عنوان مقاله:

Research Article: Changes in brain and pituitary GnRH levels during a reproductive cycle in wild female Asian sea (bass, Lates calcarifer (Bloch, ۱۷۹۰

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خلاصه مقاله:

Changes in the peptide levels of sea bream (Sparus aurata) GnRH (sbGnRH) in the olfactory bulb, telencephalon including the preoptic area, hypothalamus, optic tectum-thalamus and pituitary during a reproductive cycle were investigated in addition to plasma levels of testosterone (T), ۱۷β- estradiol (E۲) and ۱۷α, ۲۰b-dihydroxy-۴-pregnen-۳-one (DHP) in wild female Asian sea bass Lates calcarifer in Nha Phu lagoon, Vietnam from March to September, ۲۰۱۰. Ovaries were classified into five stages: II Recovering spent (March -April), III Maturing (May-June), IV Mature (June), V Ripe and ovulating (July- August) and VI Spent (September). The gonadosomatic index increased significantly from the stage II (۱.۶۲%±۰.۱۲) to stage V (۸.۴۸%±۰.۲۳) and dropped thereafter in stage VI (۲.۰۵%±۰.۲۵). In the olfactory bulb and telencephalon, sbGnRH levels in stage IV and stage V were slightly higher than those in the other stages, but no significant differences in sbGnRH levels were found among the ovarian stages. In the hypothalamus and optic tectum-thalamus, although significant differences in sbGnRH level were not found among the ovarian stages, the highest level of sbGnRH was determined in stage III (۵۹۴.۱۳±۱۵۲.۱۲ pg tissue-۱ and ۵۰۱.۳۷±۱۲۴.۳۵ pg tissue-۱, respectively). In the pituitary, sbGnRH level in stage III (۶۹۲۷.۰۳±۲۱۸.۹۲ pg tissue-۱) was significantly higher than that in the other stages. In addition, plasma T, E۲ and DHP levels increased significantly during ovarian maturation or ovulation with the highest level of T (۲.۹۱±۰.۳۱ ng ml-۱) and E۲ (۴.۹۸±۱.۴۳ ng ml-۱) recorded in stage IV and DHP (۳۸۹.۶ ± ۱۳۶.۰۳ pg ml-۱) in stage V. The results showed that sbGnRH in the anterior brain and pituitary is involved in initiation and ovarian maturation in .wild Asian sea bass

کلمات کلیدی:

sbGnRH, Brain, Pituitary, Plasma steroid, Ovarian stages, Asian sea bass