GUEST EDITORIAL:
WHY DO WE STUDY MINDS OF COMPANION ANIMALS?

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Many species of animals live together with different animal species. A well-known example is the symbiosis of ants and aphids; weak aphids attract ants by producing nectar to be protected by them from predators. Passerine birds such as Japanese tits, varied tits, and Japanese white-eyes often make mixed groups in the forest, probably because moving in large groups can be safer against predators. Heterospecific mixed groups are often observed among nonhuman primates; for instance, red colobus monkeys, a common victim of wild chimpanzees, make a mixed group with Diana monkeys, who have sophisticated alarm calls against predators. In all these examples, living with other species leads to better adaptation in a practical sense.

We humans also live with several different species, but for various purposes. Livestock are bred and kept for power, meat, and milk, and poultry are kept for meat and eggs. Dogs were probably domesticated for hunting and cats for eliminating crop pests. These still remain as practical purposes.

What seems unique to humans is that we often keep animals as social partners. The purpose is not to receive practical benefits from them but to obtain psychological wellbeing with them. Dogs are a friend or a family member for most people, though they still work for humans as guide dogs, police dogs, detectors, sheep dogs, search dogs, etc. With increased hygiene, cats these days are no more than lovable pets.

Although we keep various other animals of various taxa including invertebrates such as insects and snails as well as many kinds of vertebrates, we form unusual bonds with some of them. They are called companion animals, and are special for humans as shown by the deep grief we feel when we lose these friends. This special issue of *Psychologia* addresses their minds as targets.

Comparative cognitive studies of domesticated animals have greatly increased in number for the last two decades. Years ago, scientists mostly ignored these animals because they are not wild and it was thought that they are not suited for elucidating how animal minds have been shaped by natural selection.

However, in fact these “artificial” species are important for knowing what selective pressures have shaped certain mental functions, because we know, at least for some part, the selective pressure on them. They are also important for knowing how flexible animal minds can be if liberated from the time and effort needed to collect food and predation risks.

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Companion animals are a special case among domesticated animals because they interact with humans daily. This might have changed aspects of their minds in some unique ways.

It is well known that dogs are extremely sensitive to human actions. They are better than great apes at finding food pointed at by a human actor (e.g., Hare, Brown, Williamson, & Tomasello, 2002). They rely upon humans when they encounter difficult problems (e.g., Miklósi et al., 2003). They recognize human emotional expressions (e.g., Buttelman & Tomasello, 2013) and may exhibit social referencing like young human infants (Merola, Prato-Previde, & Marshall-Pescini, 2012). They recognize reliability of human actors in the pointing game (Takaoka, Maeda, Hori, & Fujita, 2015), and they evaluate third-parties irrelevant to their own immediate benefit (Chijiiwa, Kuroshima, Hori, Anderson, & Fujita, 2015). In the physical domain, dogs seem to understand the gravity rule (Osthaus, Slater, & Lea, 2003). More recent studies have shown that cats show comparable abilities in some of these skills (Galvan & Vonk, 2016; Merola, Lazzaroni, Marshall-Pescini, & Prato-Previde, 2015; Miklósi, Pongrácz, Lakatos, Topál, & Csányi, 2005; Takagi et al., 2016).

By noting just a few of these excellent abilities in two of the most popular companion animals, one may wonder what the minds of other friends of ours such as companion birds, rodents, and horses may be like.

In this special issue, we have collected studies of various cognitive and affective processes of dogs, cats, horses, degus, budgerigars and Bengalese finches conducted in Japan. A ripple effect of such studies is that greater understanding of their minds is useful for establishing better human-animal cohabitation in the future. Here we present frontiers of comparative cognitive studies of companion animals in Japan.

REFERENCES