

*Int. J. Aquat. Biol.* (2019) 7(2): 112-116  
ISSN: 2322-5270; P-ISSN: 2383-0956  
Journal homepage: [www.ij-aquaticbiology.com](http://www.ij-aquaticbiology.com)  
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## Book Review

**Fishes of Guilan, By Abbasi Ranjbar K. 2017. 206 p. Iliya Culture Publication, Rasht, ISBN: 978-964-190-517-2.**

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**Abstract:** The Caspian Sea basin is one of the most important inland water basin of Iran having the most diverse inland water fishes. The present study aimed to review the book entitled "Fish of Guilan" by Keyvan Abbasi Ranjbar published in 2017. This book provides general and biological information of the reported fishes in Guilan Province that can be used as a reference and identification key by fishermen and researchers who are involved in aquaculture, fisheries and biology.

*Article history:*

Received 7 February 2019

Accepted 1 March 2019

Available online 25 April 2019

*Keywords:* Caspian Sea, Diversity, Guilan, Inland waters.

### Introduction

Iran, with 19 inland water basins, possesses a high fish diversity with 297 species mostly belonging to the Cyprinidae followed by Gobiidae and Nemacheilidae (Esmaili et al., 2018). The Caspian Sea is one of the most important inland water basin of Iran locating in the Palaearctic region (Coad, 1998; Esmaili et al., 2014). This basin has the highest diversity of fishes among the Iranian inland waters (Esmaili et al., 2010, 2017) with 119 species belonging to 63 genera and 18 families, which 19 of them are exotic species (Esmaili et al., 2014). Cyprinids are the most diversified family (35 species), at the next levels, Gobiidae (19), and Clupeidae (8) have the greatest diversity in the Caspian Sea basin. Due to the high diversity of fishes in this basin, it is necessary to provide a comprehensive work regarding their taxonomic statuses, morphological and biological features. Although several studies have been carried out over recent years, e.g. Esmaili et al. (2014) included a checklist of the Caspian Sea basins, information regarding these fishes is still scanty.

Guilan is one of the northern provinces of Iran with great diversity of fish species due to having a long coast of the Caspian Sea and major aquatic ecosystems of Iran such as the Sefid River and Anzali Wetland,

which provide rich and proper habitats for fishes (Radkhah et al., 2015, 2016; Asadi et al., 2016). Abbasi Ranjbar et al. (1998) published a book entitled "Atlas of Iranian Fishes, Inland waters of the Guilan Province" being updated recently by Abbasi Ranjbar as "Fishes of Guilan" published by Iliya Culture Publication (Rasht, Guilan Province). Considering the importance of fish species in Guilan Province, this study aimed to review this book providing a brief overview of its different sections.

The introduction of the book has presented a brief overview of the Caspian Sea basin plus previous published works. The author has addressed some researches performed on this basin in the recent years. Then, it reviewed previous studies regarding the status of some economically important fishes such as sturgeon, Kilka and bony fishes. In addition, the book has provided some terms and concepts of fish taxonomy and morphology. At the end of this section, an identification keys of the families has been provided. The next section introduces fish families and the species that are found in the Guilan Province, i.e. the species belong to the families of Petromyzontidae, Acipenseridae, Anguillidae, Clupeidae, Cyprinidae, Cobitidae, Nemacheilidae, Siluridae, Esocidae, Salmonidae, Gadidae,

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Table 1. A list of the reported fish species in the Guilan Province (E: Endemic, N: Native, EX: Exotic, T: Translocated).

Family	Species/subspecies	Status
Petromyzontidae	<i>Petromyzon wagneri</i>	N
Acipenseridae	<i>Acipenser baerii</i>	Ex
	<i>Acipenser gueldenstaedtii</i>	N
	<i>Acipenser nudiiventris</i>	Ex
	<i>Acipenser persicus</i>	N
	<i>Acipenser ruthenus</i>	N
	<i>Acipenser stellatus</i>	N
	<i>Huso huso</i>	N
Anguillidae	<i>Anguilla anguilla</i>	Ex
Clupeidae	<i>Alosa braschnikowi</i>	Ex
	<i>Alosa caspia caspia</i>	N
	<i>Alosa kessleri</i>	N
	<i>Alosa saposhnikovi</i>	N
	<i>Alosa sphaerocephala</i>	N
	<i>Alosa volgensis</i>	N
	<i>Clupeonella caspia</i>	N
	<i>Clupeonella engrauliformis</i>	N
	<i>Clupeonella grimmi</i>	N
Cyprinidae	<i>Abramis brama</i>	N
	<i>Acanthobrama microlepis</i>	N
	<i>Alburnoides samiii</i>	E
	<i>Alburnus chalcoides</i>	N
	<i>Alburnus filippi</i>	N
	<i>Alburnus hohenackeri</i>	N
	<i>Ballerus sapa</i>	N
	<i>Barbus cyri</i>	N
	<i>Blicca bjoerkna</i>	N
	<i>Capoeta razii</i>	E
	<i>Carassius gibelio</i>	Ex
	<i>Ctenopharyngodon idella</i>	Ex
	<i>Cyprinus carpio</i>	N, Ex
	<i>Hemiculter leucisculus</i>	Ex
	<i>Hypophthalmichthys molitrix</i>	Ex
	<i>Hypophthalmichthys nobilis</i>	Ex
	<i>Leucaspis delineatus</i>	N
	<i>Leuciscus aspilus</i>	N
	<i>Leusiscus sp.</i>	?
	<i>Luciobarbus brachycephalus</i>	N
	<i>Luciobarbus capito</i>	N
	<i>Luciobarbus mursa</i>	N
	<i>Mylopharyngodon piceus</i>	Ex
	<i>Pelecus cultratus</i>	N
	<i>Pseudorasbora parva</i>	Ex
	<i>Rhodeus amarus</i>	N
	<i>Rutilus caspicus</i>	N
	<i>Rutilus kutum</i>	N
	<i>Scardinius erythrophthalmus</i>	N
	<i>Squalius turcicus</i>	N
	<i>Tinca tinca</i>	N
	<i>Vimba persa</i>	N
	Cobitidae	<i>Cobitis saniae</i>
<i>Cobitis aurata</i>		N
<i>Sabanejewia caspia</i>		N

Table 1. Continued.

Family	Species/subspecies	Status
Nemacheilidae	<i>Oxynoemacheilus bergianus</i>	E
Siluridae	<i>Silurus glanis</i>	N
Pangasiidae	<i>Pangasius cf. sanitwongsei</i>	Ex
Loricariidae	<i>Hypostomus plecostomus</i>	Ex
Esocidae	<i>Esox lucius</i>	N
Salmonidae	<i>Oncorhynchus keta</i>	Ex
	<i>Oncorhynchus mykiss</i>	Ex
	<i>Salmo caspius</i>	N
	<i>Salmo trutta</i>	N
	<i>Stenodus leucichthys</i>	N
Gadidae	<i>Lota lota</i>	N
Atherinidae	<i>Atherina caspia</i>	N
Poeciliidae	<i>Gambusia holbrooki</i>	Ex
	<i>Poecilia reticulata</i>	Ex
Gasterosteidae	<i>Gasterosteus aculeatus</i>	Ex
	<i>Pungitius platygaster</i>	N
Syngnathidae	<i>Syngnathus caspius</i>	N
Percidae	<i>Perca fluviatilis</i>	N
	<i>Sander lucioperca</i>	N
	<i>Sander marinus</i>	N
Mugilidae	<i>Chelon auratus</i>	Ex
	<i>Chelon saliens</i>	Ex
Gobiidae	<i>Anatirostrum profundorum</i>	N
	<i>Benthophilus abdurahmanovi</i>	N
	<i>Benthophilus baeri</i>	N
	<i>Benthophilus ctenolepidus</i>	N
	<i>Benthophilus granulatus</i>	N
	<i>Benthophilus leobergius</i>	N
	<i>Benthophilus macrocephalus</i>	N
	<i>Benthophilus pinchuk</i>	N
	<i>Hyrnanogobius bergi</i>	N
	<i>Knipowitschia caucasica</i>	N
	<i>Knipowitschia iljini</i>	N
	<i>Knipowitschia longicaudata</i>	N
	<i>Mesogobius nonultimus</i>	N
	<i>Neogobius caspius</i>	N
	<i>Neogobius melanostomus</i>	N
	<i>Neogobius pallasii</i>	N
	<i>Ponticola bathybius</i>	N
	<i>Ponticola gorlap</i>	N
	<i>Ponticola iranicus</i>	E
	<i>Ponticola goebelii</i>	N
<i>Ponticola syrman</i>	N	
<i>Proterorhinus nasalis</i>	N	
<i>Rhinogobius lindbergi</i>	Ex	
Serrasalmididae	<i>Piaractus brachypomus</i>	E
Channidae	<i>Channa micropeltes</i>	E
Notopteridae	<i>Chitala chitala</i>	E
Lepisosteidae	Genus <i>Atractosteus</i> or <i>Lepisosteus</i>	E

Atherinidae, Poeciliidae, Gasterosteidae, Syngnathidae, Percidae, Mugilidae and Gobiidae. In addition, extra information regarding each species are presented, including local name, English name,

external characteristics, feeding, reproduction, economical value and how to consume.

Some parts of the book need a major review. The taxonomic status of some species such as *Alosa caspia*

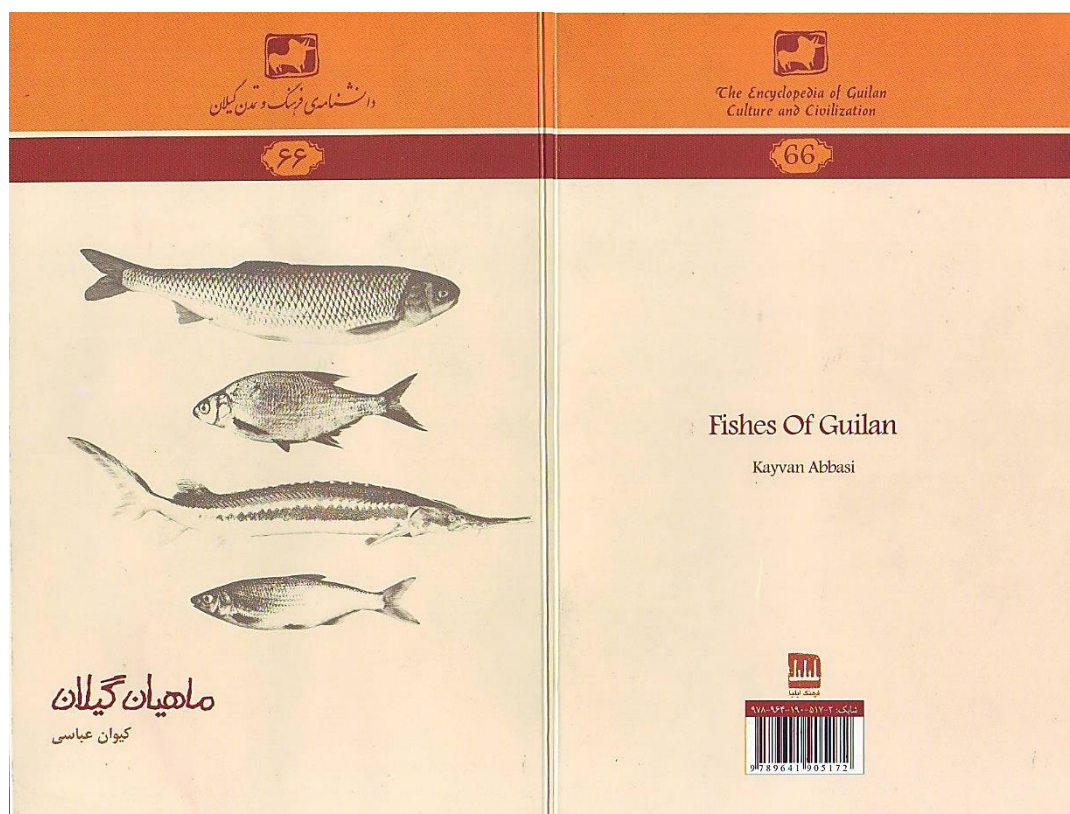


Figure 1. Cover page of the book.

*volgensis* (P. 68; promoted to species level as *A. volgensis* in Esmaeili et al. (2018)), *Acanthalburnus microlepis* (P. 75; synonym of *Acanthobrama microlepis*), *Rutilus caspicus* (P. 104; synonym of *R. lacustris*), *Ponticola ratan* (P. 172; synonym of *P. goebelii*), *Rhinogobius* sp. (P. 176; named as *R. lindbergii* in Sadeghi et al. (2019)) and *Cobitis keyvani* (P. 112; synonym of *C. saniae*) are not correct (Neilson and Stepien, 2009; Eagderi et al., 2017; Jouladeh-Roudbar et al., 2017; Esmaeili et al., 2018; Levin et al., 2016). In addition, *Capoeta gracilis* (P. 85) does not exist in the Caspian Sea basin, hence, the reported *C. gracilis* has probably been mistaken by *C. razii* (Esmaeili et al., 2018). *Cobitis faridpaki* (P. 111) does not exist in Guilan Province, and probably this species has incorrectly been included in the book (Jalili et al., 2015, 2016), and finally an unknown species has been presented in the book as *Leuciscus* sp. (P. 95), however, its picture does not confirm the claimed species and further investigation is necessary.

In the final section, some exotic ornamental fishes

have been reported from the natural water bodies of Guilan Province. The author has discussed the negative impacts of these species. These ornamental fishes, including *Channa micropeltes*, *Chitala chitala*, *Pangasius* cf. *sanitwongsei* and *Hypostomus plecostomus* (PP: 183-181) are first records in Iranian inland waters, therefore, they are needed to be listed in an updated checklist of Iranian freshwater fishes. Alligator gar, *Atractosteus spatula* (Lepisosteidae) has also been reported in this province from the Anzali coast, however, it has already been reported from Marivan (Zarivar) Lake (Tigris basin) (Esmaeili et al., 2017).

Despite having many positive features, there are still some shortages which we will briefly review them here and suggest them to be addressed in the next edition. There is no information regarding systematic status of the listed species. Providing such data can help to understand the evolutionary processes of fish species in the Caspian Sea basin.

There are many exotic fish species reported in the Caspian Sea basin (Esmaeili et al., 2014) but a list of

them has not been presented in the book as a table or graph. Information such as richness of the families and their distribution could be useful even for general readers. For this purpose, we have provided a table of fishes of Guilan (Table 1).

Providing a list of fishes in some provinces of Iran (such as Fars and Guilan provinces) is a useful trend that has been carried out in recent years by the Iranian researches. This book has presented information similar to those provided for other provinces, making better understanding about identification, distribution and conservation of the Iranian freshwater fishes.

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