Parental care improves embryos' development in freshwater blenny

October 8 2014

An article published in the journal Animal Biology indicates that parental care improves embryos' development in the river blenny. The article is signed by experts Dolors Vinyoles, Noëlle Fabre and Eduardo García, from the Department of Animal Biology of the Faculty of Biology at the University of Barcelona (UB).

The river blenny (Salaria fluviatilis) is a freshwater fish classified as endangered species in the Mediterranean area due to habitat loss (gravel extraction, river pollution, etc.). Like it happens in many other fish species, only males provide care to eggs (parental care) as they are the ones who fertilize the eggs laid by females.

Dolors Vinyoles explains that "parental care is a reproductive strategy used by many fish species, particularly freshwater ones. Its beneficial effects have been proved but it also implies high energetic expenditure. It is known that this activity improves embryos' survival. However, the study first shows that this strategy also has a direct effect on larvae embryology".

In the study, the UB research team designed an experimental protocol to know whether or not parents' presence influences the process of embryonic development (ontogenic sequence) and embryo's structures. The team studied different parameters on river blenny eggs laid in aquaria where parents (male and female) were present and in others where they were absent. "To include the female in these protocols is also an important feature", points out Dolors Vinyoles. "We know that parental care is given by males, by without female's stimuli, male's reproductive behaviour will be different and it will probably affect parental care. Moreover, females are always near the nests in natural environments", she says.

Results show that the sequence of development in embryos reared in the presence and in the absence of parents is identical. However, head height presented lower values in larvae reared with parents than in larvae reared without them. Moreover, the yolk-sac volume of larvae with parental care is higher.

More information: "Parents' presence affects embryos' development in Salaria fluviatilis (Asso, 1801), a fish with parental care." *Animal*

Biology, Volume 64(3) (2014) pp. 295-309.
booksandjournals.brillonline.c … 63/15707563-00002447