

SEASONAL HISTOPATHOLOGICAL CHANGES IN LAMELLIDENS CORRIANUS

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ABSTRACT

Seasonal Histopathological study of gonads of *Lamellidens corrianus* showed that spawning was occurred throughout the year. Peak period of spawning was in rainy season from October to November. Maximum numbers of mature oocytes were seen in rainy season. Female shows oogenesis in all season throughout the year and male shows development of spermatogonia, spermatocytes, developing sperms, spermatozoa along with spermatids as mature sperm. Maximum amount of sperm was recorded during rainy season. . Peak period for maturity stage was from June to September.

INTRODUCTION

Fresh water mussels belong to class bivalvia of phylum mollusca and appeared in early **Cambrian period** before 500 million year ago. Bivalvia, means **Bi – Two**, as name suggest these molluscs possess two shells. They are also known as **Pelecypoda (pods- foot)** meaning hatchet footed which has function of locomotion, support, fixation, digging in the eThe word molluscs is derived from a Latin word '**Mollis**', meaning soft. It means all molluscs have soft body and protected externally by calcium containing shell, which is secreted by animals as it grows. The two valves are mirror images of each other. They protect and prevent mussel from dehydration environment. Molluscs are highly diverse group not just in size but in anatomical structure also in habitat. Freshwater mussels have a highly specialized life history that includes a life stage called a glochidium larva that is a non-lethal obligate parasite of fish. The mussel fish relationship is often species- specific. In that only certain fish species can serve as hosts for a particular freshwater mussel species (Brunderman and Neves, 1993; Haag and Warren, 1997; O'Brien and Brim Box, 1999).

MATERIAL AND METHODS

Study of seasonal histopathological changes in gonads of *Lamellidens corrianus* was carried out. Reproductive physiology of unionoid mussels is one of the wonder in nature. Male release sperm in aggregates and carried away by water current towards female. Fertilization takes place in gill region and fertilized eggs are brooded there. For the study seasonally mussels were collected regular interval from Nanded region and kept in laboratory for acclimatization. Gonads were removed and kept in Bowen's fluid for

24 hr for hardening. Water content was removed by dehydration process, in different concentration of ethyl alcohol ranging from 30%, 50%, 70%, 90%, to 100% and xylen. After dehydration process tissues kept in xylen wax for half an hour then blocks were made in L- shaped steel blocks. With the help of microtome sections were taken. (Godakar and Godakar 2003).

RESUT AND DISCUSSION

Microscopic examination of gonads it gives details information about the reproductive stages of gonads. Externally it is very difficult to differentiate male and female sex in mussels because there are morphological similarities between two sexes. Sexes can be identified with the help of histopathological study. Colure of gonad in mature female is pale yellow and mature male is white. Male and female attained sexual maturity at the same time and breeding was from February to August. Growing stage, maturing stage, mature stage, partially spawned stage, spent and recovery stage. Seasonal Histopathological study of gonads of *Lamellidens corrianus* showed that spawning was occurred throughout the year. Peak period of spawning was in rainy season from October to November. Maximum numbers of mature oocytes were seen in rainy season. Female shows ogenesis in all season throughout the year and male shows development of spermatogonia, spermatocytes, developing sperms, spermatozoa along with spermatids as mature sperm. Maximum amount of sperm was recorded during rainy season. . Peak period for maturity stage was from June to September. During study period temperature were recorded ranged from 19°C to 35°C winter and summer season.

Fig. 1. *Lamellidens corrianus* showed histological structure of growing stage of female and male

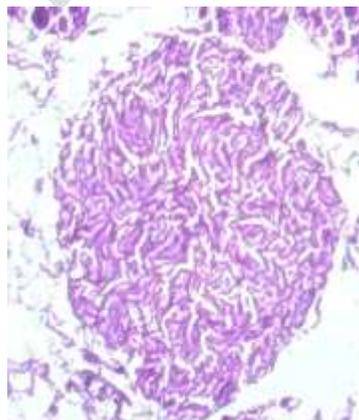
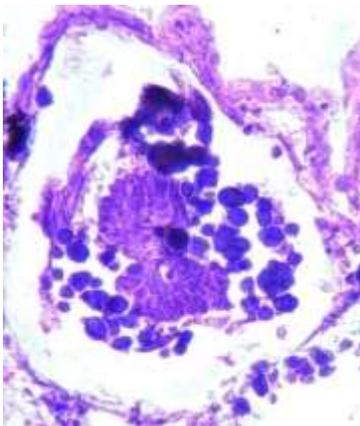
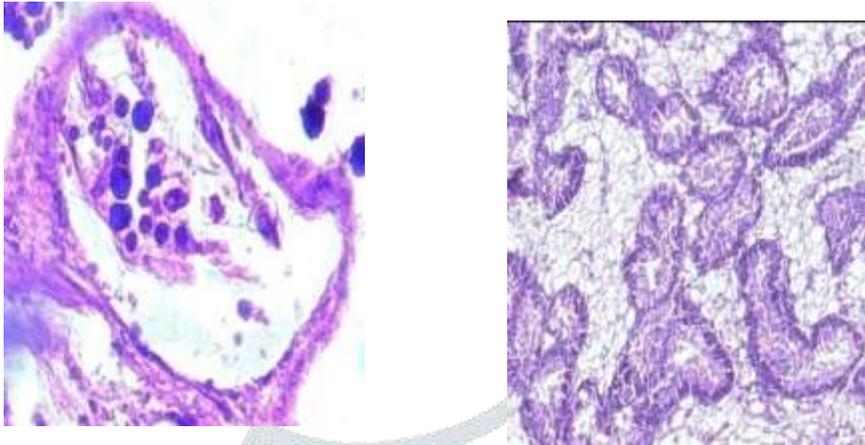


Fig.2. *Lamellidens corrianus* showed histological structure of maturing stage of female and male



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