

areas. These simple rules will be linked to this complexity through spatial structure of daily moves and nocturnal roosting behaviours. This model is both an illustration of the self-organizing principle as a mean of regulating bird dispersal and a new hypothesis about the function of communal roosting behaviour in birds.

26 INFLUENCE OF COPPER ON SOME ASPECTS OF THE ENERGY METABOLISM OF THE COMMON CARP *CYPRINUS CARPIO*. H. De Smet, G. De Boeck and R. Blust - University of Antwerp (RUCA).

The influence of copper on the oxygen consumption, nitrogen excretion and oxygen consumption/nitrogen excretion ratio (O/N ratio) of carp (15-25g) was determined at three different concentrations of the metal, during the first ten hours and after one week of exposure. Experiments were performed in a respiration chamber with the use of an oxygen-and ammonia-electrode. At a concentration of 250 µg/l an immediate significant drop of 60% in the O/N ratio was observed. This was followed by a transient, partial, but significant recovery. Finally, the O/N ratio stabilised at the level reached during the first hour of exposure. The same pattern was observed at a copper concentration of 125 µg/l, but the initial drop in O/N ratio was less (45%). At a copper concentration of 62.5 µg/l the response of the fish was not significantly different from control values. The sudden drop in the O/N ratio during the first hours was caused by a decrease in oxygen consumption compared to a smaller decrease in ammonia excretion. One week later however, ammonia excretion was fully restored to the initial level whereas oxygen consumption remained low. When the carps were exposed to an additional stressor, *i.e.* hypoxia, the critical oxygen concentration shifted from 1 mg/l (for clean water) to 3.5 mg/l (for exposure to a copper concentration of 125 µg/l and during one week). Under normal conditions, the ammonia excretion rate decreased after the critical ammonia concentration of 1 mg/l. At 125 µg/l Cu however, the ammonia excretion rate declined gradually. These changes clearly indicate that the fishes who were exposed to a sublethal concentration of copper, were more sensitive to the additional stressor than the controls.

27 PALEONTOLOGICAL STUDY OF THE NEERREPEN SANDS (GHOST-, ICHNO- AND MICROFOSSILS IN THE TUNGRIAN ID). J. Deville - University of Gent (RUG).

Until now there were few founds of macrofossils in the Neerrepén sands. It's very difficult to get ghost fossils out of the sand. When they