Lateral difference in hunting behavior in the scale-eating cichlid fish, *Perissodus microlepis* in Lake Tanganyika

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The scale-eating cichlid fish, *Perissodus microlepis*, exhibits lateral dimorphism with their mouth opening either leftward or rightward, and robs off scales by attacking the corresponding side of prey's flank. A previous fieldwork study indicated that the mouth asymmetry correlates with the attacking side on the prey. The hunting behavior, however, has not been analyzed yet in detail in the field because of its rapid movements. Here we studied the scale-eating behavior of the cichlid in tank by monitoring the behavior through high-speed video filming to assess the behavioral laterality and kinematics quantitatively. The typical hunting event is composed of five behavioral components: dash, address, fixed posture, quick flexion of the trunk, and twisting. Of 20 fishes 18 showed a bias in regard to the attacking side either leftward or rightward. The behavioral laterality of each fish was associated with the direction of address and quick body flexion, which correlated closely with the mouth asymmetry. Furthermore, the maximum angular velocity and amplitude of body flexion were large in dominant attack direction compared with the opposite direction. These results suggest that neuronal pathways for the address to strike prey and quick body flexion for wrenching off scales during hunting are functionally lateralized.