



How long do mites survive once the host dies?

Sarcoptes scabiei var. *canis* (mange on dogs) can survive **between two days and three weeks** off a host, depending on relative humidity and temperature. Low temperature (10-15°C) and high relative humidity prolong survival of all life stages (larva, nymph, adult). However even when environmental conditions are poor for mite survival, mites at all life-stages can survive for at least two days.

S. scabiei var. *canis* mites were found to survive off the host for **19 days** at 10°C and 97% relative humidity. Generally, higher humidity and lower temperatures favoured survival, whereas higher temperature and lower humidity led to early death. Most canine scabies mites that were held off the host for 36 hours at 75% relative humidity and 22-24°C remained infective and penetrated when returned to the host (Arlian et al. 1984).

Mites survived **8–19 days** at 10°C–25° C and high relative humidity, but died after a few hours when the ambient temperature was increased to 25°C–45° C and humidity was decreased to 45% (Arlian et al. 1989).

How long after the host dies are mites able to infect other mammals?

Under experimental conditions, **mites remain infective at least one-half to two-thirds of their survival time** after being dislodged from their host (Arlian 1989).

How fast is infection?

The time needed for scabies mites on humans, after being immediately transferred from one host to another, to begin penetrating the skin was around 10 minutes (Arlian et al. 1984), and it took the mites approximately 35 minutes to become completely submerged (Bornstein et al. 2001).

Mites may be transmitted from a carcass by flies!

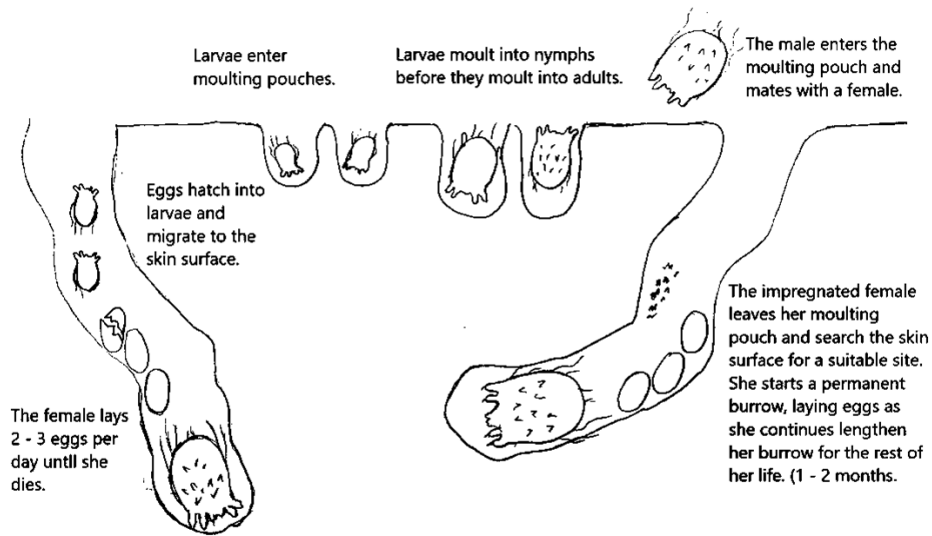
Larval mites may survive on the ovipositors of flies for more than 24 hours after contact between a fly and a dead mangy carcass, indicating the possibility of transmission of mange via flies (Zeh 1974).

General

Long survival off the host, together with host-seeking behaviour, make environments contaminated with *Sarcoptes scabiei* a likely source of scabies in domestic and wild mammals as well as humans (Arlian et al. 1989).

Host seeking behaviour

Sarcoptes mites seek the source of stimuli originating from the host when they are off the host but in close proximity to it. The ability to perceive and respond to a host diminishes with increasing distance from the source. 100% of the mites in a study moved towards the source at a distance of 4.2 cm. The host stimulus that induced the response could have been body odour and heat emanating from the host and/or CO₂ in exhaled breath. (Morgan 2017).



References

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