

## A simple technique for studying feeding behaviour of spiders on mites

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A number of recent studies have indicated that spiders may play an important role in the integrated control or pest management programmes of phytophagous mites and insects (e.g Bailey & Chada, 1968; Coates, 1974; Turnbull, 1960). A vexing problem in the study of spiders as predators, is the culturing of the prey under conditions as close to natural ones as possible. Putman (1967) used *Panonychus ulmi* (Koch) as food for *Philodromus praelustris* Keyserling and *Theridion murarium* Emerton in the laboratory. When phytophagous mites are not feeding actively they soon dry out and die. He therefore kept the mites and spiders at a high humidity to prevent desiccation of the prey and also had to supply fresh prey twice a day.

The technique presented here allows mites to feed actively on leaves, and spiders to feed on the mites, and thus prevents the desiccation and subsequent death of both. A fresh clean bean leaf (kidney bean –

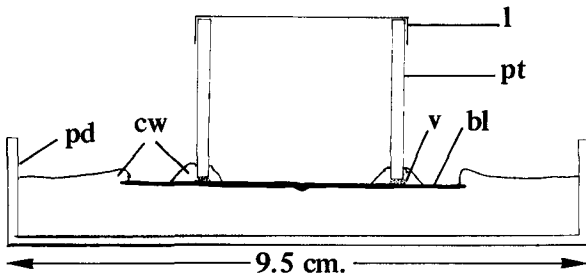


Fig. 1: Container used in the laboratory to study feeding behaviour of *P. crassipalpis* supplying phytophagous mites as prey (bl = bean leaf, cw = cotton wool, l = lid, pd = petri-dish, pt = perspex tube, v = vaseline).

*Phaseolus vulgaris*) was placed on wet cotton wool in a petri-dish (9.5 cm in diameter). A perspex or glass tube (height 3 cm, diameter 4 cm), with the bottom edge coated with vaseline, was placed on the leaf. Thin strips of moist cotton wool were then placed on the leaf on both sides of the tube. The cotton wool strips were kept moist in order to prevent the mites from wandering and also to act as a source of water for the spiders. A lid of organdie and masking tape served as a cover (Fig. 1).

This method was used successfully in the laboratory for studying the development and behaviour of *Pardosa crassipalpis* Purcell, supplying *Tetranychus cinnabarinus* (Boisduval) as prey (Dippenaar - Schoeman, 1976). A known number of *T. cinnabarinus* females and second instar spiderlings, which had just abandoned the parent female's abdomen were put into the container. The size and depth of the container allowed counts of prey consumed, as well as other observations to be made under a stereomicroscope.

## References

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