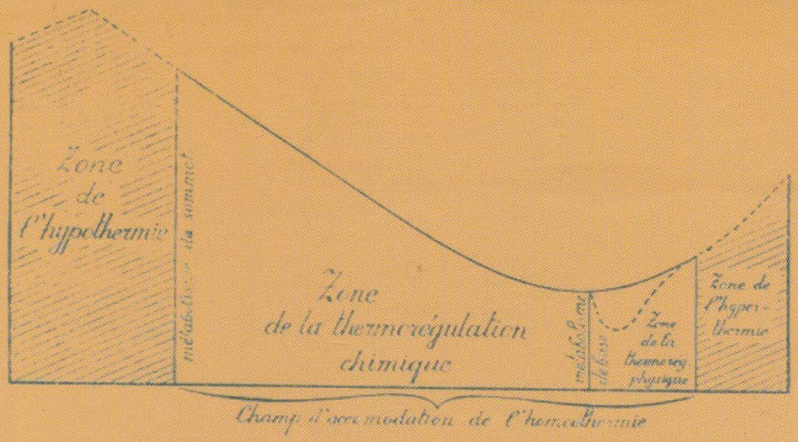

INTERNATIONAL SYMPOSIUM

ONE HUNDRED YEARS OF IVAN DJAJA's (JEAN GIAJA) BELGRADE SCHOOL OF PHYSIOLOGY

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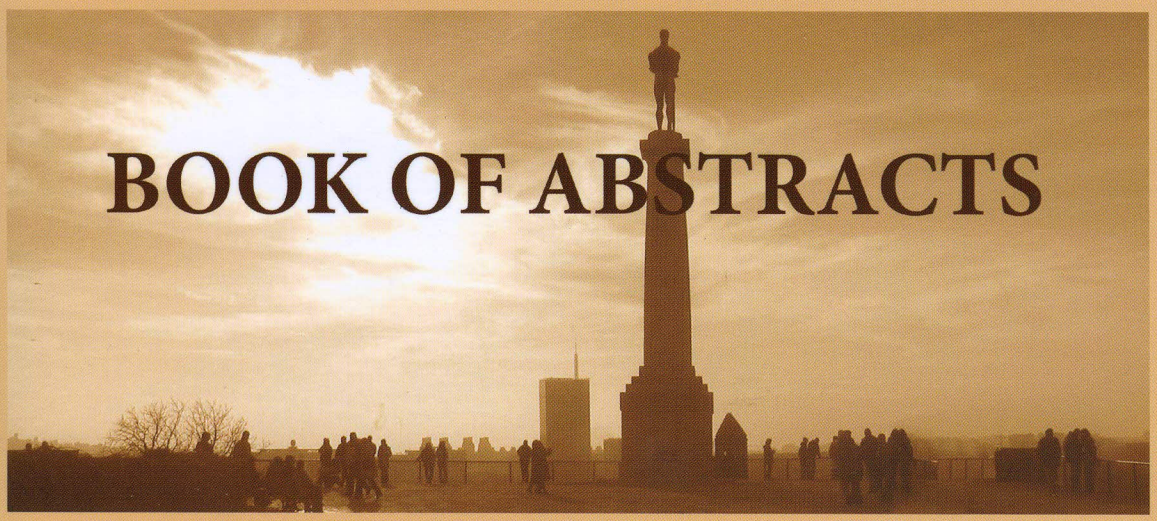
MINISTRY OF SCIENCE AND TECHNOLOGICAL DEVELOPMENT



BOOK OF ABSTRACTS

BIOMARKERS OF OXIDATIVE STRESS IN THE LIVER OF MEDITERRANEAN FISH, *Trigla lucerna* FROM THE ADRIATIC SEA

Pavlović S.Z., Borković Mitić S.S., Radovanović T.B., Perendija B.R., Despotović S.G., Gavrić J.P., Saičić Z.S.

Institute for Biological Research "Siniša Stanković", University of Belgrade, Department of Physiology, Belgrade, Serbia

We investigated the effects of season and locality on oxidative stress biomarkers: total, manganese and copper zinc containing superoxide dismutase (Tot SOD, Mn SOD, CuZn SOD), catalase (CAT), glutathione peroxidase (GSH-Px), glutathione reductase (GR) and phase II biotransformation enzyme glutathione S-transferase (GST) activity in the liver of Tub gurnard (*Trigla lucerna*) from the Adriatic sea. We also investigated the total protein concentration, as well as electrophoretic profiles of liver proteins. The specimens were collected in winter (February) and spring (May) at localities: Platamuni, Near Bar, Valdanos and Estuary of the River Bojana. The obtained results show significant differences in the activity of oxidative stress biomarkers in the liver of Tub gurnard (*Trigla lucerna*) between some localities in winter, as well as in spring season. We obtained significant seasonal differences for some of investigated parameters also. Our results are most pronounced for phase II biotransformation enzyme glutathione S-transferase (GST) activity suggesting that this enzyme is most valuable for this type of biomonitoring studies. Significant changes in total protein concentration between some localities in winter and spring, but without seasonal effects were detected. Our work represents the first study of its kind and suggests that observed changes probably represents physiological adaptation to differences between environmental factors in the sea water, especially in the presence of various concentrations of natural or anthropogenic pollutants.