ABSTRACT

Reproduction ability is the key factor for survival and dispersal of every species. There is, however, only limited information about reproduction of large-bodied fish. Males of European catfish, our biggest native fish, build nests in vegetation and mate there later with females. After succesful mating male guards the nest and takes care of eggs and fry. According to literature, the act of reproduction should take place at nights with water temperature from 18 to 24 °C. However, available records about reproductive behaviour are outdated, fragmentary or come from aquacultures. Thus, a study was designed to evaluate behaviour of European catfish in their natural environment in the Berounka river using radiotelemetry, the results of which I processed in this thesis. Spatial distribution of catfish was followed during the whole year, with special attention on separating mating season from the rest of the year. The goal was to determine conditions characteristic for the mating period and to verify that catfish in the field indeed reproduce in pairs. For this purpose, 10 adults were tracked for two-year period (2002-2004) in the Berounka river by radiotelemetry. Exact positions of all individuals were followed in fourteen-day cycles. In every tracking episode, the position of an individual fish was determined every four hours in a complete 24-hour day cycle. In second part of this thesis, I investigated a type of mating system, specifically long-term pair bond forming, using the data from another telemetry study. Eight individuals of catfish, originally stocked separately in two ponds (one pair in the smaller one and three pairs together in the bigger one), were subsequently equipped with transmitters and released to the Berounka river. A radiotelemetry was used to follow these individuals for following nine months (2007-2008). The aim was to find out if mutual interactions or even pair bond forming for reproduction in ponds have an effect on spatial distribution in the river, and if formed pair bonds outlasted to the next mating period.

My results reveal that European catfish form pair bonds during mating period. These pair bonds, however, don’t persist in the rest of the year. Reproductive act takes place at low light conditions in June or July when water temperature reaches 18,5 °C. The need to be in familiar group of individuals may prevail over the need to maintain one specific mating partner. European catfish seem to prefer proximity of that individual, with whom it had some past experience.