) of *S. diaspros* are in total accordance with those in Tortonese (1986), Golani *et al.* (2002 and 2006), Froese and Pauly (2018).

**Figure 1.** The specimen of *Stephanolepis diaspros* with 257 mm TL (ref. ESFM-PIS/2018-01), captured in the fishing port of Göltürkbükü, Güllük Bay. Scale bar: 50 mm (Photo: Tevfik Ceyhan)

*S. diaspros* exhibits sexual dimorphism. Male adults have the second spine of the second dorsal fin being prolonged and the caudal peduncle consisting of a series of horny patches in several rows (Zouari-Ktari and Bradai 2011). Besides, El-Ganainy (2010) detected that the males reach larger sizes (16-26 cm), while the females were represented in small sizes (8-16 cm). Thus, the specimen in this study was obviously a male.
Table 1. Morphometric measurements as percentage of total length (%TL) and counts recorded in *Stephanolepis diaspros*, captured in Göltürkbükü, SE Aegean Sea

<table>
<thead>
<tr>
<th>Morphometric characteristic</th>
<th>Measurement (mm)</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length (TL)</td>
<td>257</td>
<td>100.0 TL</td>
</tr>
<tr>
<td>Standard length (SL)</td>
<td>214</td>
<td>83.3 TL</td>
</tr>
<tr>
<td>Maximum body depth</td>
<td>131</td>
<td>51.0 TL</td>
</tr>
<tr>
<td>Pre-dorsal fin length</td>
<td>111</td>
<td>43.2 TL</td>
</tr>
<tr>
<td>Pre-anal fin length</td>
<td>134</td>
<td>52.1 TL</td>
</tr>
<tr>
<td>Head length (HL)</td>
<td>65</td>
<td>25.3 TL</td>
</tr>
<tr>
<td>Eye diameter</td>
<td>13</td>
<td>20.0 HL</td>
</tr>
</tbody>
</table>

**Meristic counts**

<table>
<thead>
<tr>
<th>Count</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dorsal fin rays</td>
<td>I+30</td>
</tr>
<tr>
<td>Anal fin rays</td>
<td>30</td>
</tr>
<tr>
<td>Pectoral fin rays</td>
<td>13</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>252</td>
</tr>
</tbody>
</table>

Figure 2. Sampling location (black star) of *Stephanolepis diaspros*

The one of the oldest catch records of *S. diaspros* in the Turkish waters belongs to Gücü *et al.* (1994) who reported eight specimens from Mersin and Iskenderun Bay, the northeastern Mediterranean coast of Turkey, during 1983, 1984 and 1989 intermittent trawl surveys. All successive catch records of *S. diaspros* are shown in Table 2.
In the Mediterranean Sea, the maximum lengths of *S. diaspros* were reported as 237 mm TL (n=1124) from Gulf of Gabes (Tunisia) (Zouari-Ktari et al. 2008); 190 mm SL (n=16) from the southern Aegean Sea (Corsini-Foka et al. 2010); 130 mm TL (n=1) from off Piran, Slovenia (Lipej et al. 2014); 239 mm TL (n=3) from the Cypriot waters (Iglésias and Frotté 2015); 180-200 mm TL (n=1) from off Lampedusa Island in Maltese waters (Deidun et al. 2015). However, 261 mm TL (n=550) was recorded from the Gulf of Suez, Red Sea, Egypt by El-Ganainy and Sabra (2008). If it was the maximum size of fish, in that case, the size reported in this study might be the maximum both in the Turkish seas and the Mediterranean. Recently, *S. diaspros* was reported from Lipsi Island (southern Aegean Sea, Greece) and a total of 17 adult individuals, measuring 100-300 mm in length were observed during underwater visual census (Servonnat and Drakulic 2015). Such a report on maximum length needs further approval since it tends to produce less accurate estimates of fish length due to optical characteristics of water (see, Harvey et al. 2001a, b, 2002).

In conclusion, the present record was obtained through fishing and demonstrated maximum size of this species for both the Turkish marine waters and the Mediterranean.

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Türkiye denizleri için dikenli çütre balığıın
*Stephanolepis diaspros* Fraser-Brunner, 1940
(Tetraodontiformes: Monacanthidae) maksimum boyu

Öz

Göltürkbükü balıkçı limanında 10 Ocak 2018 tarihinde Lesepsiyen bir *Stephanolepis diaspros* bireyi (257 mm TL), 1 m derinlikte kumlu zeminden bir ağ kepçeye yakalanmıştır. Bu boy kaydı hem Türkiye denizleri hem de Akdeniz için maksimumdur.

Anahtar kelimeler: Lesepsiyen, maksimum boy, Gullük Körfezi, Ege Denizi

References


Harvey, E., Fletcher, D., Shortis, M. (2001b) Improving the statistical power of length estimates of reef fish: a comparison of estimates determined visually by
dive


