

Study of common methods for the detection of sexual maturation in sturgeon
Abbas Bbarari^{1*}, Taghi Mohammadi Futemi², Mohammad Mahdi Abbaszadeh³, Rahim Farnia¹

1,2,3,4-Department of Fisheries of Mazandaran Province

*Corrospounding author g-mail:Abbasbarari812@gmail.com

Since sexual differentiation in sturgeon before maturation by using morphological characteristics is not possible, other methods are used which, based on the type of procedure, have three invasive forms (blood collection and biopsy), semi-invasive (Laparoscopy and endoscopy) and non-invasive (ultrasonography). Today, aggressive methods such as surgery are avoided due to stress and severe pressure on fish, and even non-invasive methods are used. Semi-invasive methods such as laparoscopy and endoscopy can also be detected. Another method of sex determination is Ultrasound. In this method, without the use of surgery and only by observing the sexual organs in the device's monitor, it is applied to the diagnosis of sex and the type of sexual examination. In this way, attention is drawn to the apparent differences in the stages of sexual intercourse. Since in sturgeon, four stages of sexual activity are required to reach the ultimate puberty, each of these stages having characteristics, so by distinguishing them from each other, this method can be done by observing them in relation to gender identification. The longest period of sexually transmitted sting in sturgeon is stage 2, and the time from step 2 to sex is 3, which sometimes ends in an elephant's fish depending on the life environment up to 8-7 years.

Keywords:Sturgeon, Maturation age, Sexual differentiation, Laparoscopy, Ultrasonography