

SPECIES – SPECIFIC EXPLORATORY BEHAVIOR IN THE GRAY SHORT-TAILED OPOSSUM
(*MONODELPHIS DOMESTICA*) AND RAT (*RATTUS NORVEGICUS*) LONG-EVANS STRAIN

S u m m a r y

The Brazilian gray short-tailed opossum (*Monodelphis domestica*) is a member of Didelphidae, the oldest extant family of marsupial mammals. In the wild they are solitary, omnivorous animals feeding also on insects and small vertebrates, captured as a result of active searching and hunting behavior. They are living in the semiarid tropical part of South America. This species was introduced as a laboratory animal only in the last twenty years. Gray opossum breeds easily in laboratory conditions. Females do not have a pouch (marsupium). Pups are born after about a 14 day gestation. This is a very early stage of development, which was the main reason of introducing this species as a model of developmental research. Little is known about the behavior of wild opossums. Laboratory investigations have thus far been devoted mainly to their sexual and scent-marking behavior. This article describes the biology of the gray short-tailed opossum and laboratory investigations concerning exploratory behavior. Presented by them in the empty box test of grooming, the open field test (OF) and in the elevated plus maze test (EPM). The exploratory behavior of the opossums was compared with the behavior of

Long-Evans rats. A common feature of both species was the higher level of ambulation in the peripheral part of the field than in the internal and center part of the OF, and avoidance of open arms in the EPM on the first exposition to the experimental situation. In the subsequent expositions to the experimental conditions, opossums modified patterns of the open field and the EPM exploration. In the OF their locomotor activity was shifted from peripheral part of the field to its internal and center part, in the EPM they also spent more time in the center of the maze. In the OF test opossums showed higher number of contacts with the new object than rats. In both tests rats defecated more. Although both opossums and rats showed similar exploratory repertoire in both tests, strategy of exploration employed by the opossums was different from that employed by the rats. The pattern of grooming behavior observed in opossums and rats also showed important differences. On the basis of those results we interpret the opossum's behavior in terms of a species-specific balance of fear and curiosity, different than in the case of rats.