

Appendix 9 Preliminary list of mollusc, nematodes and arthropod agricultural pests in Namibia

Common name	Crop or place	Usual causal organism
MOLLUSCS		
Garden snail	Vegetables	<i>Theba pisana</i>
NEMATODES		
The nematodes of veterinary importance in Namibia are fairly well known, ⁹⁸ but almost nothing is known about phytophagous nematodes in Namibia.		
Burrowing nematode	Vegetables	<i>Radopholus similis</i>
ACARI : MITES, TICKS, AND TAMPANS		
Very little is known about phytophagous mites from Namibia. Acari of veterinary importance are, however, quite well recorded, as they are often vectors for animal diseases. Only the most important vectors are listed.		
Blue tick	Veterinary	<i>Boophilus decoloratus</i>
Brown dog tick	Veterinary	<i>Rhipicephalus sanguineus</i>
Ticks	Veterinary	<i>Rhipicephalus zambeziensis</i> <i>Amblyomma variegatum</i> <i>Haemaphysalis leachi</i> <i>Hyalomma</i> spp.
Spinose ear tick	Veterinary	<i>Otobius megnini</i>
Fowl tampa	Veterinary	<i>Argas persicus</i>
Sand tampa	Veterinary	<i>Ornithodoros savignyi</i> <i>Ornithodoros moubata</i>
Mange mites	Veterinary	<i>Psoroptes ovis</i> <i>Sarcoptes</i> sp. <i>Demodex</i> sp. <i>Cnemidocoptes</i> spp.
COLLEMBOLANS : SPRINGTAILS		
Lucerne flea	Lucerne	<i>Sminthurus viridis</i>
ISOPTERANS : TERMITES		
Serious reduction of vegetation cover by termites can occur during droughts or in overgrazed pastures. Termite colonies reach peak densities where grass cover has been largely depleted, and pastures may not be able to recover naturally.		
Northern harvester termite	Pasture/grazing	<i>Hodotermes mossambicus</i>
Southern harvester termite	Pasture/grazing	<i>Microhodotermes viator</i>
Snouted harvester termite	Pasture/grazing	<i>Trinervitermes trinervoides</i>
ORTHOPTERANS : GRASSHOPPERS, LOCUSTS & CRICKETS		
Until recently, locusts have been regarded as natural disasters because of the difficulty of controlling their outbreaks. For several decades synthetic insecticides have been in use, but environmentally acceptable alternatives are urgently needed.		
Armoured bush cricket	Millet, maize, sorghum	<i>Acantoplus discoidalis</i> , <i>A. longipes</i> , <i>A. speiseri</i>
Crickets	Seedbeds, gardens	Gryllidae spp. <i>Brachytrupes membranaceus</i> <i>Acheta bimaculatus</i>
Mole crickets	Irrigated gardens	<i>Gryllotalpa africana</i>
Migratory locust	Pasture & crops	<i>Locusta migratoria migratorioides</i>
Brown locust	Pasture & crops	<i>Locustana pardalina</i>
Red locust	Pasture & crops	<i>Nomadacris septemfasciata</i>
Tree locust	Trees & shrubs	<i>Anacridium moestum</i>
Elegant grasshopper	Various	<i>Zonocerus elegans</i>

(continued)

Appendix 9 (cont.)

Common name	Crop or place	Usual causal organism
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PHTHIRAPTERANS: LICE

Lice are very host specific, and are only of minor veterinary importance in Namibia. Severe infestations have been recorded in winter, droughts or other periods of malnutrition.

African sheep louse	Small stock	<i>Linognathus africanus</i>
Sheep leg louse	Small stock	<i>Linognathus pedalis</i>
Long-nosed cattle louse	Cattle	<i>Linognathus vituli</i>
Short-nosed cattle louse	Cattle	<i>Haematopinus eurysternus</i>
Cattle biting louse	Cattle	<i>Damalinia bovis</i>
Sheep biting louse	Sheep	<i>Damalinia peregrina</i>

HEMIPTERANS: LEAF- AND PLANTHOPPERS, APHIDS, PSYLLIDS, WHITEFLIES SCALE INSECTS AND BUGS

The order Hemiptera includes most plant-sucking insects. As a group, they have high host diversity and are well adapted to plant parasitism. Because of this diversity, nearly every crop in the world can serve as a host for hemipteran species.

Lace bug	Vegetables	<i>Gargaphia torresi</i>
Capsid bug	Vegetables	<i>Helopeltis</i> sp.
Bagrada bug	Crucifera	<i>Bagrada hilaris</i>
Twig wilters	Flowers and vegetables	<i>Anoplocnemis curvipes</i>
Shield bugs	Vegetables	<i>Coridius viduatus</i>
Stink bug	Flowers and vegetables	<i>Nezara viridula</i>
Antestia bug	Vegetables	<i>Antestia orbitalis</i>
Leaf hoppers	Various	<i>Cicadulina mbila</i> <i>Hilda patruelis</i> <i>Trioza erythrae</i>
Citrus psylla	Citrus	<i>Bemisia tabaci</i>
Tobacco whitefly	Vegetables	<i>Dactylopius</i> spp.
Cochineal	Prickly/spineless pear	<i>Icerya purchasi</i>
Australian bug	Various	<i>Aonidiella aurantii</i>
Red scale	Citrus	<i>Phenacoccus solani</i>
Grey scale	Peppers	<i>Myzus persicae</i>
Aphids	Various	<i>Pineus pini</i> <i>Aphis craccivora</i> <i>Brevicoryne brassicae</i> <i>Toxoptera aurantii</i>

THYSANOPTERANS : THRIPS

Flower thrips	Various	<i>Frankliniella</i> spp.
Onion thrips	Vegetables	<i>Thrips tabaci</i>

COLEOPTERANS : BEETLES

Beetle larvae may cause damage to field crops, especially root systems, though most damage is usually on stored products.

Carpet beetles	Storage premises	<i>Anthrenus</i> spp.
Hide beetles	Hides and skins	Dermestidae spp.
Wire worms	Plant roots	Elateridae spp.
Black maize beetle	Ground nuts, maize	<i>Heteronychus arator</i>
Blister beetles	Beans	<i>Mylabris oculata</i>
Shotgun borer	Vegetables	<i>Heterobostrychus brunneus</i>
White coffee borer	Vegetables, maize	<i>Anthonus leuconotus</i>

(continued)

Appendix 9 (cont.)

Common name	Crop or place	Usual causal organism
Fig tree borer	Figs	<i>Phrynetta</i> sp.
Lesser grain borer	Storage	<i>Rhizopertha dominica</i>
Granary weevil	Storage	<i>Sitophilus granarius</i>
Sweetpotato weevil	Vegetables	<i>Alcidodes dentipes</i>
Lady bird beetles	Potatoes	<i>Solanophila dregei</i>
	Vegetables	<i>Epilachna chrysomelina</i>
False wire worm	Sorghum, maize	Tenebrionidae spp.
Flour beetles	Storage	<i>Tribolium</i> spp.
White grubs	Plant roots	Scarabaeidae spp.

DIPTERANS: MOSQUITOES AND FLIES

Apart from many parasitoids and pollinators, the Diptera include a large number of important plant pests, parasites of animals including humans, and vectors of pathogenic viruses, micro-organisms, and nematodes.

Mosquitoes	Veterinary	Culicidae spp.
Black flies	Veterinary	<i>Simulium chatteri</i>
Biting midges	Veterinary	Culicoides spp.
Tsetse fly	Veterinary	<i>Glossina morsitans</i>
Biting flies	Cattle	Tabanidae spp.
Fruit flies	Various fruits	<i>Ceratitis capitata</i> <i>Dacus bivittatus</i> <i>Didacus ciliatus</i> <i>Pterandus rosa</i>
Pumpkin flies	Cucurbits	<i>Geromyia penniseti</i> <i>Contarinia sorghicola</i>
Millet grain midge	Pearl millet	<i>Delia platura</i>
Sorghum midge	Sorghum	<i>Ophomyia phaseoli</i>
Bean seed fly	Vegetables	Atherigona soccata
Bean fly	Vegetables	Muscidae spp.
Sorghum shoot fly	Sorghum	<i>Oestris ovis</i>
Flies	Veterinary	<i>Gedoesitia</i> spp.
Nasal bot flies	Veterinary	<i>Gasterophilus</i> spp.
Stomach bot flies	Veterinary	

LEPIDOPTERANS: BUTTERFLIES AND MOTHS

Lepidoptera larvae are key economic pests of agriculture and forestry worldwide. Species in the families Noctuidae and Pyralidae figure prominently as pests of vegetable and fruit crops, and secondarily as economic pests of corn.

Cutworms	Seedlings, vegetables	<i>Agrotis</i> spp.
Stalk borer	Maize, sorghum	<i>Busseola sorghicida</i>
Stem borer	Maize, sorghum	<i>Chilo partellus</i>
Lucerne caterpillar	Lucerne	<i>Colias electo</i>
False codling moth	Citrus	<i>Cryptophlebia leucotreta</i>
American bollworm	All crops	<i>Heliothis/Helicoverpa armigera</i>
Spiny bollworm	All crops	<i>Earias cupreoviridis</i>
Orange dog	Citrus	<i>Papilio demodocus</i>
Diamond-back moth	Cruciferae	<i>Plutella xylostella</i>
Pink stalk borer	Maize	<i>Sesamia calamistis</i>
Tobacco stem borer	Vegetables	<i>Scrobipalpa heliopa</i>
Grain moth	Storage	<i>Sitotroga cerealella</i>
African army worm	All crops, pasture	<i>Spodoptera exempta</i>
Cabbage web-worm	Cruciferae	<i>Hellula undalis</i>
Prickly pear moth	prickly/spineless pear	<i>Cactoblastis cactorum</i>
Hawk moth caterpillars	Vines, Solanaceae	Sphingidae spp.
Semi-looper	Potatoes, cotton	<i>Chrysodeixis</i> sp. <i>Anomis flava</i> <i>Trichoplusia</i> sp.
Looper	Vegetables	<i>Phthorimaea operculella</i>
Potato tuber moth	Solanaceae	<i>Sphingomorpha</i> sp.
False hawk moths	Veterinary	<i>Gonometa postica</i>
Silk cocoons	Veterinary	

— Compiled by E. Marais & B. Wohlleber (see refs. 98 and 169 in Chapter 2)