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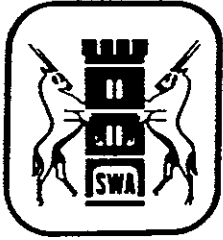
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Invasive alien organisms in South West Africa/Namibia

Edited by C J Brown, I A W Macdonald and S E Brown

This report results from a workshop organized by the Directorate of Nature Conservation and Recreation Resorts in Windhoek, and is produced in conjunction with the Council for Scientific and Industrial Research

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Editors' addresses:

Mr C J Brown
Directorate of Nature Conservation and Recreation Resorts
Private Bag 13306
WINDHOEK
9000

Mr I A W Macdonald
Percy FitzPatrick Institute of African Ornithology
University of Cape Town
RONDEBOSCH
7700

Mrs S E Brown
South West Africa Herbarium
Directorate of Agriculture and Forestry
Private Bag 13184
WINDHOEK
9000

*previously Cooperative Scientific Programmes

CHAPTER 11 INVASIVE ALIEN MAMMALS, REPTILES AND AMPHIBIANS IN SOUTH WEST AFRICA/NAMIBIA

M Griffin and K Panagis

INTRODUCTION

The animals discussed in this chapter have been divided into several categories, ie reptiles, amphibians, murid rodents, small carnivores and large mammals.

Murid rodents can be said to be well suited to an invasive life style. They have invaded the globe to such an extent that their places of origin are often open to controversy.

Invasive alien small carnivores are an international problem, although in SWA/Namibia only the domestic cat is giving cause for concern at present. This concern focuses largely around the contamination of the gene pool of indigenous cat species.

Large mammals are sometimes introduced into an area by game farmers, and can become free-ranging. In SWA/Namibia at present there seems to be little threat of any of these species becoming invasive. Contamination of the gene pools of indigenous species is a possibility which should not be overlooked, however, and for this reason the common practice of game transfer in this country should come under review.

Reptiles and amphibians rarely become established in alien habitats, and even more rarely become invasive. At present there are no problems with these animals in southern Africa, with the possible exception of the red-eared terrapin Chrysemys scripta elegans (N H G Jacobsen pers comm).

The following members of these categories can be regarded as invasive aliens in SWA/Namibia at present: Oryctelagus cuniculus, Mus musculus, Rattus rattus, Rattus norvegicus and Felis catus. In addition feral populations of the following exist, although they do not at present appear to be invasive: Equus asinus, Equus caballus and Capra hircus. The following species have been imported into the country at some stage, but are not at present considered invasive: Capra ibex, deer (unspecified), Dama dama, Bubalus bubalus, Connochaetes gnou, Damaliscus dorcas and Tragelaphus angasii.

AMPHIBIANS

No alien amphibians are known to occur in SWA/Namibia.

REPTILES

No invasive alien reptiles are known to occur in SWA/Namibia. It is probable, however, that tortoises of the genera Chersina, Homopus and Psammobates are occasionally transported from South Africa to gardens in this country, from whence they later escape into the wild. It is unlikely that viable populations will be established in this way.

MAMMALS

Species accounts

Oryctelagus cuniculus. Domestic rabbits were deliberately introduced to Possession Island (2715 AA) by guano gatherers, but little is known about the present status of this population. In similar situations elsewhere O cuniculus have been known to use the burrows of nesting birds for shelter, which results in high chick mortality due to suffocation. It is possible that this situation also occurs here, but no information is at present available.

Mus musculus (Map 23). This species was originally brought in to SWA/Namibia by ship and has since spread over the country by road and rail transportation. It is at present found in many urban areas and farmsteads, and at least one feral population exists, at Sandwich Harbour salt marsh (2314 AD).

M musculus is a potential problem in grain storage facilities, but serious damage has not yet been reported in SWA/Namibia. The species has invaded many urban households, but it can usually be controlled in these situations. Little is known about the population at Sandwich Harbour. The presence of M musculus here might be explained by the absence of its successful competitor Mastomys natalensis.

Rattus rattus (Map 24). This species originally arrived in SWA/Namibia off the early sailing ships and subsequently became distributed around the country by transport on wagons, trucks and railways. It is now established in many urban areas and feral populations are known to exist at Sandwich Harbour and at Hardap Dam.

R rattus is a potential pest in grain storage areas, but this situation has not yet been reported in SWA/Namibia. R rattus is a very aggressive species and could cause considerable harm to ground-nesting birds at Sandwich Harbour. Information on this aspect, however, is at present inadequate, and the situation requires investigation.

Rattus norvegicus. Like R rattus, this species was introduced to SWA/Namibia off early sailing ships, but its distribution appears to have remained restricted to the sea ports of Luderitz (2615CA) and Walvis Bay (2214CD and DC).

Population numbers appear to be in a continual state of flux. When they increase dramatically this species becomes a serious pest, and it has periodically plagued the fishing industry in these areas. This species is also a potential threat to ground-nesting birds in Luderitz. No feral populations are known in SWA/Namibia.

Felis catus. Cats have been introduced to most towns and farmsteads and many prospecting and nature conservation camps in SWA/Namibia. Feral populations as such have not become established but another, and perhaps a more serious, problem has become apparent. Felis catus interbreeds freely with the indigenous African wild cat Felis lybica, which has resulted in the loss of genetic integrity in the indigenous species. As F catus is now extremely widespread it can be assumed that all F lybica stock in SWA/Namibia has been polluted to some extent. The argument is sometimes advanced that because these two species interbreed successfully their specific status should come under review. Nevertheless the importance of genetic conservation should not be underemphasised.

Equus asinus. A small feral population of donkeys exists in the Grootberg area of Damaraland (2014DA). These are said to interbreed with the indigenous Hartmann's zebra Equus zebra, a species which is specially protected. The fact that interbreeding between these species can take place was recently confirmed (Brown and Jenkins in press) when a hybrid foal was photographed near Hotsas, Namib-Naukluft Park (2215CD) suckling from a pure E zebra. The E asinus sire was not with the group, and was thought to originate from farmlands to the east of the park. No further information on the extent of hybridization and its viability is available.

Equus caballus. Approximately 175 wild horses live in the vicinity of Garub, near Aus (2615BD, DB, 2616AC and CA). These are descendants of military horses abandoned in 1915 and they are restricted to the area around this water source. They are regarded as being of historical significance and there is no indication that they are, or are likely to become, invasive.

Capra hircus (Map 25). Small populations of feral goats have been reported from the Brukkaros (Namaland) and Isoabis (Damaraland) areas. In addition feral populations have been known to occur in some of the west flowing river courses in the Namib Desert and on its fringe. No detailed information is available.

Other alien species present but not thought to be invasive Capra ibex, deer (unspecified), Dama dama, Bubalus bubalus, Connochaetes gnou, Damaliscus dorcas and Tragelaphus angasii are all alien to SWA/Namibia, but have been imported to this country for various reasons in the past. They are now free-ranging, but are not at present considered to be invasive.

In addition to the alien mammals discussed above, there are also a number of species of mammals which occurred historically in SWA/Namibia, or which occur at present in this country, but have a very limited natural range. Some of these species have recently been re-established, or been

established in areas outside their natural range. These species include: Ceratotherium simum, Kobus ellipsiprymnus, Syncerus caffer, Aepyceros melampus, Redunca arundinum and Connochaetes taurinus. None of these species are at present considered to be potentially invasive.

RECOMMENDATIONS

It is recommended that the following steps should be taken by the Department of Agriculture and Nature Conservation and/or other conservation bodies in SWA/Namibia:

- (1) Investigations into the following situations should be conducted as soon as possible:
 - the relationships between Rattus spp and ground-nesting birds at Sandwich Harbour and Luderitz.
 - the relationship between Oryctelagus cuniculus and ground-nesting birds on Possession Island.
 - the cross-breeding of Equus asinus and Equus zebra in Damaraland.
 - the status of feral populations of Capra hircus in Damaraland and Namaland.
- (2) Felis catus should be eliminated from feral situations whenever opportunities arise. A particular effort in this respect should be made in nature reserves.
- (3) Ownership of alien game species should be considered to cease when the game leaves the registered owner's property.
- (4) A committee should be appointed to handle all new applications to import alien species. The prospective importer should be required to prove to the committee that no problems are likely to arise as a result of the importation.
- (5) An unconditional ban should be placed on all nondomestic breeds of goats and sheep (Caprinae), and also on Mongolian gerbils (Meriones spp), in order to prevent these notoriously invasive animals from ever becoming established in SWA/Namibia.