

OR116*Thrips soldiers winged but grounded*Andrew Chaulk, Peterson Coates, Holly Caravan, **Tom Chapman**

Within the gall-inducing thrips of Australia, genus *Kladothrips*, is a single origin of a soldier caste. A subsequent radiation has led to at least seven social species, and two species that are likely to have independently lost the soldier caste. Both losses of soldiers are connected to a shift in the insects' host-plant. A third inferred host shift is correlated with life history changes in a species with soldiers, *K. intermedius*, which might suggest this defensive caste may be in transition. The soldiers of this species have variable wing lengths that overlap with that of the flight-capable dispersers. Our study was designed to assess the possibility that some soldiers in this species retain the ability to disperse by wing. A morphological assessment shows that a proportion of soldiers have body dimensions and wing lengths that fall within the range of dispersers, with males more so than females. However, longer wing length in soldiers (sample of primarily females) did not correspond with a disperser like walking behaviour. Furthermore, histological sections suggest that wing muscles of soldiers are deteriorated or absent, which is similar to what was observed in their foundress mothers. The presence of long wings did not correspond with being flight-capable in this caste. Soldiers are more likely to be deeply, and in their lifetime, irreversibly committed to their helping role. If *K. intermedius* does represent a reemergence of the soldier caste, fighting ability, the development of robust forelimbs, and flight muscle degeneration all evolved rapidly. Lagging slightly behind is the evolution of microptery.