The Hazards of Life as a Zoologist

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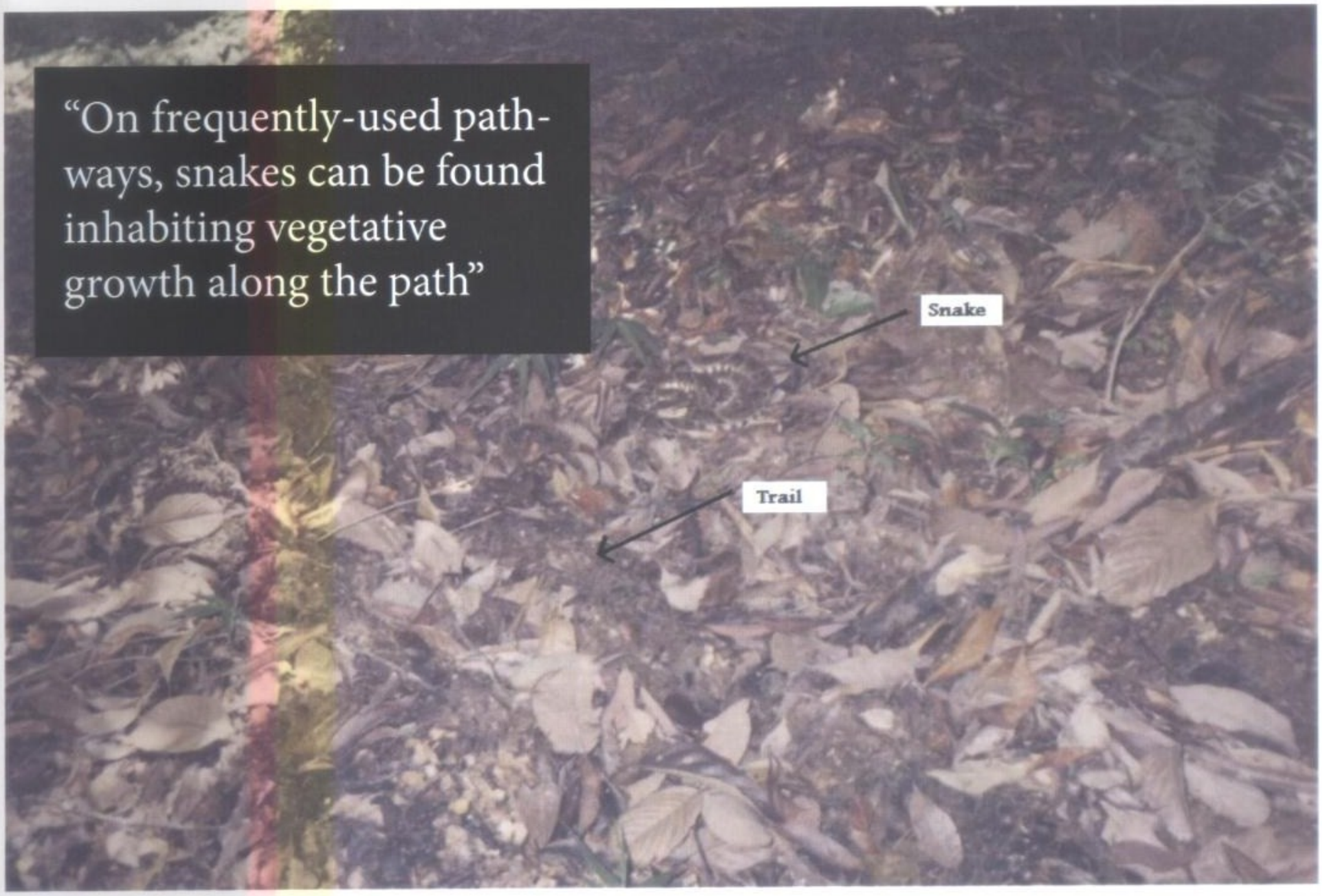
Any disease that is related to some form of work activity or associated with the working environment can be termed an occupational disease. Subsequently, these diseases are expected to be more prevalent in a given body of workers than in the general population. For a zoologist at work in the neotropics, gathering the necessary information on flora and fauna in order to fill the existing knowledge gaps, requires much field work and lab study of organisms. In this regard, the job becomes hazardous and prone to disease when the behaviours of these discovered organisms become defensive ones involving bites, stings and scratches. Such contact may mean the exchange of a variety of pathogens and toxins into the human body. As concerns toxins, many have not been thoroughly studied and antidotes for them have not been developed.

For the zoologist on the hunt, the trail tends to be one of the sites prone to occupational hazard and subject to occupational disease. Where the trail's terrain is littered with obstacles such as rocks or protruding tree roots, tripping and falling can result, causing serious injury to oneself and the damage or loss of expensive equipment. These hazards are especially recurrent on narrow trails of high altitudes. On frequently-used pathways, snakes can be found inhabiting vegetative growth along the path or out of the way of the passer-by. Though many islands in the Eastern Caribbean are snake free or possess no poisonous species, Trinidad is home to a number of snakes of the poisonous kind, including the well known Mapipere Zanana (Lanchesis muta). This species is by no means shy and can be found curled-up on un-frequented trails. Non-poisonous snakes like the Macajuel (Boa constrictor) are also very dangerous as their bites can become infected.

When the trail has tapered off, leaving the zoologist with no choice but to create a trail, force his or her way through the vegetation to explore or return to the trail, the research is always cautious of insects, which can be flung unto his or her path, like some arboreal species of ants–Cephalotes atratus. Also, he or she must be aware of bees and wasps, building their nests under leaves or on short vegetation, which can launch a swarm on the attack when agitated by the thrashing action. Moreover, for any unsuspecting trail-trekker, there remains the risk of disturbing the nests of these insects, especially when they are well-hidden. One such species with a well camouflaged nest is the ant species, Anochetus emarginatus. Their nest resembles a collection of dry twigs and fine leaflets that can easily be mistaken for debris that has settled in the space between the trunk and branches of saplings or short trees. This species is very aggressive even when slightly aroused. Simple acts such as blowing on the nest will summon the ants to spill from their nest and attack with a painful bite and sting. Nonetheless, there are those times when one will fall prey to unavoidable danger merely because one was in the wrong place at the wrong time. Without any warning dry forest branches and trees will fall; so any forest trekker has to be diligent at all times.

Others hazards encountered in the field are related to the nature of the animal being explored. To unearth and subsequently collect arthropods hidden or resting in retreats, the entomologist brushes a sweep net against the vegetation. However, in order to retrieve the specimens, he or she has to burrow his or her hands into the confined space of the net, thus making unmitigated contact with the creatures.. This can be quite dangerous, as some animals like the scorpion that uses dry, curled leaves as retreats to rest, may be unknowingly be



swept up into the net. Also, when lifting rocks or decaying logs to sample underlying organisms, the zoologist has to make certain to stand behind the object to be lifted and raise the edge that is furthest from his or her body. In doing so, should the animal be poised to strike, an onslaught similar to that which one would expect from a scorpion or snake, the rock services as a shield.

Red-bug dermatitis is a common ailment that afflicts those who hunt or hike. It is not a disease but rather a skin irritation that can be identified by raised, red bumps that are prone to infection. The irritation is caused by the feeding of the larval mite (Chiggers or Bete Rouge). In particular, the species Tunga penetran found on vegetation latches onto any person trekking by. When they make contact with the human they chose to muster about the body's warmer parts, especially those warm areas that are covered with clothing: between the elastic bands of socks and around underwear. Besides the slew of bacteria and fungi one is exposed to amidst the tropical forests, the explorer is also at risk of being infected with Dengue, Yellow Fever and Chagas disease.

Dengue is a virus transmitted to humans by mosquitoes (for example, the species Aedes aegypt).. Dengue fever symptoms are flu-like and mainly non-fatal. However, Dengue haemorrhagic fever (DHF), the potentially deadly complication of the disease, is characterised by high fever, sometimes accompanied by convulsions, the enlargement of the liver and in severe cases circulatory failure.

The Yellow Fever virus is also transmitted by the Aedes aegypti mosquito. It exists as two forms: urban and jungle. The former type is passed on from human to human by the mosquito, while the latter is mainly transmitted among monkeys (bitted by the infected mosquito). Still, when humans enter the infected area, they become a part of the disease cycle. Persons at risk for this type of Yellow Fever include those who spend considerable time in the forests: zoologists, wildlife officers, hunters and loggers.

Chagas disease is a chronic occupational disease, caused by the parasite Trypanosoma cruzi, which is transmitted by insect vectors like Reduvid or kissing bugs. These vectors are so-called because of their habit of biting around the mouth, which is one of the entry points for the parasite into the human body. Infection also results from contact with the faecal matter of the bugs (when these insects bite an infected person, they ingest the parasite and excrete it in their faeces). A person contracting this disease will exhibit some of the most common symptoms of the acute phase include body aches, fever, vomiting, rash, loss of appetite and a swelling or chagoma around the point of entry into the body. But the most recognised marker of this phase is Romaña's sign which includes the swelling of the eyelids on the side of the face where the bite is, and where the deposited faecal matter was unwittingly rubbed into the eye. However, most of these symptoms disappear after a few weeks or months, as such, they are usually dismissed as a minor concern.

In riparian environments, there is another disease that the zoologist can encounter. When working in Central and West Africa, near fast flowing rivers, there is the risk of contractingOnchocerciasis or River Blindness. This disease is caused by the nematode Onchocerca volvulus, which is transmitted into the human body via the bite of the black fly (Simulium spp.). The worms invade the host's body to cause itching, eye lesions and blindness in severe instances.

In determining the hazard and disease that may be encountered, the zoologist should be aware of the characteristics of the sampling environment. The cases sited being hazardous are terrestrial, however, the zoologists who work in aquatic environments: both freshwater and marine, also face a range of occupational hazards and diseases as well.Moreover, as is the case with any other profession, before dedicating one's life to the duties of a zoologist, one should consider the dangers involved.