

Vitellogenin ELISA and histology applied to the liver and gonads of the fishes in the Saho and Yamato River.

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We investigated water quality in the Saho and Yamato River, one of the most polluted rivers in Japan. We also tried to find any effects of endocrine disrupters in those rivers on the histology and vitellogenin contents in the liver and gonads in *Zacco platypus*, *Zacco temmincki* and *Cyprinus carpio*. The fishes in the Takami River, a clean mountain stream in Yoshino-gun, were used as controls. The body weights and lengths of fishes caught in the rivers were measured and, then, the gonads and livers were dissected out to measure the weights. The tissues were fixed in Bouin's fixative for later histology or homogenized to measure vitellogenin by ELISA.

The results were as follows. (1) The water qualities in the Saho and Yamato River were much worse than that in the Takami River. (2) Some of the male fish (*Zacco platypus*) captured in the Saho River showed a high vitellogenin concentration in the liver and testis. (3) In the testis of the fish with high vitellogenin, abnormally enlarged cells were found. These results suggest that the endocrine disrupting substances in the river might be responsible for the high vitellogenin concentration in the liver and testis of male fish.