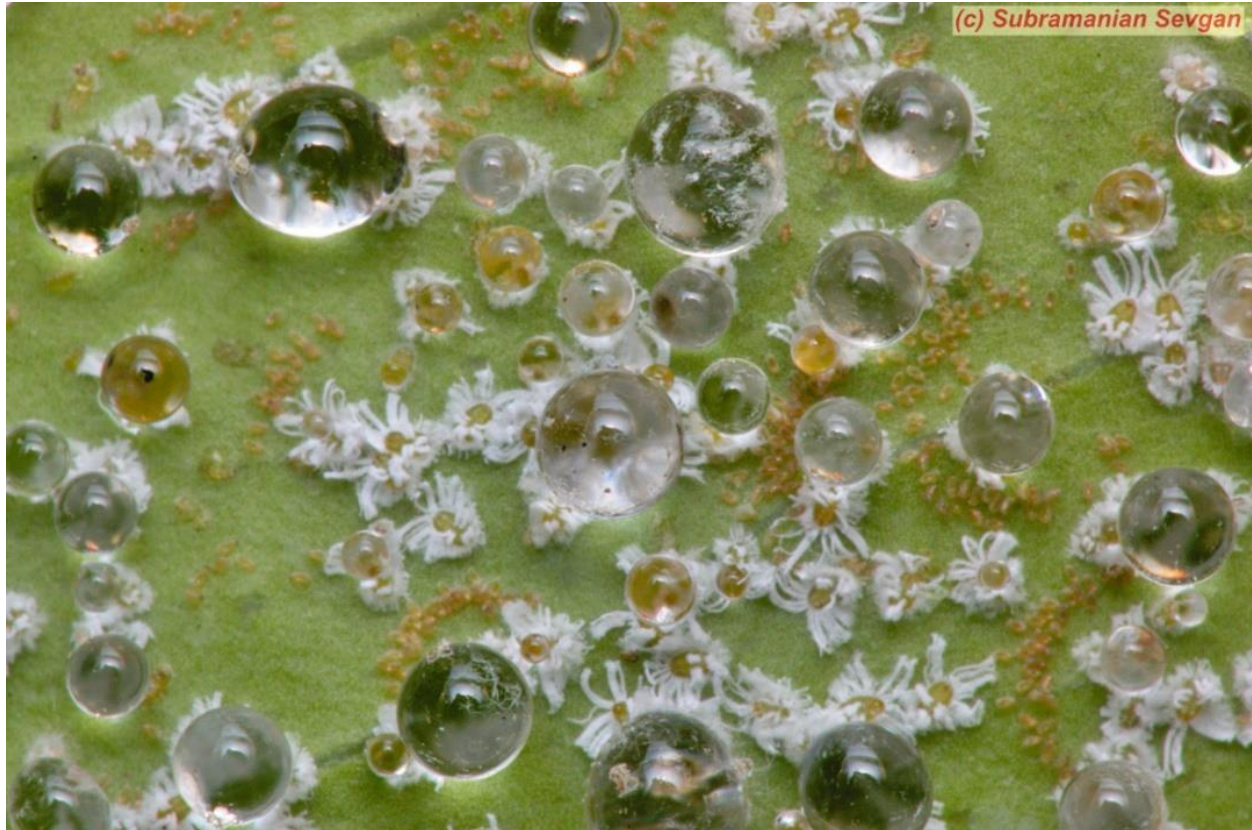


INSECT LENS



*Citrus woolly whitefly, *Aleurothrixus floccosus* (Aleyrodidae: Hemiptera) – nymphs*

The flower like (with white mealy growth) are the nymphs of the Citrus woolly whitefly. Whiteflies are known to excrete the sugar rich and sticky excretions called honeydew, observed as droplets. Once these insects pierce the plant phloem with their stylets (needle like mouthparts), the fluid from the phloem flows into the insect at higher pressure. The insect partially digests them and excretes the sugars as honeydew.

Normally we see many ants always moving around plant sap sucking insects. They feed on this honeydew and in turn protect the sucking insects from predatory insects. Such a symbiotic relationship where one organism provides food to the others is referred at trophobiosis. Honeydew also gets spread widely in the infested plants and they form the substrate for growth of black sooty mould fungus (a collection of Ascomycete fungi).

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Mating pair of fruit fly, Dacus persicus on Calotropis procera fruit

Dacus persicus is a highly destructive monophagous insect pest of *Calotropis*. It is native to India, Sri Lanka, Iran, Pakistan and Iraq. Gravid *D. persicus* females lay eggs inside developing *Calotropis* fruits by penetrating the skin of fruit with its ovipositor. The number of *D. persicus* eggs in a *Calotropis* fruit is positively correlated with the fruit size. *D. persicus* larva completely feed on seeds and influence *Calotropis* reproduction.

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***Eublemma dimidialis* (Erebidae: Lepidoptera)**

Caterpillar of Eublemma dimidialis is a minor pest on various crop plants of family fabaceae including mung beans (Vigna radiata) and cow peas (Vigna unguiculata). They attack plants during flowering to pod formation stage. Caterpillar bore into pods and feeds on seeds.

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Green leaf mimic Katydid, Aegimia elongate Rehn, J. A. G., 1903

Aegimia elongata is a mid-sized leaf-mimicking, green katydid. *Aegimia* is related to the almost perfect petiole-like appearance and its use in crypsis 'the insects remain motionless during the day, with the head pressed against the substrate (usually branches of trees and shrubs), making them difficult to detect for predators'.

Author: P.L. Tandon

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Ligurian leafhopper, Eupteryx sp. (Cicadellidae: Hemiptera)

The Ligurian leafhopper, Eupteryx is a sap-feeding insect native to the Mediterranean basin around the Ligurian Sea, including parts of Italy, France, and islands. This range expansion may have been facilitated by commercial transportation of host plants in the mint family (Lamiaceae). Some of the species belonging to Eupteryx genus are pest of Rosemary and other aromatic plants of the sage plant.

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The cucurbit bug, Coridius janus (Dinidoridae: Hemiptera)

Janus is the Roman God of beginning. Coridius janus also known as the red pumpkin bug which feeds by sucking on the sap on soft parts of plants especially in the cucurbit family and causes damage.

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Encyrtid parasitoid, Anagyrus pseudococci (Encyrtidae: Hymenoptera)

Anagyrus pseudococci capable of developing on a variety of mealybug species viz., *Planococcus* spp. and *Pseudococcus* spp. *A. pseudococci* the most common commercial parasitoid reared for mealybug control. It is a solitary, internal parasitoid of size 1.5 – 2 mm and lays one egg per host with the larva developing inside the host's body.

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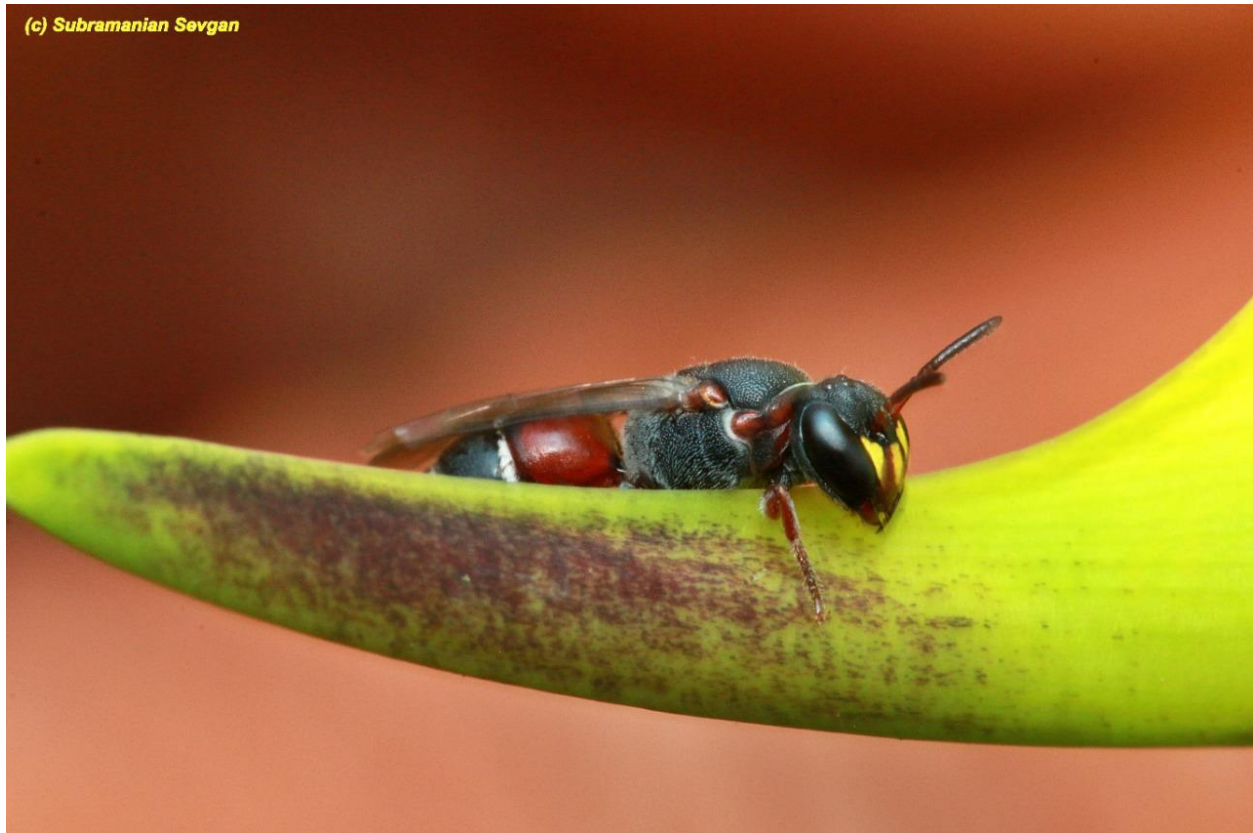
Citrus aphid, Toxoptera sp. (Aphididae: Hemiptera) viviparous reproduction

The brown citrus aphid is one of the world's most serious pests of citrus and also efficient transmitter of citrus tristeza closterovirus (CTV). One of the most devastating citrus crop losses ever reported followed the introduction of brown citrus aphid into Brazil and Argentina:

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Plasterer bee or Polyester bee, Hylaeus sp. (Colletidae: Hymenoptera)

The common name of the family comes from the unique way its members plaster and smoothen their nest hive cells with their oral secretions and the secretion dries out to a cellophane-like layer. Most insects live in aggregations with exception of very few as solitary bees. They carry pollen in their oesophagus – crop (gut) to their nest to feed their developing larvae.

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The six-spot ground beetle grubs (*Anthia sexguttata*, Carabidae: Coleoptera)

Anthia sexguttata is common in the scrub forests of southern India. Tiger beetles can be very fast-running and in fact it is said that they are one of the fastest animals in the world for their size. Some scientists have estimated that if tiger beetles were proportionately the same size as people, they would be able to run at 300 miles per hour!

Author: T.V.K. Singh

Location: India



***Diglyphus isaea* (Eulophidae: Hymenoptera) parasitizing *Liriomyza huidobrensis* infesting kale.**

Diglyphus isaea is a small, black, non-stinging wasp that searches out leaf miners on which lays its egg and kills the leaf miner larvae. The emerging larvae use the dead miner as food. Leaves with short or dead-ended mines often are the indication for the presence of *D. isaea*.

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Common club tail (Gomphus vulgatissimus) feasting on pantala

The common club tail dragonfly is a medium-sized, yellow and black insect. They get their names from their tail, which becomes wider at the tip like a club. They are attracted to clean, slow-moving rivers and creeks where the soil is relatively sandy, and it's these waters that they need to breed and lay eggs.

Author: Chitra Shankar, Principal Scientist (Entomology), ICAR-Indian Institute of Rice Research, Hyderabad

Location: Hyderabad



Thick-legged hoverfly, *Syrirta* sp. (Syrphidaeae: Diptera) visiting avocado flowers for nectar

Syrirta sp. is fast and nimble fliers and their larvae are found in wet, rotting organic matter such as garden compost, manure and silage. The adult *Syrirta* flies are pollinators for variety of flowering plants.

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Predatory fungal gnats, Truplaya sp. (Keroplastidae: Diptera).

This was relatively a large sized fungus gnat. Maggots of species belonging to this family are both fungus feeders and predators of small invertebrates.

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Liriomyza sp. (Liriomyzidae: Diptera)

They are a pair of Liriomyzid leaf miners. In Kenya, L. trifoli, L. sativae and L. huidobrensis are the commonly observed invasive leaf miners affecting crops like potato, tomato, cabbage and kale.

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***Zonopterus consanguineus* (Cerambycidae: Coleoptera)**

Zonopterus consanguineus is a species of beetle in the family Cerambycidae. It is brightly coloured with orange bands on black and the elytra sometimes shows a bluish tint at the apex.

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Black mealy bug Predator, Exochomus nigromaculatus (Coccinellidae: Coleoptera)

Despite their name 'Black Mealy Bug Predator', they will also feast on aphids, soft scale and cochineal insects.

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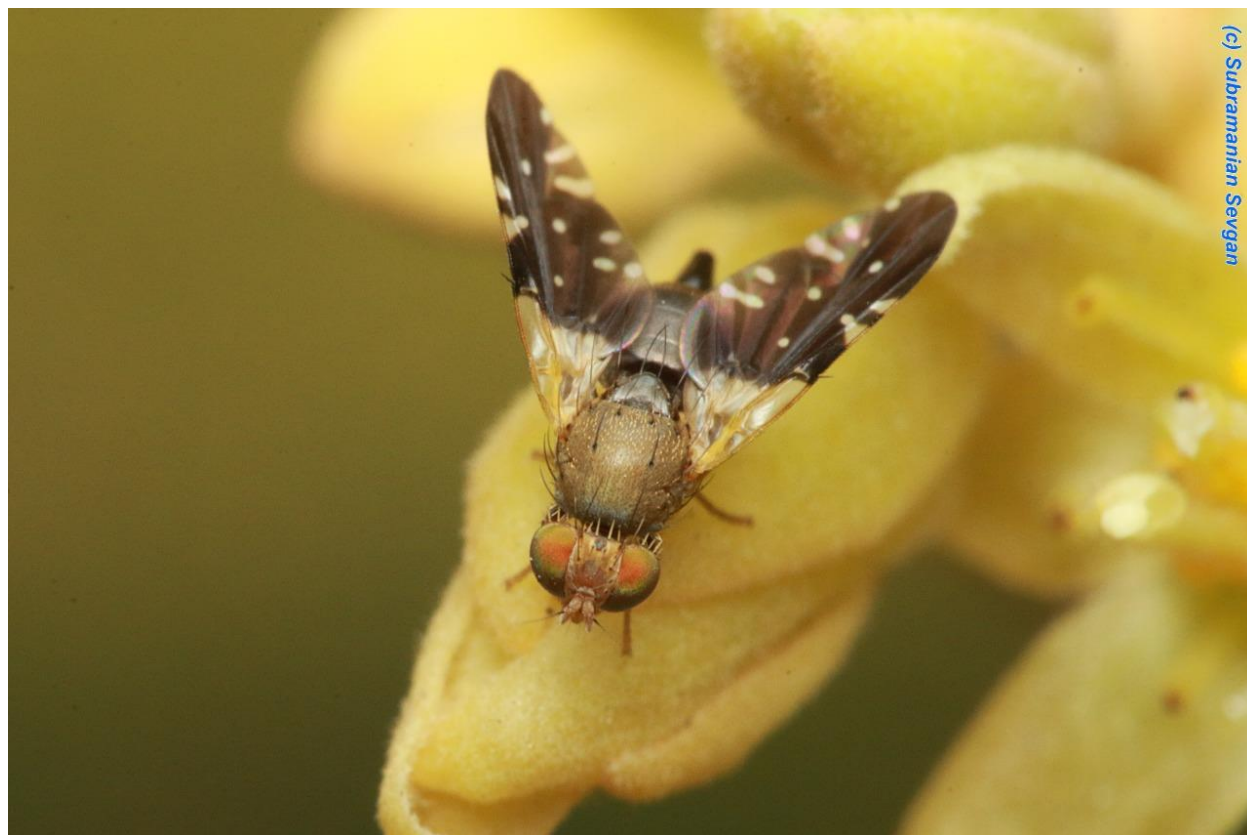
Congregation of Cuckoo Wasp (Chrysididae: Hymenoptera)

The term "cuckoo wasp" refers to the cuckoo-like way in which wasps lay eggs in the nests of unrelated host species. They are generally kleptoparasites, laying their eggs in host nests, where their larvae consume the host egg or larva while it is still young, and also the the food provided by the host for its own juvenile.

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Tephritinae, (Tephritidae: Diptera).

Flower visitor to Avocado.

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Bark Mantis, Humbertiella sp. (Liturgusidae: Mantodea)

Bark mantis highly adapted in mimicry and camouflage. They are natural biocontrol agent against many pests.

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(Identification help needed from readers!)



Tailed Jay, Graphium agamemnon (Papilionidae: Lepidoptera)

Tailed Jays belong to the family of Swallowtails because they have tailed hindwings. They are fast, restless and flutter while feeding. Most of them are found in the gardens and urban green spaces due to their food plant false ashoka (Polyalthia longifolia) which is an ornamental tree.

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Common evening brown, *Melanitis leda* (Nymphalidae: Lepidoptera)

They are Brushfooted butterflies. Their fore legs are covered with long and dense scales which form a brush like appearance. They are a common species of butterflies which fly during the dusk. Their caterpillars feed on grass whereas most of the adults feed on nectar.

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We sincerely acknowledge the Lens contributions from Dr. D N Nagaraj, Dr. Sevgan Subramanian (Sourced from WhatsApp), Dr. Chitra Shankar, Dr. P.L. Tandon and Ruchita Naidu. We have included pictures of Dr. Niraj Mani Chourasia of eggs, pupae, etc for its sheer aesthetic value. We will be grateful if readers can suggest identity.

Insect Environmentalist awardee 2022 for excellence in Insect Photography

- Dr D N Nagaraj

