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Preference: poster, but will accept platform
1st Choice: 1 H 2nd Choice: 1 J
I want to be considered for the Young Scientist Award and will be below 30 years of age at the time of the meeting: Yes

Uptake, distribution and bioconcentration of diclofenac in brown trout (*Salmo trutta f. fario*). Linke A.[1], S. Schullerer[2], D.R. Dietrich[1] and B. Hitzfeld[3]. [1]University of Konstanz, Germany; [2]University of Stuttgart, Germany, [3]Swiss Agency for the Environment, Forest and Landscape, Bern, Switzerland.

The possible adverse effects of the contamination of rivers and lakes on the health of aquatic organisms has increasingly been the focus of research activities. In this context, human pharmaceuticals such as antiphlogistica, anti-epileptica, and antibiotics, may also have effects on fish. These substances have been detected in the ng to µg/l range in rivers discharging into lakes in Europe and the USA. The aim of this investigation was to detect uptake, distribution and elimination of the antiphlogistic drug diclofenac in brown trout (*Salmo trutta f. fario*). After an acclimatisation period of 10 days, trout were exposed to nominal concentrations of 1 and 10 µg/l diclofenac for 14 days in a flow-through system in lake water, followed by a clearance period lasting 17 days. Sampling was carried out on days 1, 2, 3, 5, 8, 12 and 17 of the clearance phase. Uptake of diclofenac into liver, anterior and posterior kidney, gills, muscle and serum was investigated following homogenisation and lyophilisation of the collected tissues. Diclofenac in fish tissue was analysed via GC-MS after methanol:acetic acid (25:1) extraction, clean-up with dichloromethane and esterification with TMSH (trimethylsulfonium hydroxide). Additionally, water samples were taken and analysed for diclofenac to determine the actual exposure concentrations. Actual diclofenac concentrations in water during exposure period were 820 ng/l and 8,1 µg/l (nominal concentrations 1 and 10 µg/l respectively). Diclofenac could be detected in liver, anterior kidney as well as in serum.