An Effective Method Of Relaxing Insects Collected in Formol

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Pitfall trapping has become one of the most effective methods for sampling soil for terrestrial arthropods. There are many kinds of preservation media that have been used in pitfall traps. In spite of some disadvantages a solution of water and formol is the most frequently used medium due to its excellent preservative properties and low price. Besides, the formol kills those insects which fall into the trap and this increases sampling efficiency by reducing the number of escapes (as can happen when using other media such as ethlene glycol or poor water). Thanks to the afore mentioned properties, formol can be expected to perform as a good pitfall trap preservative for many years to come.

Unfortunately, the use of formol has one serious disadvantage for collection oriented entomologists. Specimens are very difficult, if not impossible, to mount in a satisfactory scientific or aesthetic manner.

After experiments with many compounds, I have found that formol-preserved specimens can be relaxed by boiling the insects in a 20% solution of citric acid. The boiling time depends on the size of the specimen and its' hardness. My experience has been that large beetles (20 - 30 mm) should be boiled approximately 2 hours, medium sized beetles (10 - 20 mm) for 1-2 hours, and smaller specimens for about an hour. The above times are, of course, guidelines and the exact boiling time is best determined by checking each individual during the boiling process. During a long boiling, the water will have to be replenished, or better yet the maceration solution should be changed. It is recommended that you warm the container with the specimens in a larger water bath to protect it from direct heat.

I have obtained good results with the above mentioned method, even with beetles preserved in 8-10% formol.