

# Module 9

## Component 1



**Other signs of  
past presence**

## Other signs

Up to this point, we have dealt with the **more common categories** of Animal Tracks and Signs. This component deals with **those signs that do not fit into earlier modules** but are **frequently encountered** in the field.

These **indicators of "passing wildlife"** range from the **overt** to the **covert**, but all can be **discovered** when you know **what to look for and where**.

**These include:**

- Mud wallowing
- Tree scratching
- Rolling
- Scent marking
- Holes
- Bark stripping
- Hair or fur
- Shed skin
- Feathers
- Debris

## Mud wallowing

A number of mammals are **fond of mud-wallowing**, particularly on warm days, and **follow this** with a good **rub and scratch** on a tree, rock or termite mound. The **wallows may remain for long periods**, depending on the traffic at any particular water hole or mud bath. Certain wallows may be favoured, and as they **deepen with use**, they develop into semi-permanent water holes. The wet mud serves as a cooling agent and provides some temporary relief from swarms of biting flies.



**Another form of mud-rubbing** is undertaken by the males of a number of **antelope species**, in which the **horns and the face are rubbed in mud** as well as dry ground. This can serve as **pure display**, or in some species, as **scent-marking** from **facial glands**. Among others, "**horning**" is undertaken by **greater kudu**, **blue wildebeest**, **red hartebeest** and **nyala**.





This action serves to cool the animal on hot days, and the mud pack deters biting insects. Surrounding such wallows, you will find tree trunks and rocks plastered with mud from rubbing by such species as elephant, both rhino species, all of the pigs and savanna buffalo.

**Video:** Elephant wallowing and scratching.





Warthog

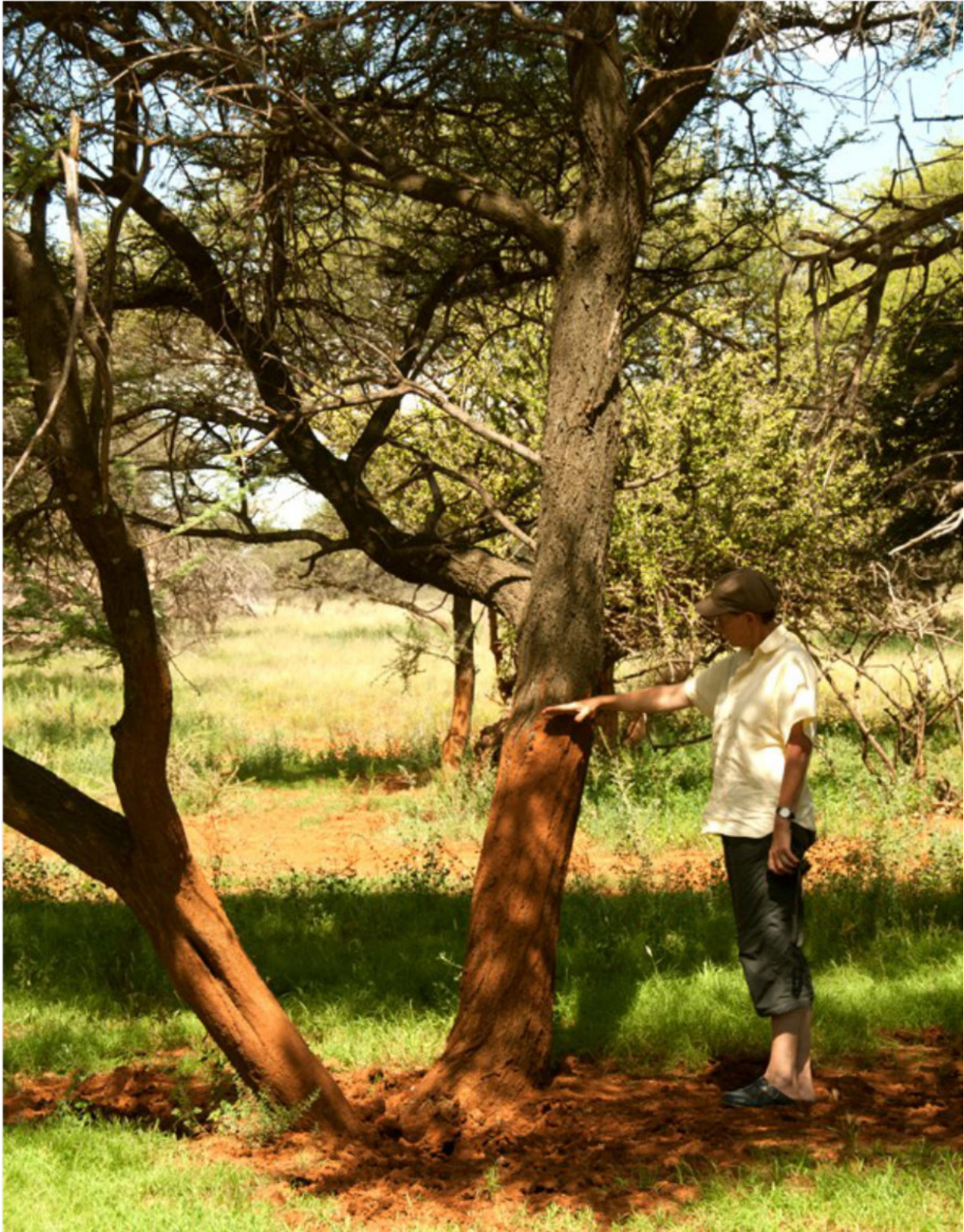
Bushpig

On the left warthog were regular visitors to this rain-filled pool which they used for drinking and as a wallow. On the right, this wallow was created by a bushpig that had turned a weakly flowing spring into a muddy pit. A search in close proximity to both wallows revealed tree trunks smeared with dry and drying mud, indicating regular use.

**Video:** Warthog wallowing and scratching on logs



The height of the mud rubbed off on trees and rocks by mammals that have been wallowing can give you an idea of the species involved, even if you do not see it/them. Most wallowers rub the head and shoulder region and rump against vertical surfaces. If you check your mammal guide, you will get average shoulder heights for the different species and can compare these with the height of the rubbed mud. This can be amazingly accurate. In this image, the mud was rubbed off by a male bushpig that had wallowed in a nearby muddy stream. We were able to verify our identification by noting habitat, height of the rub, the nearby wallow and clear tracks.



Here a square-lipped rhino had rubbed after wallowing in a nearby rain-filled pool. There were numerous tracks and a typical dung midden about 100 m away. Favoured rubs may be used over and over and not always by the same individual.

**Video:** Square-lipped rhinoceros wallow in mud

**Rhinos** make frequent use of mud wallows and, because of their size, leave substantial depressions in the mud. We have seen wallows in fine silt mud that retained clear outlines of the rhinos long after the mud had dried.



The height of **mud rubbed off on trees** can give an indication of the species involved, but always bear in mind the variation in any particular species. A white rhino used this tree as a rubbing post. The **shoulder height** of those species that most frequently wallow and rub is roughly: elephant 2,5 - 3,4 m; white rhino 1,8 m; black rhino 1,6 m; buffalo 1,4 m and warthog 65 cm.



A wallowing session is usually followed by a good scratch, which leaves some mud on the **rubbing post**.



The dried-out wallow and adjacent rubbing post of a **black rhino**. The rubbing posts of mud wallowers are nearly always close to the wallow. Mud often remains on the tree for many months, particularly on ones in regular use.



One should always be aware that a large wallower, such as this **black rhino**, may rub the head at a lower level and then move to another tree for a body scratch. As this could cause confusion, have a good look at the other trees in the vicinity.



This stone was in regular use as a "belly rub" by several **white rhinos**; note the trampled vegetation around the stone. Some rubbing stones remain in use for many years and become smoothly polished. Tree stumps are also used (white rhino rubbing stump.)



An **elephant rubbing tree**; no other species rubs to this height. This tree is obviously in regular use, as indicated by the trampled vegetation and the thickness of the mud layer on the bark. Although young elephant often wallow, adults usually splash the mud onto their bodies with the trunk.



A 2,2 m tall **termite mound** that has been partly smoothed by an **elephant**.

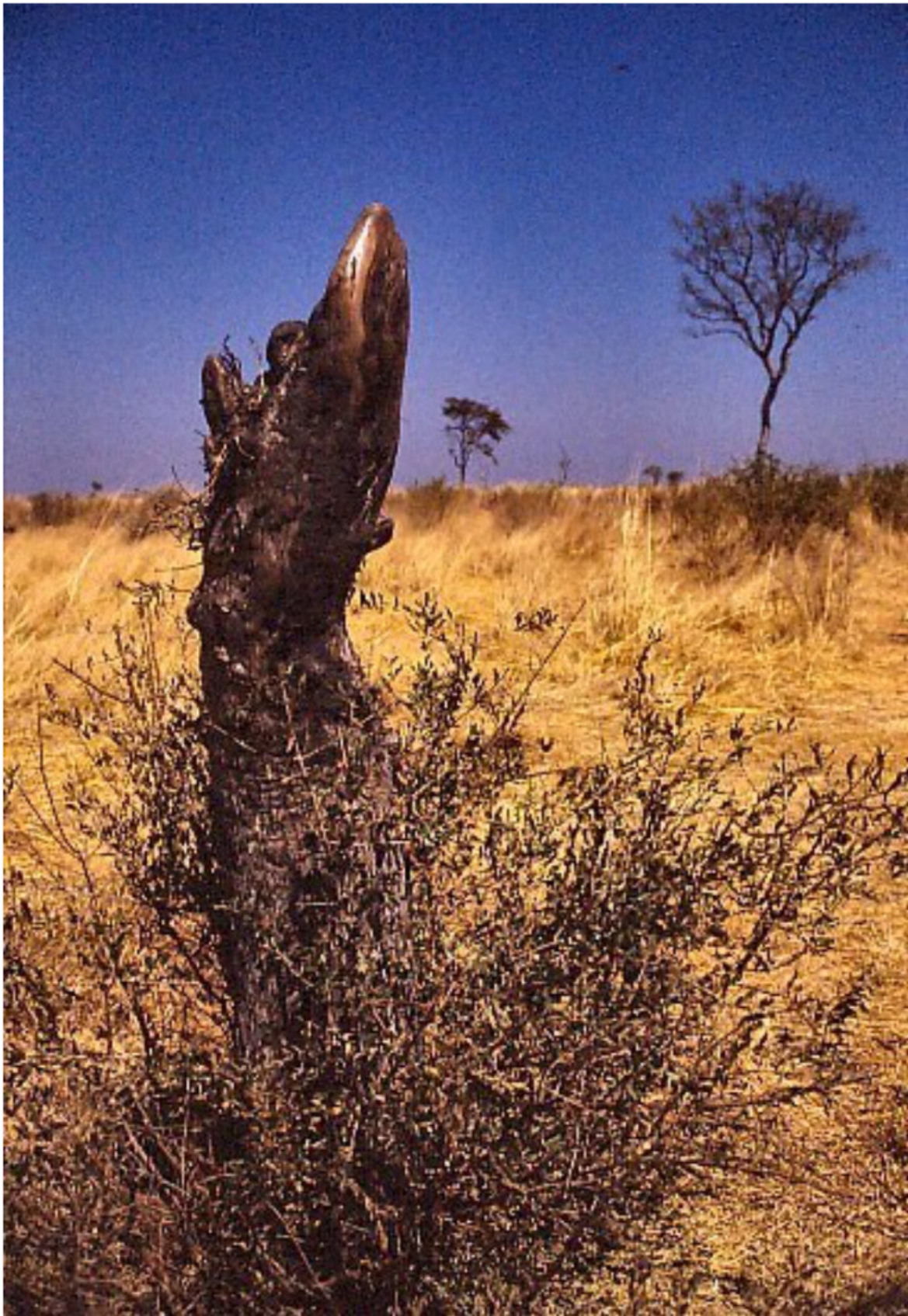


Some **rubbing posts** are regularly used.



Buffalo rubbing trees on the lower slope of Mt. Kenya.

A tree stump that has become highly polished by the rubbing of many **elephants**.



An old mud rub left by **buffalo**.



At wallows, look for tracks and droppings, in this case, bushpig.



The **warthog** can probably claim the title "master wallower", particularly during the warm summer months. In areas where warthogs are common, most trees around a wallow bear the mud smears left by them.



Warthogs are inveterate wallowers. Again always look for tracks and other signs at wallows.



Many species "dry-rub," and their hair may be left on rough bark; **cattle** had left **hair** on the bark of this tree. It is possible to identify a species from hair samples, but microscopic examination is usually required.



A nyala bull **“horning”**. It is not usually possible to identify the species from the marks left by this habit, except in conjunction with tracks.



## Tree scratching

This is usually associated with the **cat family**, including the domestic cat. The principal reason for tree scratching is to **loosen the outer horny layers of the claws to ensure that they are always sharp**. Tree scratching may also play some role in **territorial marking** in some species. Old claw fragments may be found below these scratching trees. Obviously, the clawing of the large cats is more easily found, but even then, a sharp eye is required. Certain trees may be favoured over others and are frequently used.



Fresh claw marks made by a **leopard**; note the old, grey claw marks below and to the left of the fresh clawings. In an area of the Soutpansberg (South Africa), we located **19 leopard-scratching trees**, and all were waterberries (*Syzygium cordatum*), although many other species were growing in the area.

Numerous fresh and old **leopard** scratchings; the patches are where the bark has been freshly removed by a **bushpig** - apparently a rare occurrence.



## Rolling

Rolling in **soft soil or sand** is common behaviour in many mammals, and **dust-bathing** is frequent in **many bird species**. This may take place at any suitable site, which may be used regularly, resulting in distinct hollows. Several species may make use of the same hollow, and a confusing array of tracks could be present. In the **Namib Desert**, for example, **Hartmann's zebras** frequently create rolling sites in old ostrich nesting depressions. **Hyaxes** are keen dust-bathers, and numerous small hollows (roughly 30 cm in diameter) are located close to their rock shelters.



A roll site used by a **plains zebra**. This species rolls frequently, as do horses, donkeys and other zebra species.

A roll site used by **Hartmann's zebra and gemsbok**. Favoured rolling hollows are often located in riverbeds or on floodplains.



This **Cape mountain zebra** site is next to a yellow mongoose warren where the soil had been loosened and is more suitable for rolling than the surrounding grass-covered earth. We have found Hartmann's zebra roll sites associated with ground squirrel warrens in the Namib Desert.



A **gemsbok** bull roll site. Note the clear tracks at this site.



A roll site and lying-up hollow used over a long period by a bull **gemsbok**; note the numerous dung pellets.



Many game birds use dusting hollows regularly, such as these created by **Cape francolin**. Characteristic tracks can often be seen, and the vigorous bathing loosens feathers that catch in adjacent vegetation.



## Scent marking

This is a method used by numerous mammals to **"signpost" their presence** in a **home range**, either to **warn** off or **attract** other members of the same species. Animals use **droppings and urine** for this purpose; in addition, many species have **glands that produce secretions** which they **paste** on rocks, twigs, leaves or the soil. Unfortunately, most of these scent marks are easily overlooked.



Many antelope species have **glands on the face** that produce small quantities of **dark secretion** to act as "notice-boards" for other members of the same species. Usually, a **twig tip or firm grass stalk** is stuck into the gland and so coated with a dark, **tar-like substance**. These marking points are often used over long periods of time. Here a **klipspringer** ewe is marking a twig. The marks are usually associated with large accumulations of dung pellets.

The tip of a twig with an accumulation of **klipspringer** gland secretion.



The three species of hyaena and the aardwolf paste grass stalks with secretions from their anal glands, but only the **brown hyaena** deposits two distinct secretions on the same grass stalk; this can be clearly seen in the photograph. Only the very observant are likely to find this type of sign. The pastings may be found throughout the home range.



## Holes

Holes are **excavated by many animals** for **shelter** and by some **when feeding** (for example, the aardvark and porcupine), but there are other reasons for digging into the earth. During dry periods surface water dries up, and animals are forced to move to where it is available or to **excavate to sub-surface water**. Underground water is usually closest to the surface in riverbeds. Some species also dig to gain **access to mineral-rich soils**.



This hole in a sandy riverbed was **dug by gemsbok** but later deepened by **savanna baboons**. Large numbers of small birds and insects make use of these water sources.

These holes had been **opened by Hartmann's zebra** but were also used by **gemsbok**, **springbok** and **black-backed jackal**.





A shallow dig at the edge of a saline pool where water would be filtered by the sand and more palatable. Here southern oryx (gemsbok) had dug and drunk, followed by red hartebeest and black-backed jackal. We did not see any of the visitors, but we were able to identify them from their tracks.

Mineral-rich soil **exposed by elephant**; note the tracks and broken-down dung in the background. Such sites are often exploited for many years, even centuries.





In arid areas and during the dry season, many species will dig for water, such as these elephants in Ruaha. Not only do these "water pits" slake the thirst of the excavators, but many small species take advantage of these "pits". Normally these sites are heavily trampled, but short distances away from the holes, you may pick up readable tracks of visitors.

## Bark-stripping

This is usually **associated with feeding** by such species as **elephant**. We have observed **both species of rhinoceros**, the **buffalo** and **eland** using their horns to strip bark and gouge the wood but eating nothing. Eland and **greater kudu** bulls use their horns to break off branches to gain access to leaves normally out of reach.



Another form of stripping is carried out by members of the **weaver family**: strips of vegetation are **used for nest building**, and suitable leaves, grasses and reed are stripped, leaving the plants with a ragged appearance.

A **white rhino** bull vigorously attacked this tree with its front horn, and the higher, older, stripped bark indicates that this was not an isolated incident.

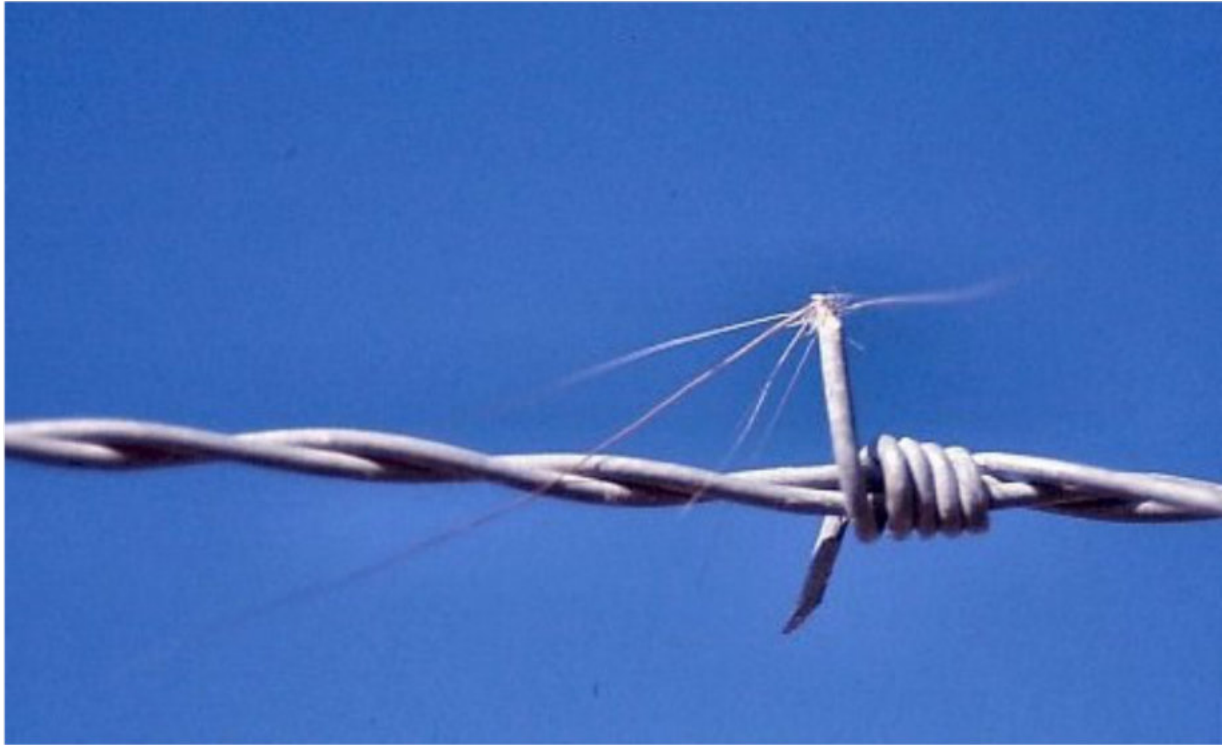


Grass stripped by **lesser masked weavers** for nest building.



## Hair

As previously mentioned, hair can be **identified to species level** by microscopic examination in cases where this is considered important, for example, to identify a **predator** or locate a **rare species**. Good places to collect hair samples are on **rough bark, barbed wire** or **thorns**. There are people in conservation or game departments, universities and museums who would be able to assist in identification.



Hair left by a **grey rhebok** when jumping over a barbed wire. We could identify the species from tracks and confirmed it by checking **scale patterns on the hair**.

## Shed skin

Many **invertebrates** and **reptiles** shed their skins in such a way that they are easily found: **insects, arachnids and snakes shed the skin in one piece**. The shed skins of spiders are probably most familiar as they are commonly found in houses. Because these **skins are so complete, it is often possible for an expert to identify the species**. In the case of snakes, the **scalation** can also aid identification. Although lizards also shed their skins, these are usually fragmented and, in some cases, eaten.



The sloughed skin of a **snake**. In sheltered sites, these skins may remain intact for months.

The shed skin of a **cicada nymph**: the adult had emerged through a slit in the back. In this case, a small spider has taken up residence in the skin.



## Feathers

Birds **drop feathers** during **preening** and **moulting** and in **attacks** by predators. Several thousand species of bird occur in sub-Saharan Africa, so it is far beyond the scope of this course to give an identification key. The following photographs are of but a few of the feathers we have collected in our wanderings. If you are particularly interested in identifying any feathers you collect, make contact with ornithologists in museums with bird skin collections. Obviously, some will be easier to identify than others, so don't expect miracles.



**Clockwise from top left:** hoopoe, paradise flycatcher, lilac-breasted roller, purple-crested lourie (turaco), glossy starling, Narina trogon, spotted-backed weaver, Knysna loerie (turaco), bokmakierie, cardinal woodpecker, European bee-eater, red-billed quelea.

**Clockwise from top left:** black eagle, spotted eagle owl, barn owl, pale chanting goshawk, rufous-cheeked nightjar, freckled nightjar, pearl-spotted owl, lesser kestrel, rock kestrel.



**Clockwise from top left:** spotted dikkop, red-winged francolin, Cape francolin, Swainson's francolin, yellow-billed duck, Cape turtle dove, helmeted guineafowl, speckled (rock) pigeon.



## Debris

Tracks are frequently **left by wind-blown vegetation and other debris**, and this can be very confusing. **Water-carried debris**, such as pieces of **wood**, often leave confusing trails on beaches, mud flats and tidal estuaries, and along rivers in receding flood. We have selected four examples, but you should always bear in mind that **these tracks can present themselves in many different ways**. Wherever possible, follow an unfamiliar trail to its endpoint.



**Neat, circular tracks** are often made **around grass tussocks by bent leaves or stems**.

By the time the circle is encountered, **the stalk that had drawn it** in the sand has often broken off and been blown away, leaving little indication of the cause of the track.



Confusing trails left by **wind-blown leaves**.



A short follow-up will usually reveal the leaf or debris caught against other vegetation among rocks or in a sheltered hollow.



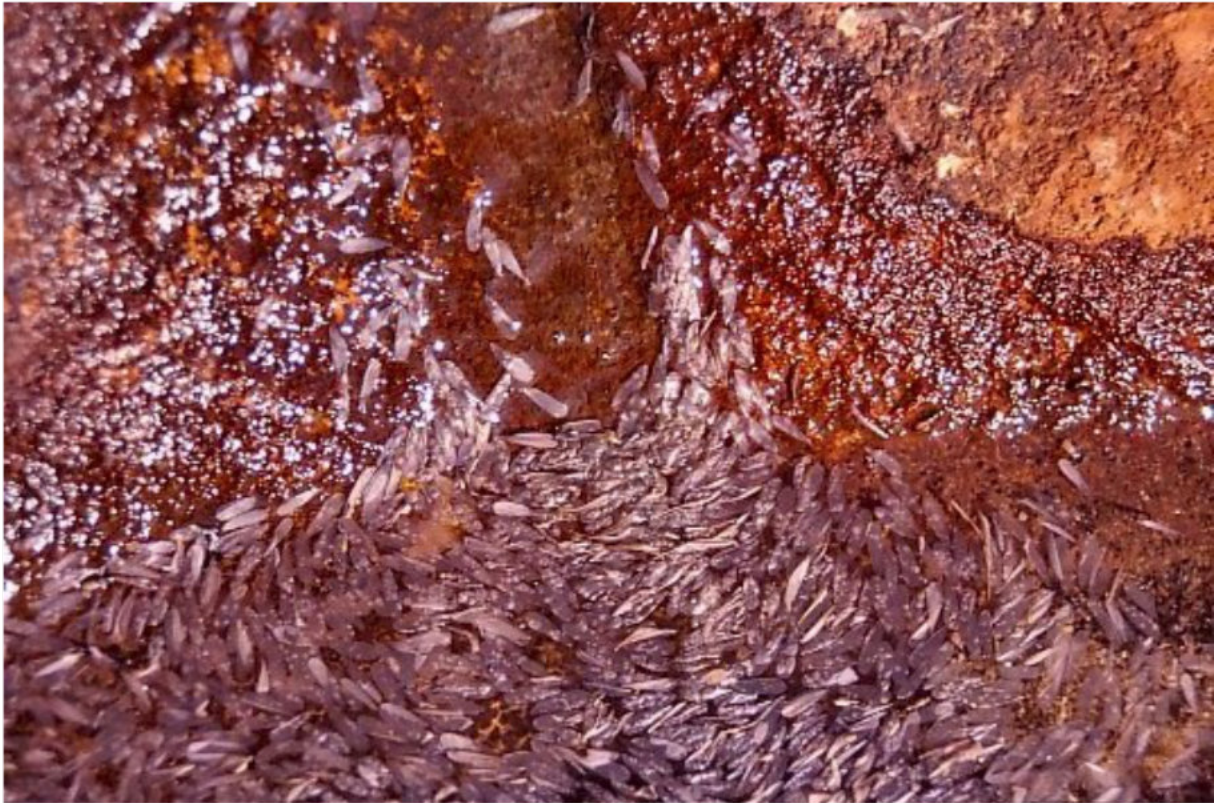
Examples of **drag marks left by waterlogged wood** in a tidal estuary.



Small **circular indentations** in sand **left by water dripping from vegetation** after heavy fog. Note the **hyrax tracks** in the foreground.



To end this component, two photographs of animal **signs that are seasonal**:



At the beginning of the rainy season, many species of **termite** and **ants** release large numbers of virgin queens and males to form new colonies. These insects have wings that carry them a short distance from the mother colony. However, the **wings are soon shed and may form large accumulations**. They are particularly noticeable if they fall into pools of water.

**Frogs deposit their eggs** in many different situations, but those of the **toads are laid in long strings of jelly in shallow, still water**. This is a female Karoo toad laying egg strings.

