Cantelo, W.W. and A.L. Boswell. Plant Genetics and Germplasm Institute, ARS, U.S. Department of Agriculture, Beltsville Maryland. Mite control with chemicals in a Drosophila culture.

When we were confronted by a large infestation of mites in our Drosophila colony, we treated the colony with benzyl benzoate, which had been found by others to eliminate mites from their colonies (DIS 20:96, DIS 46:156). However, this treatment was ineffective for us, possibly because we had a different mite species. Our colony was infested with Proctolaelaps hypudaei (Oudemans)(det. by R.L. Smiley) of the family Ascidae, a cosmopolitan mite. It feeds on mites and other small arthropods and probably caused depletion of the Drosophila culture by feeding on the Drosophila eggs and affecting the Drosophila behavior.

To determine whether chemicals used commercially to control plant-feeding mites would control P. hypudaei, we treated 220-ml jars containing ca. 70 ml of diet medium, adult Drosophila and many hundreds of mites with miticides. The miticides used were Dowco® 213 (tricyclohexylhydroxytin), oxythioquinox, binapacryl, dicofol, and propargite. Each was applied to a different jar as a 2% dust (0.034 g ± 0.002 s.e. per jar), with 3 replicates. Also included was a set of replicates treated with 10% benzyl benzoate in alcohol, the air-dried weight of which was 0.075 g ± 0.002 s.e.

When the cultures were examined 3 days later, the mites in the jars treated with binapacryl, dicofol, propargite, and methyl benzoate did not appear to be affected by the treatments. In the 3 jars treated with Dowco® 213, 2 living mites were observed, and the jars treated with oxythioquinox had 3 living mites. Dowco® 213 and benzyl benzoate killed all the flies. Therefore, the chemical of choice for controlling P. hypudaei, when adult Drosophila mortality is unwanted, would be oxythioquinox.

Barker, J.S.F. and I.R. Bock. University of Sydney; University of Western Australia, Perth, Australia. The Drosophilidae of Sulawesi, Indonesia.

As Bock and Wheeler (1972) note that there are effectively no records of the Drosophilidae of Sulawesi (Celebes), two collections were made by J.S.F.B. during a short visit in February, 1973. One collection was made over fermenting banana and pineapple in the grounds of Hotel Victoria, Ujung Pandang (Makassar), and one by sweeping over rotting fruits and refuse in a picnic ground surrounded by rain forest at Bantimurung (about 30 km north-east of Ujung Pandang). The species recorded were:

	Ujung Pandang	Bantimurung
Drosophila (Drosophila) spp. (immigrans sp. gp.)	-	45
Drosophila (Sophophora) melanogaster gp. ♂♂:-		
D. ananassae	1	-
D. atripex	14	2
D. bipectinata	7	1
D. eugracilis	-	1
D. malerkotliana	-	1
D. parabipectinata	10	1
D. pseudoananassae	1	-
Drosophila (Sophophora) melanogaster gp. ♀♀:-	5	21
Drosophila (Scaptodrosophila) spp.	-	3
Liodrosophila sp.	-	1

The difference in sex-ratio of the D. melanogaster gp. between the two collections is quite remarkable, and it is hoped to investigate this further in future collections.

Reference: Bock, I.R., and M.R. Wheeler 1972, The Drosophila melanogaster species group. Studies in Genetics VII, Univ. Texas Publ. 7213:1-102.