

KILLING SMALL ARTHROPODS WITH THE LEGS EXTENDED

R. A. COOLEY

Entomologist, Montana Agricultural College, Bozeman.

Any one who has worked with alcoholic ticks recognizes the disadvantage of the curled position of the legs which is usually assumed in such specimens. In connection with experiments in methods of preserving female ticks in various stages of engorgement, it was accidentally learned that flat or unfed females, and all males, are left with the legs extended if killed by dropping into boiling water. Specimens so treated also become slightly distended, which is often an advantage.

The ticks are dropped, one at a time, from a height of 6 or 8 inches into a small dish of water over a flame. A pair of fine curve-pointed forceps is used for picking up and dropping the ticks, and a minute strainer on a handle is convenient for removing them from the water. Specimens which are removed as quickly as possible have the legs properly extended, but we have not observed any injury to others allowed to remain immersed longer.

Partly engorged females are improved as specimens if treated in this way, but larger females may be overdistended or may be injured by a cracking and slipping of the integument. Nymphs killed in this manner make better specimens, and it is probable that larvae would also be improved, though we have not tried the method on them.

Assistant Entomologist J. R. Parker has tried this method in killing aphids before clearing in turpentine-carbolic acid mixture, and finds that the legs are generally extended in symmetrical positions as with ticks. In the case of aphids this is apparently due to the legs being fixed in the position they have when they touch the water rather than to an extending of the legs after immersion. With ticks and aphids at least, this method appears to be of great value, and it is probable that with many other arthropods its adoption would be beneficial.

In this connection it may be of interest to state that living, unfed ticks may be induced to extend the legs by squeezing them lightly between two pieces of glass. In this position they may be photographed or examined under a binocular microscope without injuring them. For this purpose we have used a thin microscopic slide on one side and a seven-eighths by 2-inch cover-glass on the other, the two being held together by rubber bands. The cover-glass curves and touches the slide at both ends, and the amount of pressure on the tick is governed by varying the distance between the two rubber bands.



Cooley, R. A. 1914. "Killing small arthropods with the legs extended." *The Journal of parasitology* 1(2), 105–105. <https://doi.org/10.2307/3271187>.

View This Item Online: <https://www.biodiversitylibrary.org/item/87019>

DOI: <https://doi.org/10.2307/3271187>

Permalink: <https://www.biodiversitylibrary.org/partpdf/316139>

Holding Institution

University of Toronto - Gerstein Science Information Centre

Sponsored by

University of Toronto

Copyright & Reuse

Copyright Status: Not provided. Contact Holding Institution to verify copyright status.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.