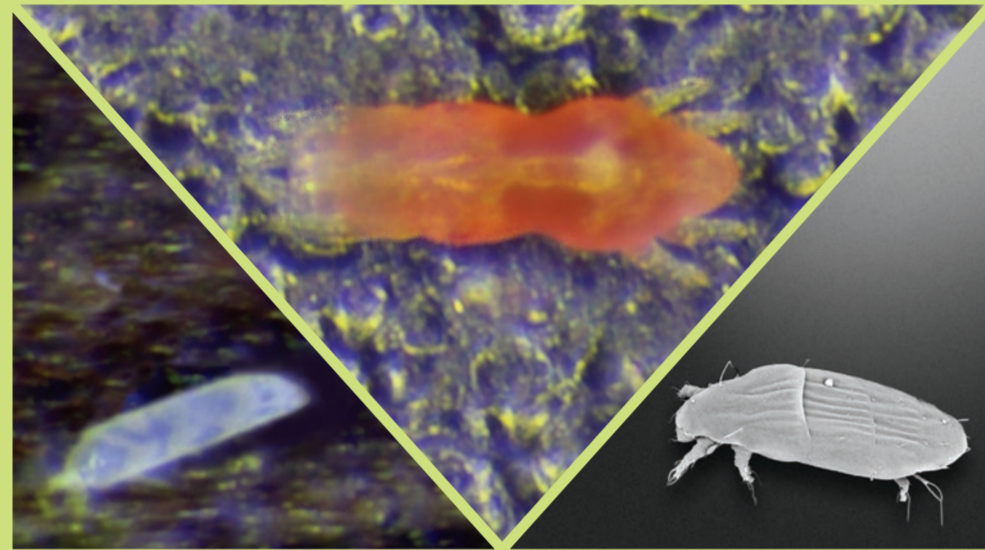


What are Mites?

- Mites are not insects; they are arachnids as are spiders and ticks.
- Mites rate second to insects in diversity and species number.
- Mites vary in length from <0.2mm to 5mm. Most can only be seen when magnified.
- Mite life cycles are very short – some mature in only a few days. They lay massive numbers of eggs.
- Mites do not have wings, so spread by other means.



Do Mites affect turf grasses?

- Yes! Phytophagous mites of several genera feed on grasses.
- Many mite species are highly host specific, but there are exceptions.
- Some mites are predatory, feeding on other mites. They help control pest mite populations.
- Careless use of chemicals can destroy beneficial predators.

How to spot Mites

- Mite damage can be very hard to see in highly fertilised and close-cut turf. You may need to consult an expert.
- Grass growth becomes slower and distorted, and under low fertility the turf will often look dry.
- Not every distorted growth is caused by mites.
- Swards infested by some mites become lumpy through increased vertical growth.
- Mites occur mostly in irregular patterns while fungi occur in very regular circles.
- Visual symptoms of damage for each species are quite specific and can be easily learned.

Visible symptoms of damage

- Distortion of terminal growing points is generally a clear sign of mite damage, but can also be confused with herbicide damage.
- As an infestation increases over time, the terminal shoots may turn black and die completely.
- Runners become short and distorted.
- Root development is impeded and runners “porpoise” without rooting down.
- Turf which typically runs and knits becomes open and clumpy with shortened runners.
- Affected turf is more easily moisture stressed.
- Turf which fails to knit produces a high percentage of broken rolls (often greater than 30%) in turf production.
- On sports surfaces the surface quality declines.

Broken rolls on a commercial turf farm showing a high percentage of harvest loss.

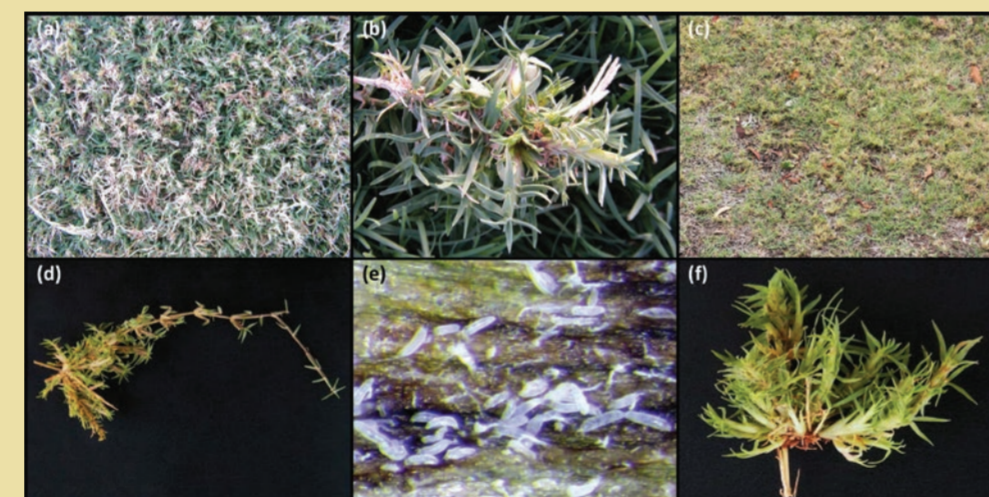


Colony of grass webbing mites with close-up of web.

Grass Webbing Mites

Oligonychus araneum, O. digitatus

- These are tetranychid (spider) mites.
- Both species can occur individually or sometimes together.
- They are large by mite standards and can be seen with the naked eye walking on the thick circular web net woven over the grass.
- They destroy leaves by puncturing each cell.
- They have a wide host range across many grass species.

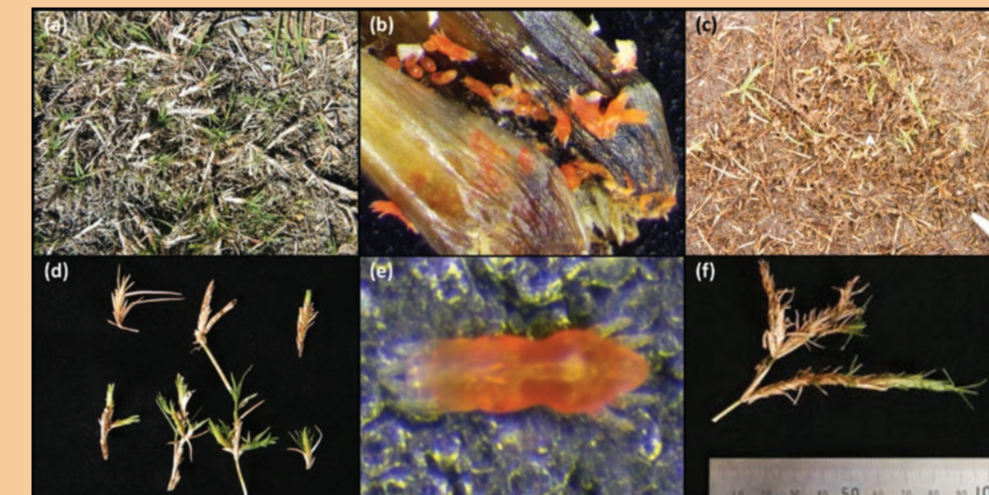


Eriophyoid's damage on couch grass showing typical distortion and porpoising, and 'dry' appearance.

Eriophyoid Couch Mites

Aceria cynodontiensis

- These are tiny mites about 0.2mm in length.
- They are translucent and hard to see even under a microscope, though a dark background helps.
- They have two pairs of legs where other mites have four. (*Aceria cynodontiensis* has traditionally been called “Couch Mite”, but can be found together on green couch with another eriophyoid, *Abacarus cynodonis*, and the false spider mite, *Dolichotetranychus australianus*).
- They normally cause “Witches’ Broom” rosetting at the runner nodes.

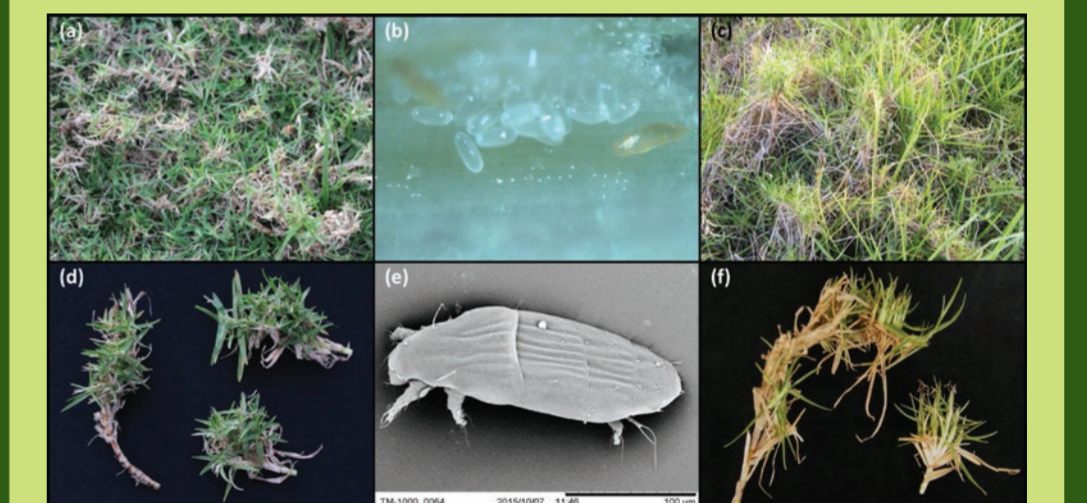


Dolichotetranychus australianus adults and eggs centre. Distorted growth patterns in other photos.

False Spider Mites (Tenuipalpid) on Couch

Dolichotetranychus australianus

- The forgotten “Couch Mite”.
- Adults are orange/red in colour.
- They are larger than *Aceria* and much slower moving.
- They can just be seen with a low power magnifier.
- These tenuipalpid mites damage all green couch varieties.
- Their damage can be much more severe than the damage caused by eriophyoid couch mite.
- Damage by false spider mites is characteristically seen as compressed “pine tree” like shoot growths off runner nodes rather than the rosetting typical of eriophyoids.
- Large damaged patches spread quickly and can lead to total loss of grass cover.
- Infested grasses collapse under wear.
- Production turf becomes thin and breaky.



Typical symptoms of affects on establishing stolons and stunted bunched shoots in the field and up close.

Tarsonemid Kikuyu Mites

Steneotarsonemus hippodromus

- This is a newly identified and described mite species, but probably distributed worldwide on kikuyu grass.
- It is a tiny colourless mite.
- Its immature stages can be confused with those of the false spider mite.
- It is host-specific to kikuyu.
- It causes “Witches’ Brooming” in short mown turf and bleaching and shoot proliferation in taller turf and pastures.
- It prevents strong lateral runner formation.
- Infested turf wears poorly.
- Damage becomes dramatically exacerbated by Primo® use.