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New Record of *Euryhaliotrema cardinale* Kritsky & Justine, 2012 and *Euryhaliotrema seyi* Kritsky, 2012 (Monogenoidea: Dactylogyridae) from Lutjanid Fishes in Iraqi Marine Waters

Ali A.R. Al-Darwesh[1,*] & Atheer H. Ali[2]

[1]Department of Pathology and Poultry Diseases, College of Veterinary Medicine, University of Kufa, Iraq.

[2]Department of Fisheries and Marine Resources, College of Agriculture, University of Basrah, Iraq.

***Corresponding author email**: **A.A.R.A.:** alia.radeef@uokufa.edu.iq; **A.H.A.:** atheeralibu@gmail.com

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Abstract: Parasitological examination of three species of marine fishes: Blackspot snapper *Lutjanus ehrenbergii* (Peters), Dory snapper *L. fulviflamma* (Forsskål) and *L. indicus* Allen, White & Erdmann (all Lutjanidae, Snappers); caught from Iraqi marine waters, Arabian Gulf during 2024. All these fishes are harboured the same dactylogyrid monogenoid which identified as *Euryhaliotrema seyi* Kritsky, 2012. *Lutjanus ehrenbergii* and *L. fulviflamma* also harboured *Euryhaliotrema cardinale* Kritsky & Justine in Kritsky, 2012 which considered this record in a new geographical area (Arabian Gulf). The illustrations of whole mount specimens for *E. cardinale* and *E. seyi* are given for the first time. This report represents the second work on monogenoids from lutjanid fishes in Iraq.

Keywords: Arabian Gulf, Ectoparasites, Marine fish, Gills, Iraq, Snappers.

Introduction

The family Lutjanidae comprises 21 genera and 138 species (Fricke *et al*., 2025a), commonly known as snappers. These are primarily marine species, though some are rarely found in estuarine environments. Certain species occasionally enter freshwater to feed. Lutjanidae species are predominantly tropical and subtropical, with most being carnivorous, preying on crustaceans and fish, while some are planktivores. They generally thrive in aquaria but tend to grow too rapidly. Most species are demersal, inhabiting depths of up to approximately 450 meters (Nelson *et al*., 2016; Froese & Pauly, 2025).

Although snappers are known to harbour a comparatively high number of dactylogyrid species on their gills (Kritsky *et al.*, 2009), but no monogenoids infesting these important fishes in Iraq, where 17 species of lutjanid species are known from Iraq (Ali *et al*., 2018; Al-Faisal & Mutlak, 2018).

According to Mhaisen *et al.*, (2018), only two parasitic copepods were recorded from lutjanid fishes of Iraq; *Hatschekia insolita* Wilson C.B., 1913 from John's snapper *Lutjanus johnii* (Bloch) and *Hatschekia* sp. from Crimson jobfish *Pristipomoides filamentosus* (Valenciennes). Al-Hajjaj (2021) recorded the trematode *Prosogonotrema* sp.

from two snappers: bigeye snapper *Lutjanus lutjanus* Bloch and pinjalo *Pinjalo pinjalo* (Bleeker). Moravec *et al.*, (2021) described a nematode *Philometra parabrevicollis* Moravec, Fazaa, Ali & Saud, 2021 from *Lutjanus lutjanus* Bloch. Ali & Mizher (2023) found seven *Lutjanus* species are infected with *Hysterothylacium* sp. BC type larvae (nematode). A nematode *Dichelyne* (*D.*) *iraqiensis* Fazaa, Moravec, Ali & Saud, 2023 was described from humphead snapper *Lutjanus sanguineus* (Cuvier) (Fazaa *et al*., 2023).

The diversity of monogenoids infesting marine fish in Iraq remains inadequately documented and has not garnered substantial attention from researchers. Mhaisen *et al.*, (2018) reported a just 21 recognized valid species of Monogenoidea (including one species classified as species inquirendum) that had been identified from these fish up to the year 2017. Since the publication of Mhaisen *et al.* (2018), four additional species from the family Diplectanidae have been recorded in marine fish of Iraq: *Lamellodiscus indicus* Tripathi, 1959 and *Protolamellodiscus senilobatus* Kritsky, Jimenez-Ruiz et Sey, 2000 (Al-Darwesh *et al*., 2022a); *Calydiscoides difficilis* (Yamaguti, 1953) (Al-Darwesh *et al*., 2022b) and *Oliveriplectanum robustitubum* (Wu & Li, 2003) by Kritsky *et al*. (2024). Four additional monogenoids species from the family Dactylogyridae have been recorded in marine fishes of Iraq: *Platycephalotrema parile* Kritsky, Al-Darwesh & Ali, 2024 by Kritsky *et al*., (2024); *Glyphidohaptor safiensis* Al Jufaili, Machkevsky, Kindi & Palm, 2020, *Tetrancistrum indicum* (Paperna, 1972) and *T. labyrinthus* Al Jufaili & Palm, 2017 (Al-Darwesh *et al*., 2025). A six latter species were involved with a total of 12 dactylogyrid and 16 diplectanid species recorded and/or described from marine fishes in Iraq (Al-Darwesh, 2023).

Due to no previous studies on monogenoids of Lutjanidae in Iraq, the study is prepared to fill this gap in our knowledge after catching freshly specimens of lutjanid fishes and get-well fixed parasites for morphological study.

Materials & Methods

A total of 142 fish specimens were collected from Iraqi marine waters (29°53'-29°85'N, 48°13 '-48°40'E) in 2024 using a trawl net for parasitological examination. The specimens included 47 Blackspot snapper (*Lutjanus ehrenbergii* [Peters]), 21 Dory snapper (*L. fulviflamma* [Forsskål]), and 74 *L. indicus* (Allen, White & Erdmann). The freshly collected fish specimens were transported to the laboratory for further examination. Gill lamellae were excised from infected specimens and placed in vials containing hot 5% formalin solution (60°C) to facilitate relaxation and fixation of attached helminths. The vials were then labeled and vigorously shaken for 15–30 seconds to dislodge the parasites. Sclerotized structures of selected helminths were examined by mounting unstained specimens on microscope slides in Gray and Wess medium. Additional samples were stained with Gomori's trichrome and mounted in Canada balsam to analyze fine anatomical details (Kritsky *et al*., 1978; Humason, 1979; Palm, 2004). Minimum prevalence was determined following the criteria established by Kritsky *et al.* (2013). Illustrations of parasite morphology were prepared using a camera lucida mounted on a Leica 300 DM compound microscope. All measurements are provided in micrometers (µm), with means indicated in parentheses. Host taxonomy was determined according to Carpenter *et al.*, (1997) and validated by Fricke *et al.* (2025b).

Results & Discussion

Dactylogyridae Bychowsky, 1933
***Euryhaliotrema* Kritsky & Boeger, 2002**
***Euryhaliotrema seyi* Kritsky, 2012**

Host: Blackspot snapper, *Lutjanus ehrenbergii* (Peters), Dory snapper, *Lutjanus fulviflamma* (Forsskål), *Lutjanus indicus* (Allen, White & Erdmann), Lutjanidae

Locality: Arabian Gulf off southern Iraq (29°53'-29°85'N, 48°13 '-48°40'E).

Site of infection: Gills.

Prevalence %: 44.1% (65 from 145) [*L. ehrenbergii* 93.6% (44 from 47), *L. fulviflamma* 82.6% (19 from 23), *L. indicus* 2.6% (2 from 75)].

Voucher deposition: Iraq Natural History Research Center and Museum, *L. ehrenbergii*: INHM TRC 108, INHM TRC 109, INHM TRC 110, INHM TRC 111, INHM TRC 112, INHM TRC 113, INHM TRC 114 and INHM TRC 115; *L. fulviflamma*: INHM TRC 96, INHM TRC 100 and INHM TRC 105; *L. indicus*: INHM TRC 94 and INHM TRC 95.

Specimens studied: 47 specimens: 18 voucher specimens from *L. ehrenbergii*; 20 voucher specimens from *L. fulviflamma* and 9 voucher specimens from *L. indicus*.

Date of collection: January -December 2024.

Description: Body proper fusiform long 363 (300-450±37, n=28); greatest width 65 (50-112±12, n=30) usually at testis level (Fig. 1A). Tegument smooth. Cephalic extremity wide; cephalic lobes hardly distinguished. Two pairs of eyespots; posterior pair larger, rather closer together than that of anterior pair. Pharynx subspherical, 21 (18-25±2, n=19) in diameter. Peduncle short, decreasing slightly in width posteriorly; haptor spherical in shape 72 (53-87±9, n=19) in width. Ventral anchor (Fig. 1B) with moderately long concave depression-like superficial root, short hump-like deep root, linear shaft, a little recurved point expanding to near tip of superficial root level; 38 (35-42±2, n=54). Dorsal anchor (Fig. 1C) with prolonged fragile superficial root, small deep root, linear shaft, somewhat recurved point expanding to near tip of superficial root level 38 (35-41±2, n=52). The bars similar; each like tube- shaped with somewhat enlarged ends; ventral bar (Fig. 1D) with dorsomedial hump 28 (23-34±3, n=31). Dorsal bar 27 (23-30±2, n=27) (Fig. 1E). Hook (Fig. 1G) with regular shank, standing acute thumb; FH loop about shank length 11 (9-12±1, n=53). Male copulatory organ (MCO) (Fig. 1F) with bulb-shaped base, coiled shaft with 3-4 counterclockwise rings 38 (30-45±4, n=30). Accessory piece (AP) consists with a sheath surrounding distal part of MCO shaft.

Seminal vesicle; prostatic reservoir, Vaginal pore dextro-marginal; small vaginal vestibule present; small globular seminal receptacle present. Testis elongated oval 80 (52-110±14, n=25) long and 36 (27-52±7, n=22) in width. Ovary bacilliform to subovate 52 (45-65±4, n=22) in length and 34 (30-48±5, n=22) in width. Mehlis' gland-cells well developed, near the ovary. Vitellaria dense, coextensive with intestinal cecum. Egg not observed.

Euryhaliotrema Kritsky & Boeger, 2002 was erected for species possessing the copulatory organ with a bulbous base, parasites of nine different families: Ambassidae (2 species), Caesionidae (1), Chaetodontidae (11), Haemulidae (2), Lutjanidae (37), Monodactylidae (1), Pomacentridae (1), Sciaenidae (10) and Sparidae (15) (Kritsky & Boeger, 2002; Kritsky, 2012; WoRMS, 2025).

Kritsky (2012) revised the genus *Euryhaliotrema* when examined 29 species of

snappers (Lutjanidae) worldwide and described 27 new or previously described species. *E. seyi* Kritsky, 2012 described based on hard parts only from *L. fulviflamma* at Red Sea and from *L. russellii* (Bleeker) from Persian Gulf (=Arabian Gulf).

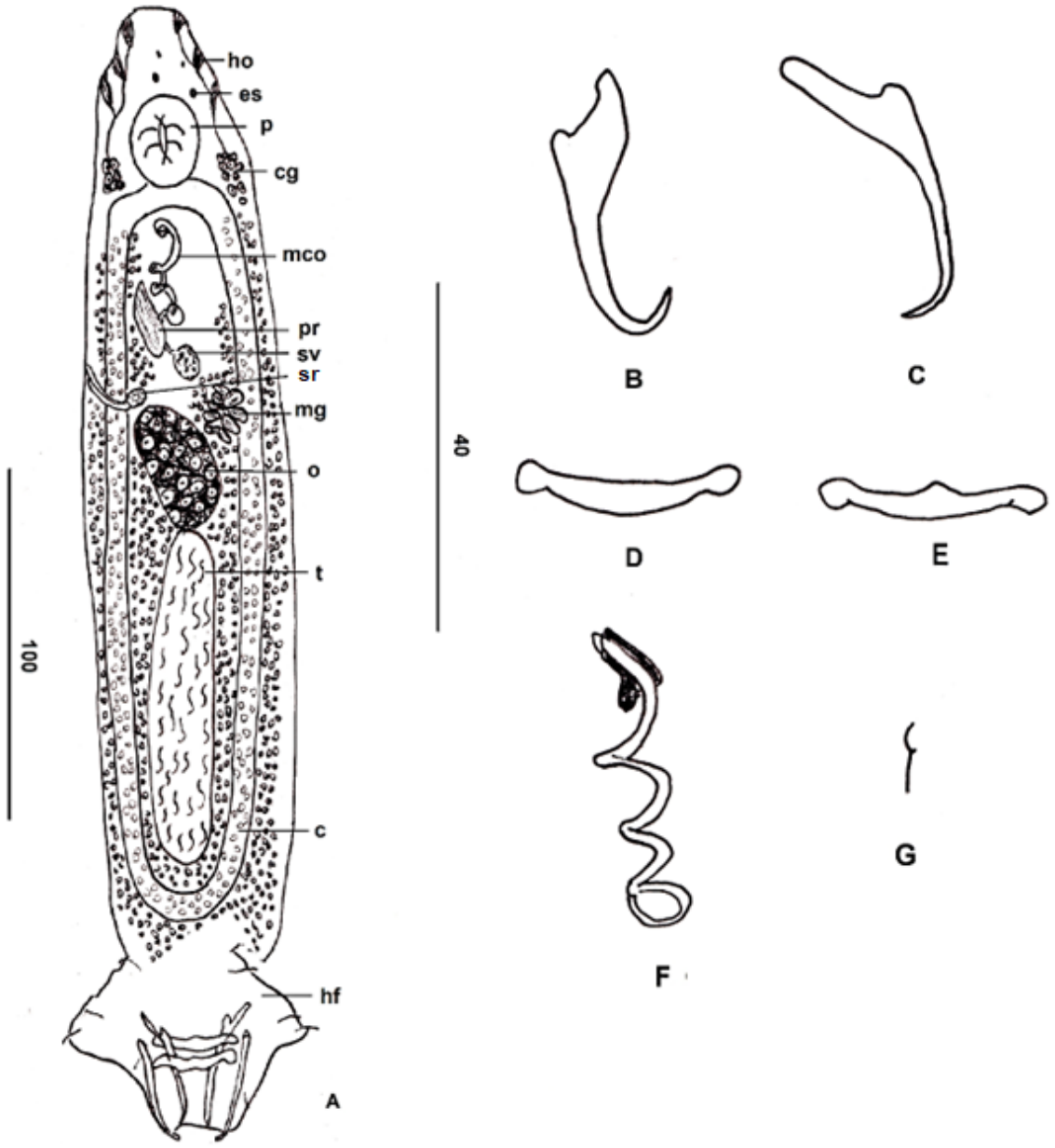

Fig. (1): *Euryhaliotrema seyi* ex *L. ehrenbergii*: A-Entire- ventral view, B-ventral anchor, C-dorsal anchor, D- ventral bar, E- dorsal bar, F-MCO, G-hook. Abbreviations: c: caecum, cg: cephalic glands, es: eyespot, hf: hold fast, ho: head organ, mco: male copulatory organ, mg: Mehlis'gland, o: ovary, p: pharynx, pr: prostatic reservoir, sr: seminal receptacle, sv: seminal vesicle, t: testis.

Table (1): Comparison of the morphological characters of *Euryhaliotrema seyi* recorded from three species of *Lutjanus* and original from two host species *L. fulviflamma* and *L. russellii* between brackets by Kritsky (2012).

The character	Present study			Kritsky, 2012
	***L. indicus* (n=9)**	***L. fulviflamma* (n=20)**	***L. ehrenbergii* (n=18)**	***L. fulviflamma* [*L. russellii*]**
Body length	364 (340-400±25, n=5)	385 (340-450±42, n=11)	385 (300-400±26, n=12)	470 (423-515), [291 (248-369)]
Body width	64 (50-112±24, n=6)	68 (55-80±9, n=12)	62 (53-75±6, n=12)	86 (76-92), [65 (56-77)].
Haptor width	58 (56-60±2, n=2)	75 (70-87±5, n=10)	68 (53-78±10, n=9)	81 (72-89), [63 (55-71]
Ventral anchor length	37 (35-40±2, n=6)	39 (38-42±1, n=22)	38 (35-40±1, n=26)	45 (42-47), [42 (38-45)]
Dorsal anchor length	37 (35-40±2, n=6)	39 (38-40±1, n=22)	38 (35-41±2, n=24)	47 (44-51), [46 (42-48)]
Ventral bar L.	28 (25-33±5, n=3)	27 (23-30±3, n=12)	28 (23-34±3, n=16)	39 (35-41), [35 (29-39)]
Dorsal bar length	28 (25-30±3, n=3)	27 (23-30±2, n=12)	27 (25-30±2, n=12)	35 (30-38), [33 (29-37)]
Hook length	10 (9-11±1, n=7)	11 (10-12±1, n=27)	11 (10-12±1, n=19)	13 (12-14), [13 (12-14)]
MCO length	36 (35-40±2, n=8)	38 (30-45±4, n=10)	38 (30-45±4, n=12)	45 (42-51), [48 (42-59)]
Testis length	73 (52-90±16, n=4)	89 (75-110±11, n=11)	72 (58-90±9, n=10)	99 (78-121), [37-38]
Testis Width	32 (27-37±5, n=3)	41 (33-52±7, n=11)	32 (28-38±4, n=8)	51 (49-53), [22-23]
Germarium length	51 (48-55±4, n=3)	51 (45-55±3, n=11)	55 (50-65±5, n=8)	(55-56), [32-33]
Germarium width	41 (30-48±10, n=3)	33 (30-35±2, n=11)	33 (30-37±3, n=8)	(27-28), [17-18]
Pharynx width	17 (16-18±2, n=2)	21 (20-25±2, n=11)	23 (18-25±3, n=8)	23 (20-25), [17 (16-19)]

Euryhaliotrema seyi has MCO with funnel-shaped or bulbous base and spiral or coiled shaft and possessing AP which share with the following six *Euryhaliotrema* species: *E. adelpha* Kritsky & Justine in Kritsky, 2012 from *L. quinquelineatus* (Bloch) from New Caledonia; *Euryhaliotrema cognatus* Kritsky & Galli in Kritsky, 2012 from *Lutjanus bohar* (Fabricius) and *Lutjanus gibbus* (Forsskål), from the Republic of Maldives; *Euryhaliotrema diplops* Kritsky, Yang & Justine in Kritsky, 2012 from *Lutjanus argentimaculatus* (Forsskål), in the Gulf of Tonkin, China; *Euryhaliotrema fastigatum* (Zhukov, 1976) from *Lutjanus apodus* (Walbaum), *Lutjanus jocu* (Bloch & Schneider), *Lutjanus griseus* (Linnaeus), *Lutjanus argentiventris* (Peters), and *Lutjanus analis* (Cuvier) in the Gulf of Mexico; *Euryhaliotrema ferocis* Kritsky & Yang in Kritsky, 2012 from *Lutjanus malabaricus* (Bloch & Schneider) from China; *Euryhaliotrema lutjani* Li, 2006 from *Lutjanus argentimaculatus* (Forsskål) and *Sparus macrocephalus* (=*Acanthopagrus schlegelii* [Bleeker]), from China.

Euryhaliotrema seyi differs from *E. adelpha* by number of counterclockwise rings of MCO shaft (three and four counterclockwise rings vs more than one) and the variation in the shape of ventral and dorsal bars between two species. Based on MCO shape *E. seyi* differs from *E. cognatus* and *E. ferocis* by number of counterclockwise rings of MCO shaft (three and four counterclockwise rings vs two) and the extension of AP sheath (At mid of the shaft vs along distal shaft of MCO and at the posterior part of the shaft) and in the variation of the shape of ventral and dorsal bars and dorsal anchor. Although the number of rings of the shaft of MCO of *E. seyi* and *E. diplops* relatively similar (3-4 vs 3), but the nature and place of this ring along the shaft is differ between two species (finely vs highly) accordingly the length of the shaft appear longer in the former than in the latter species. The ventral and the dorsal bars and the ventral anchor are different between two species. The AP in *E. diplops* articulate with base of MCO in compare with AP restricted to mid of the shaft in *E. seyi. Euryhaliotrema fastigatum* differs from *E. seyi* in the nature and the position of counterclockwise rings of MCO shaft (large and immediately after the base of MCO vs finely and along the shaft); the place of AP (at the posterior of the shaft vs at the middle of the shaft) and the variation in the shape of ventral and dorsal anchors between two species. Li (2006) described *E. lutjani* Li, 2006 and showed the number of shaft counterclockwise rings is 1-2 while in figure 4 seem three rings; this form agrees with that of *E. seyi* but the place and nature of counterclockwise rings (large and immediately to base of MCO vs finely and in the mid of the shaft) differ between two species. Both bars and anchors between species have different shapes. Kritsky (2012) raised his doubts about possibility *E. lutjani* to infest two different families (Lutjanidae and Sparidae), and he believed Li's materials may containing at least two different species.

No significant variations were noticed in the measurements of morphological characters of *E. seyi* among three species of snappers of present study and also no differences with that of original description from both *L. fulviflamma* from red sea, Egypt and *L. russellii* from Arabian Gulf off Kuwait (Kritsky, 2012). However, the current specimens more affinity with that from Kuwait (Table 1).

***Euryhaliotrema cardinale* Kritsky & Justine, 2012 in Kritsky, 2012**

Type host: Blackspot snapper, *Lutjanus ehrenbergii* (Peters**),** Dory snapper, *Lutjanus fulviflamma* (Forsskål).

Locality: Arabian Gulf off southern Iraq (29°53'-29°85'N, 48°13-48°40'E).

Site of infection: Gills.

Prevalence %: 20% (14 from 70) [*L. ehrenbergii* 6.4% (3 from 47), *Lutjanus fulviflamma* 47.8% (11 from 23)].

Voucher deposition: Iraq Natural History Research Center and Museum, *L. ehrenbergii*: INHM TRC 108 and INHM TRC 112; *L. fulviflamma*: INHM TRC 96, INHM TRC 97, INHM TRC 98, INHM TRC 99, INHM TRC 101, INHM TRC 102, INHM TRC 103, INHM TRC 104 and INHM TRC 106.

Specimens studied: 14 specimens**,** 12 voucher specimens from *L. fulviflamma*; 4 voucher specimens from *L. ehrenbergii*.

Date of collection: January -December 2024.

Description: Body 369 (270-470±74, n=11) long, fusiform (Fig. 2A); greatest width 69 (55-87±11, n=11) at testis level (Fig. 2A). Terminal cephalic lobe rounded; three pairs bilateral lobes of head organs; cephalic glands hardly distinguished. Two pairs of eyespots; anterior pair rather closer together, smaller than those of posterior one. Pharynx subspherical, 24 (20-28±2, n=10) in width. Peduncle tapered posteriorly; haptor 76 (63-87±9, n=8) in width, sub hexagonal, with bilateral lobes. Anchors similar (Fig. 2B and 2C); each with sharpened superficial root, slightly developed deep root, prolonged and linear shaft and point elongation to the level of the superficial root tip. Ventral anchor 39 (35-46±3, n=26) in long; dorsal anchor 40 (35-48±3, n=26) in long. Ventral bar 31 (28-38±4, n=14) in long, finely curved, with ends directed posteriorly (Fig. 2D); dorsal bar 32 (28-40±42, n=14) in long, finely curved, tube-shaped, finely swell at mid-length (Fig. 2E). Hook 11 (10-12±1, n=33) long, with regular shank, standing acute thumb and recurved point (Fig. 2F). Male copulatory organ (MCO) with about 1.5 counterclockwise rings and bulb-shaped base (Fig. 2G); 22 (20-23±12, n=13) in length, contains MCO formatted by an articulation process to an accessory piece (AP), AP curved at distal part. Testis elongated oval; 65 (53-72±6, n=10) long, and 30 (28-32±1, n=10) wide. Seminal vesicle spherical; prostatic reservoir small, globular, situated anterior to Mehlis' gland. Mehlis' gland well developed rounded at level of seminal vesicle.

Germarium 41 (38-45±3, n=90 long, 32 (28-40±4, n=10) wide, pyriform. Vitellarium in form of dense follicles in lateral fields, confluent to posterior edge of pharynx anteriorly and to gonads posteriorly, coextensive with intestinal caeca. Egg not observed.

Euryhaliotrema cardinale originally described from *L. fulviflamma* off New Caledonia, Australia and Red Sea and from *L. ehrenbergii* off Red Sea (Kritsky, 2012).

The same host species also infected with *E. cardinale*; the specimens from type host (*L. fulviflamma*) longer than that from *L. ehrenbergii*; but the versa is found in Iraqi specimens between two host species (Table 2). Based on thinning the base of the dorsal anchor, Kritsky (2012) made comparison this species with six species all from lutjanid fishes: *E. cognatus* Kritsky & Galli in Kritsky, 2012, *E. diplops* Kritsky, Yang & Justine in Kritsky, 2012, *E. distinctum* Kritsky & Galli in Kritsky, 2012, *E. fastigatum* (Zhukov, 1976), *E. ramulum* Kritsky & Galli in Kritsky, 2012 and *E. tormocleithrum* Kritsky & Galli in

Kritsky, 2012. *Euryhaliotrema cardinale* differs from above six species except *E. tormocleithrum* by number of counterclockwise rings of MCO shaft (1.5 vs 2, 3, 1, 2 and 2) in *E. cognatus, E. diplops, E. distinctum, E. fastigatum,* and *E. ramulum* respectively. The ventral anchor with poorly developed deep root in *E. fastigatum* and *E. tormocleithrum* or apparently smaller than dorsal anchor in *E. diplops* vs well-developed root of *E. cardinale*. Bifurcated ends of ventral bar found in *E. distinctum* and *E. ramulum* vs absence of bifurcated ends of ventral bar in *E. cardinale*.

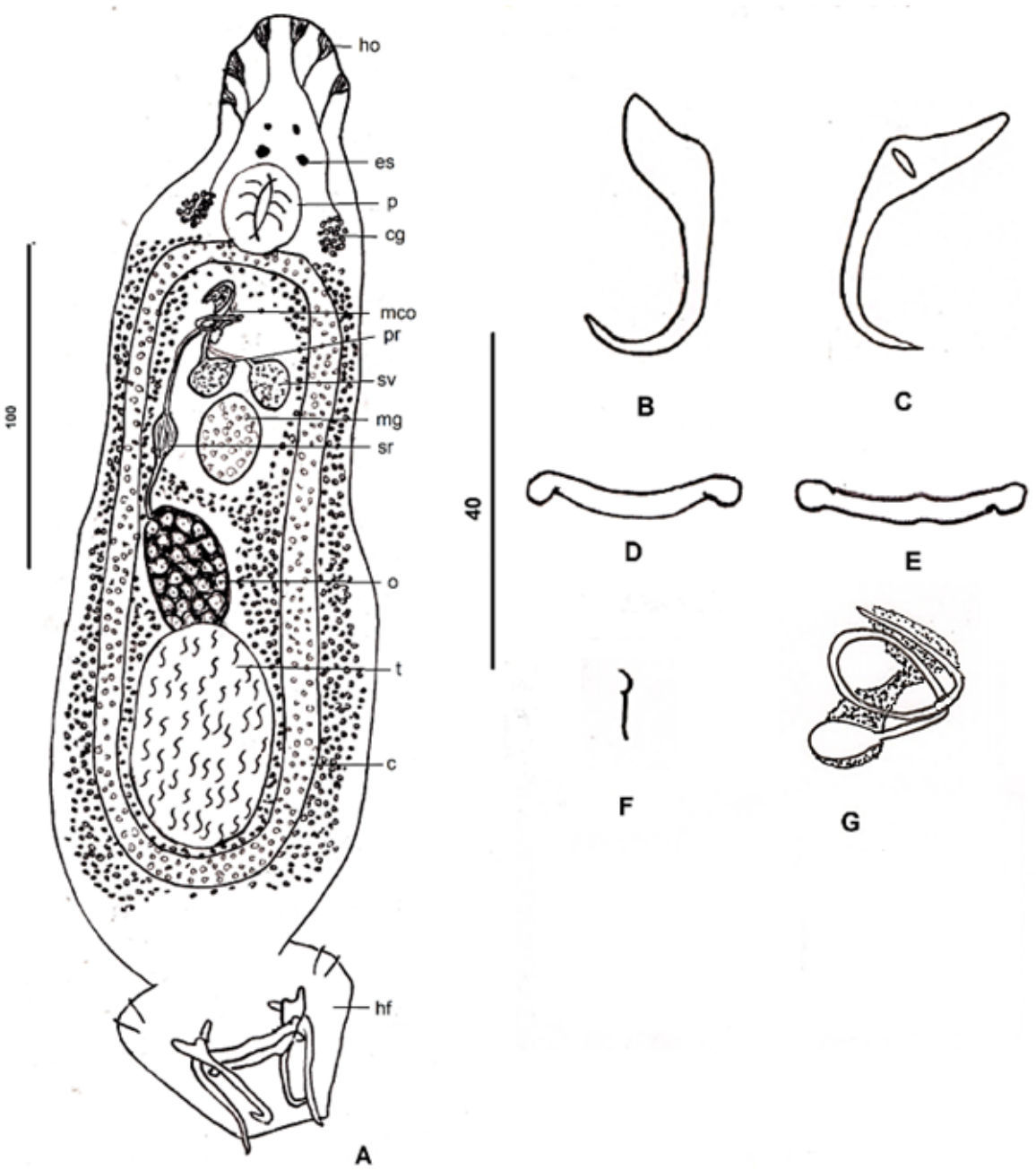

Fig. (2): ***Euryhaliotrema cardinale.*** **A- Entire-ventral view, B- ventral anchor, C- dorsal anchor, D-ventral bar, E-dorsal bar, F-hook, G-MCO. Abbreviations: C: caecum, cg: cephalic glands, es: eyespot, hf: hold fast, ho: head organ, mco: male copulatory organ, mg: mehlis' gland, o: ovary, P: pharynx, pr: prostatic reservoir sr: seminal receptacle, sv: seminal vesicle, t: testis.**

Table (2): Comparison of the morphological characters of *Euryhaliotrema cardinale* recorded from *L. fulviflamma* and *L. ehrenbergi* with original description from two host species (*L. fulviflamma* and *L. ehrenbergii*) by Kritsky (2012).

The character	Present study		Kritsky, 2012	
	L. fulviflamma (n=12)	*L. ehrenbergii* (n=4)	*L. fulviflamma* (Type host)	*L. ehrenbergii*
Body length	349 (270-460±65, n=9)	460 (450-470±14, n=2)	417-418 (n = 1)	289 (282-296; n =2)
Body width	68 (55-87±12, n=9)	70 (68-72±3, n=2)	73-74 (n =1)	63 (60-66; n =2)
Haptor width	72 (63-78±7, n=6)	86 (85-87±1, n=2)	77-78 (n = 1)	74-75 (n = 1)
Pharynx width	24 (20-27±2, n=8)	27 (26-28±1, n=2)	20-21 (n = 1)	19-20 (n = 2)
Ventral anchor length	38 (35-40±2, n=20)	45 (44-46±1, n=6)	43 (38-45; n = 6)	44 (42-45; n =4)
Dorsal anchor length	38 (35-40±2, n=20)	46 (44-48±2, n=6)	47 (44-48; n =6)	47 (44-49; n =4)
Ventral bar length	30 (28-35±2, n=10)	38 (37-38±1, n=4)	39 (37-40; n =6)	37 (35-39; n =2)
Dorsal bar length	31 (28-35±3, n=10)	39 (38-40±1, n=4)	35 (33-36; n = 6)	34 (32-37; n =2)
Hook length	11 (10-12±1, n=25)	11 (10-12±1, n=8)	13 (12-14; n =14)	12 (11-13; n =11)
MCO length	22 (20-23±1, n=11)	21 (20-22±1, n=2)	20 (17-23; n = 4)].	20 (15-24; n =4)
Testis length	68 (65-72±3, n=8)	54 (53-55±1, n=2)	-	40 (29-52; n =2)
Testis Width	30 (28-32±1, n=8)	31 (30-32±1, n=2)	-	21 (19-23; n =2)
Germarium length	40 (38-45±2, n=7)	43 (42-44±1, n=2)	-	29 (20-37; n =2)
Germarium width	32 (30-40±4, n=8)	32 (28-36±6, n=2)	20-21 (n = 1)	19-20 (n = 2)

E. tormocleithrum differ from *E. cardinale* by shape of ventral bar (robust with posteromedial triangular protuberance with medial perforation vs delicate without medial perforation).

Euryhaliotrema cognatus and *E. cardinale* are very similar in all hard parts except in the nature of tubular shaft coil of MCO; the shaft is delicate with large diameter of the first counterclockwise ring in *E. cardinale* vs the shaft consists from broad tube and small diameter of first counterclockwise ring. The specimens from *L. ehrenbergii* have larger dimensions in compared with that from type host (*L. fulviflamma*) on the contrary to Kritsky (2012), when found the larger dimensions of the parasite from type species (Table 2). The present report dealt with the record of *E. cardinale* in Iraq and Arabian Gulf, accordingly expand the geographical distribution of this parasite, and it can infest the same fish hosts which reported in the original description (New Caledonia, Australia and Red Sea).

Conclusions

The current investigation added dactylogyrid monogenoid new to the parasite fauna of Lutjanidae fishes in Iraq, when taking in consideration of the previous parasites record, Lutjanidae fishes is harbored eight parasite species which include one trematode, two monogenoids, three nematodes and two crustaceans.

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Contributions of authors

A.A.A., Methodology, wrote the manuscript and the fish hosts, editing the manuscript.

A.H.A, Proposing the subject, certification identification of the parasites, editing the manuscript.

ORCID

A.R.A: https://orcid.org/0000-0002-0658-564X

A.H.A.: https://orcid.org/0000-0002-2541-968X

Conflict of interest

The authors declare that they have no conflict of interest.

Ethical approval

All ethical guidelines concerning the care and handling of fish, as issued by national and international organizations, were strictly followed in this study.

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تسجيل جديد ل *Euryhaliotrema cardinale* Kritsky & Justine, 2012 و *Euryhaliotrema seyi* Kritsky, 2012 (ديدان احادية المنشأ: داكتيلوجايريدي) من اسماك النهاش في المياه البحرية العراقية

علي عدنان رديف الدرويش[1] وأثير حسين علي[2]

[1]فرع علم الأمراض وأمراض الدواجن، كلية الطب البيطري، جامعة الكوفة، العراق

[2]قسم الأسماك والثروة البحرية، كلية الزراعة، جامعة البصرة، العراق

المستخلص: الفحص الطفيلي لثلاثة أنواع من الأسماك البحرية النهاش أسود البقعة *Lutjanus ehrenbergii* (Peters), والنهاش دوري *L. fulviflamma* (Forsskål) والنهاش الهندي *L. indicus* Allen, White & Erdmann (جميعها من عائلة النهاش)، التي جمعت من المياه البحرية العراقية في الخليج العربي خلال عام 2024. اصيبت جميع أنواع الأسماك بالدودة أحادية *Euryhaliotrema seyi* Kritsky, 2012. أصيبت أسماك النهاش أسود البقعة ونهاش دوري أيضاً بالنوع *Euryhaliotrema cardinale* Kritsky & Justine in Kritsky, 2012 والذي أعتبر تسجيله في الخليج العربي منطقة انتشار جديده. أضافت الدراسة الحالية لأول مرة رسم النماذج الكاملة للنوعين *E. seyi* و*E. cardinale*. تعد هذه الدراسة هي الثانية على الديدان أحادية المنشأ المتطفلة على أسماك النهاش في العراق.

الكلمات المفتاحية: الخليج العربي، طفيليات خارجية، أسماك بحرية، الغلاصم، العراق، النهاش.