

Identifying Nests, Tracks, Scats, Burrows, & Other Signs

All animals leave some sign of their presence and if you know how to see or read the country, then you can appreciate the presence of more species and monitor your efforts to improve habitat more effectively. There are many signs of life apart from tracks. However, tracks are most readily seen and interpreted. The best time to go tracking is early in the morning or late in the afternoon when the sun casts shadows across the ground. If you try to track at midday, the sun washes away any signs of prints, making tracks invisible to our eye. See below for some tips on identifying tracks, burrows, nests and other signs of life.

Birds

Nests



Above - Willie Wagtail: builds its nest from grass and woven spider web. The nest is lined with soft grass, fur or hair. The nest may be reused annually or deconstructed to provide materials for the new nest (see right image). The nest will be built on a horizontal branch or structure. The Willie Wagtail actively defends its territory, but will commonly and tolerantly nest in very close proximity to human habitation.



Above - Babbler: Grey-crowned and White-browed Babblers live and breed in communal nests and have multiple decoy nests around the breeding area, perhaps because these colonial birds do practice nest building until it is their turn to establish a real nest with eggs in it. They are a social bird, living in groups of two to fifteen birds, and most members of the group will help to build nests and rob each others nests for building materials. A roosting nest (a much larger nest for resting and

used by the whole group) and a brood nest (for the breeding female) is built, usually in the fork of a tree 4-7metres high, and will be renovated and reused every year. Nests are built with sticks and are dome shaped with a hood and landing platform for the entrance tunnel.



Above - Fairy-Wren: nests are an oval or round shaped dome, constructed of loosely woven grasses and spider web, with an entrance to one side. Nests are often placed in a low shrub close to the ground, well-concealed in thick and often thorny vegetation, such as species of *Hakea*.

OR

Small Honeyeater (e.g. White-plumed, Brown or Singing Honeyeater) – As the nest pictured does not have a side entrance, which Thornbill, Zebra finch and Fairy-Wren nests mostly do, it may be a small honeyeater nest. Male Honeyeaters defend a nesting territory by singing from tall trees during breeding season, and stand guard while the female builds the nest and lays the eggs. This nest was seen at the Brunonia Rd. property, where Singing and White-plumed Honeyeaters were observed during the surveys, and Mistletoe and Wild Passionfruit were flowering creating an abundant food source (diet consists of nectar and insects). The nest was inactive, but broken eggshell on the ground below suggests that the nest was occupied some time during the month before the surveys. Small Honeyeater nests are generally small cup-shaped constructions of fine bark, grasses and plant material, bound with spider's web. They are slung by the rim in a shrub or tree, as the nest pictured appears to be, up to 5metres from the ground and are usually very well-hidden by thick foliage. Honeyeaters are quite aggressive defenders of territory and nesting sites. Their nests may come under predation from Pied Butcherbirds, snakes and cats. Pallid Cuckoos and Horsfield's Bronze-Cuckoos occur in the area (a Pallid Cuckoo was observed at Heffernan Rd. in proximity to Brunonia Rd.) and will parasitise nests.



Above - Zebra Finch: build spherical nests from rough grass stalks and thorny twigs, lined with softer grass or feathers and wool. Nesting sites vary, but include bushes and trees and tree holes. In the Central Australia nests can be commonly found in Dead Finish. The entrance is on the side, which is protected by a short tube.

OR

Thornbill: The Yellow-rumped Thornbills nest is a large and untidy structure of grass and bark. It has two parts: an upper 'false' cup-shaped nest and a lower, domed nest-chamber with a hooded entrance. The purpose of the false nest is not known although theories include; deterring predators or parasitic cuckoos, a roosting place for males or fledglings, a 'displacement' activity for males, or a 'practice' nest for the helpers. The nest is built in dense foliage of trees, near the end of branches or in vines or mistletoe. The Inland Thornbill builds a small domed nest, like that of fairy-wrens, using bark strips and dry grasses bound with spider web and lined with feathers. The entrance hole is hooded. The nests are placed in low shrubs, in forks among low twigs or foliage.



Photo: Ilse Pickerd

Red-browed Pardalote: Some birds, such as Pardalotes and Rainbow Beeaters, nest in burrows. A pair of Red-browed Pardalotes have excavated the tunnels pictured above in an earthen bank. The adults have taken advantage of a disturbed site in this case (a hole dug by humans), but will also nest in tree hollows and knots and burrow in the ground or river banks. The hole in the centre is the chosen nest - you can see two grooves at the entrance that the parent's feet have made when landing or departing from the nest with food for the chicks – and the other holes show where the Pardalotes have tested the soil for suitability. The chicks, once hatched from the egg, can be heard chirping if you listen carefully. The burrows end in an enlarged lined (bark and vegetation) chamber, where the eggs are laid and incubation takes place, and the entrance tunnel may be half a metre long. A difficult task for a little bird to construct, however the advantages are stable cool temperatures out of the sun, and protection from aerial predators and (with an entrance of only 5cm in diameter) nest raiders.



Photo: Damian Pyke

Red-browed Pardalote carrying food (insect) to the nest).

Eggshell



Fairy-Wren or Small Honeyeater. This eggshell was found underneath the Fairy-Wren/Small Honeyeater nest pictured above. This was a factor in being able to identify the nest. Zebra finches

and Thornbills have white eggs, whereas Fairy-Wren eggs are speckled and small Honeyeater eggs are whitish and spotted/blotched with red-brown, brown-yellow or pale mauve.

Tracks



Bustard (Bush Turkey): These large three-toed tracks are not to be mistaken for an Emu, which has much larger feet, or a wallaby or kangaroo as the prints are not paired as they would be in a macropod stride.



Emu: The size of an Emu footprint is much larger than a Bustard - more than twice the size (unless you are looking at Emu chick tracks, then it gets confusing!) - with a longer gait. The Emu has broad toes in comparison to the length of its foot, whereas the Bustard toe is long and slender.



Crested Pigeon: These tracks probably belong to a Crested Pigeon. They meander along the ground, demonstrating the behaviour of a ground foraging bird. They can be distinguished from Galahs, also foraging on the ground for seed, because Galahs like all parrots have two toes pointing forward and two behind. Torresian Crows have much larger feet, and a greater stride to a smaller pigeon – and do not potter about in the meandering arks of a Pigeon. Magpie Larks may be another possibility for

these tracks. Other ground birds include Richard's Pipit, Cinnamon Quail-Thrush and the smaller Button Quail. It is useful to know the behaviour and preferred habitat of these species to be able to correctly identify tracks. Field Guides are useful for this.

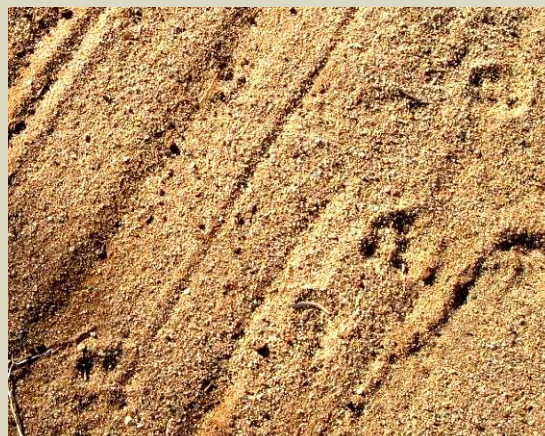
Mammals

Tracks

Tracks of mammals are often distinguished by the marks made by different shaped pads on varying feet structures, claws, footprint size and gait. It is useful to be able to read animal behaviour from the track, and know the type of habitat you are in. Identifying animals from tracks is not always easy. The best time of day is early morning or late afternoon when a shadow is cast across the track, making it more visible. At midday tracks become invisible as the sun is directly above them.



Rabbit: Pictured above is the slow gait of a European rabbit (invasive species). The heel of the hind foot is normally visible and both hind feet come to rest side by side. A bounding gait leaves only the impression of the toes on both front and hind feet, and the distance between each group of tracks increases. Rabbits have five clawed toes on all feet, though the inner toes are small and do not leave a mark.



Cat (invasive species): A cat track displays four toes on each foot with well-defined pads, as does a red fox's and a dog's. A cat's toe pads are almost arranged in a semi-circle above the central large pad. The footprints are rounder than a dog's. Cat footprints are all similar in size, whereas a dog's front feet are larger than its back feet. The cat retracts its claws when walking, and the dog and fox do not. Track patterns will vary depending on the gait.



Photo: Hayley Michener



Macropod: (Kangaroo or Wallaby). Pictured above top are the hind footprints of a large Euro. All kangaroos and wallabies have five clawed toes on their front foot, pointing forward. The hind foot is elongated with a long fourth toe and large claw. The shorter fifth toe also has a strong claw and these are the only two toes to touch the ground. A macropod's slow walking gait reveals the five fingered print of the front feet, side by side, with the footprints of the elongated hind feet occurring *in front* of these, often with a tail mark (a thick straight line) in between the feet (see above). A hopping track will only consist of the hind feet (no tail as it is held high for balance), and the distance between track groups will be greater.



Photo: Ilse Pickerd

Echidna: with highly specialised claws for digging the echidna track is quite distinctive. The front foot has five broad claws; the claw of the front toe being shorter than the other toes. With a slow gait and rolling walk, the two legs on one side of the body move together, followed by the two legs on the other side. The front feet turn inwards and the hind feet are directed backwards. The tracks show a print (like a scrape) of all the hind claws as the foot is moved forward. Pictured right is some recent feeding activity indicated by fresh tracks in the sand and signs of digging and soil turned over by the snout.



Photo: Ilse Pickerd



Hopping Mouse tracks are very like miniature kangaroo tracks when they run, but normal foraging speed leaves elongated hind foot and short hand print tracks (left). Pictured below are tracks left by a running gait, note only two prints left by the hind feet.

Photo: Hayley Michener



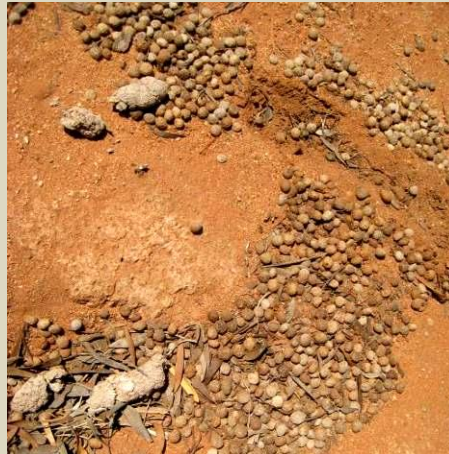
Bilby: Below. Note the long toes. The two front feet are behind and the two back feet are parallel in front where the animal has leaped off its back feet to land on its front feet in the next group of tracks.



Scats



Macropod: Scats of kangaroos, wallabies, hare-wallabies are usually deposited as separate pellets in groups of four to eight. They can be oval, round or square depending on the species. Red kangaroo scats taper to a point at one end, while Euro scats are squared at both ends and Rock Wallaby droppings are short elongated ovals with a tip on each end. When the pellets are broken you can see they are made up of plant matter. This can be a useful way to identify the macropod, as some prefer soft grasses, or will browse on bushes and trees. The scats pictured above are likely Euro droppings from a young Euro.



Rabbit: Rabbit scats are small and round. They contain fine plant particles. Rabbits often deposit their scats on elevated patches of ground which act as territorial markers. Many scats of many individuals may accumulate in these communal latrines (as pictured above). The above image shows scats of various ages – fresh scats are darker in colour.

Dog: To left of the above image, dog scats are also present. Dog and Dingo scats are cylindrical and larger than a Cat scat and cats bury their droppings. It is difficult to tell the difference between a wild Dog and a Dingo scat in the field. Fragments of fur, bone, feathers, etc., may be found in the scat, and occasionally plant matter will be present too. Colour and size may vary. Dogs and Dingos often deposit scats on elevated places (rocks, grass tussocks), and may use the site more than once. Scats are commonly deposited near dead animals (road kill, cattle carcasses).



Photo: Hayley Michener

Echidna: Echidna scats are long cylinders approx. 2cm in diameter. When broken open you will see the scat contains shiny insect particles, mainly ants and termites but also beetles or larvae, and lots of soil. The colour of the scat varies, depending on the colour of the soil. Scats can be found anywhere, but are often found near to where the Echidna has been feeding, such as rock piles, termite mounds, and meat-ant mounds.

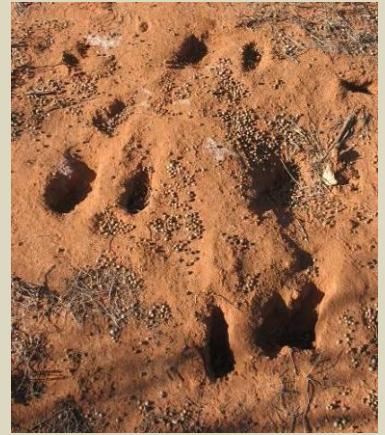
Other signs:

Many other signs can reveal the presence and activity of animals. For example, finding bones, fur, burrows, scrapes or diggings, and scratch posts may give you a clue as to what is around.



Rabbit: burrow (left). Often as deep as half a metre below the surface, burrows can be singular (like this one pictured) but are often a complex system with numerous entrances forming a warren. Soil dug out of the burrows may form a mound outside the entrance. Some burrows are re-dug from inside and therefore have no soil mounds at the surface.

Rabbit: scrapes (right). These are usually shallow scratchings, rounded at base with a small mound of soil at one end. The scrapes pictured above are quite old, with no fresh soil mounds visible and seed has accumulated in the holes. There are plenty of scats present here too, which are pale and dry indicating they are also old, and that this site has not been in use for a while.



Bilby: (Left) A Bilby has dug this Acacia root from the ground in to feed on a grub growing in the root.

Bilby: burrow (right). Bilbies can build extensive burrowing systems of up to 3m long and 1.8m deep. The open entrance is usually at the base of a termite mound, Spinifex tussock or small shrub.



Mammal burrows tend to be slightly oval in shape as the animal pushes the dirt out between its back legs. Lizard holes in comparison are slightly triangular with a flat(ish) bottom as the animals pushes the dirt out around the sides in a breast stroke pattern.

Reptiles

Burrows & Diggings

Sand Goanna:



Central Netted Dragon:



Tracks

Sand Goanna: Note the scrapes indicating footprints either side of the line. This is not a snake track!



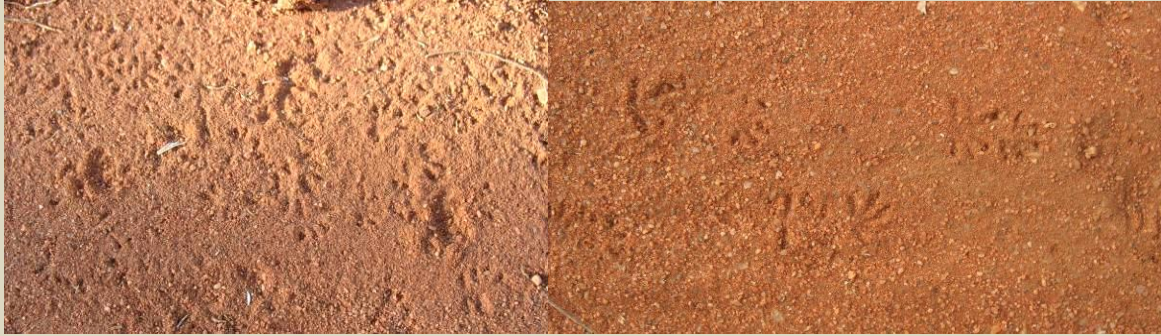
Perentie: The size of these tracks indicates they were made by a Perentie. Sand Goanna and Perentie tracks are similar, but can be differentiated by their size, and also the habitat they occur in. The tracks pictured below are very large; the Perentie is a fully grown adult. Note the hind and forefoot tracks almost overlapping, and the tail track running through the centre.



Legless Lizard: These tracks are very small, see the rabbit scats in the left image to use as a reference. The tracks will often disappear as legless lizards burrow underground. They are not 'baby' snakes!



Gecko:



Blue Tongue Lizard: The track below is likely a blue tongue lizard since it is fairly large and shows the pug foot marks in their steady inexorable pacing.



Invertebrates

Burrows



Ant nests: all believed to be *Camponotus* species.



Termite: The left hole in the bottom image could be a scorpion burrow, while the right hole has been made by a termite. Top right: termite castings over litter to protect the termites while foraging.



Spider: Australian Tarantula (Barking Spider) burrows. The burrows are distinguishable because they are perfectly round and go straight down and are up to an inch in diameter.



Beetle: This digging was identifiable as the work of a beetle as a black beetle, species unknown, was seen digging it before disappearing. Otherwise it would be difficult to determine.

Other Signs



Mud Dauber wasp nest remains: nests are built using clay and are attached to hard surfaces. Nests encase immobilised spider or caterpillar prey into which the wasp has laid an egg which will hatch and feed on the prey.