

Observations of hider-like mother-infant behaviour in the semi-domestic reindeer, *Rangifer tarandus tarandus* L. in northern Finland

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Two distinct forms of integrated mother-infant behaviour may be observed in ungulates, referred to in German as the "Ablieger-Typ" und "Nachfolger-Typ" (WALTHER 1968), and in English as "hiders" and "followers" (LENT 1974). Postpartum mother-infant behaviour in typical hiders is characterized by long period of separation, allowing the infant to select its own hiding place independently, whereas the mother and infant in follower species tend to develop and early close following response.

Reindeer and caribou, genus *Rangifer*, are classified as typical follower species (LENT 1974). However, separation periods of various length between the female and her calf are reported in semi-domestic reindeer, *Rangifer tarandus tarandus* L. (e.g. ITKONEN 1948; ESPMARK 1971). PELOSSE (1977), describing the Finnish wild forest reindeer, *Rangifer tarandus fennicus* Lönnberg, mentions that the female is known to leave her calf alone for some time, and notes that a young calf will walk or run beside its mother, a feature which WALTHER (1968) regards as a characteristic of the hider species.

The following observations are concerned with exceptionally long separation periods between the female and her calf of the semi-domestic reindeer in northern Kittilä (68° N, 24° E), Finnish Lapland.

In the process of carrying out a survey of reindeer grazing areas in the reindeer herding district of Kyrö, in July 1979, the author, together with Mr. VEIKKO VASAMA, was struck by the fact that the suckling female reindeer encountered at that time were very often moving about without their calves. When the question was taken up later with the head of the herding district, Mr. EELIS AUTTO, he replied that this had become a familiar pattern both during that summer and in certain summers previously. The following account of the separation of the female and her calf is based on his experiences.

Towards the end of June or the beginning of July, the reindeer belonging to the herding district tend to gather into herds of anything up to a thousand animals, preferably on the fells of Pallastunturi, on the western edge of the herding district. By this stage the calves are some 1–1.5 months old. Separation of the female and calf tends to occur most often in hot summers, when there are most insects about to irritate the reindeer. The separation process exhibits the following daily rhythm. The females spend the day-time escaping from the insects by gathering in tight, constantly moving herds on the tops of the fells. Such a herd would contain very few calves on a hot day, and it is for this reason that it would be pointless to drive the reindeer into a compound to brand the calves. In the evening, when the gadflies, Tabanidae, warble flies, *Oedemagena tarandi* L., and nostril flies, *Cephenomyia trompe* L. at least have ceased their flight with the cooling of the air, the female reindeer make their way down to the edge of the forest, where they left their calves in the morning. Once the females have located and given suck to their calves, they and the calves together go down to the mires at the foot of the fells for the night to feed. In the morning the reindeer return together to the tree-line, where the females once more leave

their calves, while they themselves continue onto the fell tops. This separation can last up to 9 hours at a time, and the female reindeer will often wander several kilometres away from the place where she left her calf. The calves themselves spend the whole day lying in the same place, preferably in the shade of a clump of spruce trees. If a human being comes upon them, the calves will jump to their feet "only when you have practically stepped on them".

ESPMARK (1980) could not find any serious effects of maternal prepartum undernutrition on early mother-calf relationship in reindeer. On the other hand, it is well-known that reindeer fail to gain weight during the period of the worst harassment by insects, and calves in poor condition can even die in such circumstances. The social bond between the female and her calf is maintained as much by the calf as by the female (ESPMARK 1980). Thus it seems reasonable to suggest that the separation of the female from her calf would be a consequence of some weakening in the following response in the calf and in nursery activity on the part of the female as the animals tire. It is probable that this separation and hiding behaviour may be more economical for the calves than constant movement in an attempt to follow their mothers, which are, however, too nervous for nursing.

It is interesting to note that also the moose, *Alces alces* have some hider traits in mother-infant behaviour (LENT 1974), although it is classified in general as a typical follower species (e.g. ALTMANN 1956; GEIST 1966). When the moose calves are young the mother, when disturbed, can leave them and the calves make no attempt to follow her (FLEROV 1954; LERESCHE 1966; LENT 1974).

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