Thigmophilia

De thigmofiel, het verlangen naar geborgenheid [the thigmophile, longing for safety], the latest book from Dutch biologist Midas Dekkers (2015) undoubtedly created a wide recognition of the meaning of the concept of 'thigmophilia', a new term devised by the author. Dekkers defines thigmophilia as a rarely described 'love for touch'. Several readers reported almost immediately understanding exactly what this concept means, even after just reading the title. There is currently a gap in *The Oxford guide to the English language* (1984) between the words 'thigh' and 'thimble'. It will be interesting to see if 'thigmophilia' will plug it. In some Dutch dictionaries the term 'thigmotropie' has been defined as the movement of living organisms in response to their sensory nerve endings. Dekkers, in his ironic style, started his reflections on thigmophilia, after years of observing his cat, which he noticed to be most relaxed when curled–up, in an almost-too-small cardboard box with its head sticking out. Another characteristic of thigmophilia that he also mentions is hiding under an object that provides cover. While he gives many examples of thigmophilia, from the animal kingdom he also expands his reflections to concentrate on the human dimensions of the phenomenon.

Thigmophilia is part of the behaviour of almost all mammals. For example, many bat species hide in narrow crevices during the day time. They enter their roost at dawn, climbing their way into cavities, seeking to contact the surface or each other with both their belly and back. At dusk the bats crawl down to an opening and fly off again until dawn, abandoning their thigmophilia in the wide open air. The non-furred cetaceans never crawl ashore to look for a large object to hide under. While there are reports of belugas rubbing their belly over pebbles during summer in shallow waters of northern estuaries, it is still worth asking whether these sea mammals experience thigmophilia or if the surrounding water acts like a perpetual wetsuit, helping them feel comfortable? Nevertheless, the frequent outbursts of jumping, somersaulting or splashing, that lots of cetaceans engage in, also represent short moments of total non-thigmophilia.

Mammals, which move head-first, rely completely on their senses of hearing, sight, smell and taste for encountering the environment that they are approaching. Moreover, brushes of whiskers that instantaneously act to trigger the slightest movements, seem to serve as thigmophilic guides for small mammals, for example, in narrow spaces between rocks. Brown rats (*Rattus norvegicus*) have certain habits that were first described a long time ago. These can now be interpreted as partial thigmophilia. Observations show how the boldest, colonising individuals rub their flanks against the wall of a new environment, as a way of countering their tendency for neo-

phobia, an inborn shyness for new objects in unfamiliar surroundings. At the same time these colonists leave pungent smells (urine, droppings, sebaceous secretions) as signs for subsequently visiting animals. One question to ask here is whether this behaviour – pressing their flanks against the wall or another individual – is also a common phenomenon in other mammal species.

Reflecting on these examples of partial thigmophilia, I recalled two solid observations that I have made, both during summer camps run by the Dutch Mammal Society's Field Study Group, one in Norway in 1996, the other in Macedonia ten years later.

During the second camp a lesser mole rat (*Nannospalax leucodon*) was captured and placed in a large box in order to take photos of it before releasing it. Most small mammals in this situation ran to and fro, dashing from one wall to the opposite side, before finally hiding in a corner. The lesser mole rat, however, outside its comfort zone, retreated until it came to a wall of the box and then carried on retreating until it reached the corner, where it sat still. It can be argued that, for an animal with only partial eyesight (as lesser mole rats have), dashing to and fro is ineffective. However, a common mole (*Talpa europaea*), described by Dekkers as an ultimate example of thigmophilia, placed in a terrarium begins to shovel with its front paws franticly forwards until it can hide in a hole.

When a group of hoofed animals, such as a herd of buffalos, is attacked by a group of lions, the bulls and mature cows take the 'front-line' positions, with the calves behind them. These front-liners individually make counter attacks, sometimes switching positions and do not permanently maintain physical contact with the other herd members. During an excursion at Dovre Fjell (1996, Norway) we observed a flock of musk ox (*Ovibos moschatus*). When a helicopter came in over a mountain ridge it triggered the scattered herd to cluster together. At the last moment the full-grown animals turned, while pushing their hind sides to each other, forming a complete circle around the calves in the middle. This classical, partial, thigmophilic response was to counter a threat from the outside world.

For me the classic thigmophilic mammal is the noki or dassie rat (*Petromus typicus*), which is found in the southwest of Africa. There, in the desert of Namibia it lives in rocky outcrops, sharing its habitat with the rock hyrax (*Procavia capensis*), both seeking shelter in narrow spaces between rocks. The noki has claimed its niche through a series of exceptional adaptations. Its skull is elongated and flat-topped and the ribs are extremely flexible, making it easier for the animal to squeeze its body in between rocks (Coutzee 2013a). The two pairs of anterior nipples are raised and found behind the shoulders, a peculiar physical adaptation that enables the female to feed the young in narrow crevices, well out of reach of competitors or predators (Coutzee 2013b).

From the point of animal welfare, the notion of thigmophilia can be important for handling animals. Most bat workers know that this is true for several bat species. When holding a bat in a loosely gripped fist, with the thumb under the bat's chin, the animal will soon stop its movements and slow down. However, if a bat, as sometimes is seen on photographs, is held between the pinched thumb and index of both hands, then the animal will show more signs of stress and will keep trying to escape for quite a while. Obviously the bat accepts the loosely gripped fist as a thigmophilic safe haven.

In conclusion, thigmophilia, is probably not a goal in itself. The bottom line for all thigmophilic reactions can be best understood as mutual or as reflexive stress reduction. In the end this may contribute to the fitness of individuals or groups.