



Both plumage and soft-part colour vary considerably between wild (left) and domestic (right) guineafowl. Hybrids (centre) show intermediate characters, in this case purple neck feathering.

CHARLES RATCLIFFE (3)

Hybridisation and the Helmeted Guineafowl

The Helmeted Guineafowl *Numida meleagris* is one of Africa's most widespread and gregarious gamebirds, and occurs in a broad range of open-country habitats south of the Sahara. During the past century, the species has undergone a dramatic expansion in range, due mostly to agricultural cultivation and introductions. Over the last 20 years, however, this trend has been reversed in the KwaZulu-Natal Midlands of South Africa, where guineafowl populations have collapsed, leading in some cases to local extinction. There are several possible reasons for this. Certain modern agricultural practices,

especially extensive monocultures, are known to be detrimental to many species of wildlife, and gamebirds are no exception. Furthermore, recent field observations and molecular studies have suggested that hybridisation is occurring between domesticated and wild guineafowl.

Most domesticated guineafowl are descended from West African stock that was transported to Europe in the 15th century. These birds were selectively bred for commercially desirable attributes, such as rapid growth, large body size and reduced broodiness. Some of these 'engineered' birds have subsequently been

re-introduced to Africa. It could be predicted that the very characteristics that make them commercially valuable could have negative effects if introduced into wild populations.

Andrew Walker and Charles Ratcliffe have recently completed an investigation of whether hybridisation between domesticated and wild guineafowl has indeed occurred and, if so, to what extent. To do this, Walker developed a simple molecular test for identifying the presence of domestic guineafowl DNA in populations of free-living guineafowl in KwaZulu-Natal and the Free State.

The study confirmed the occurrence of hybrids in these populations, but at a low frequency. The molecular data thus support the idea that birds showing physical characteristics in between those of wild and domesticated birds are very likely to be hybrids.

Identifying the existence of hybrids raises the question of how to manage these populations to ensure genetic integrity of the wild stock. In the case of the Helmeted Guineafowl, hunting might offer the most practical (and cost-effective) strategy. If free-living guineafowl populations (or flocks) that have been identified as containing hybrids are targeted by wingshooters, the potentially damaging impacts of hybridisation could be lessened, or even eradicated. □

HOW TO IDENTIFY LIKELY HYBRIDS IN THE FIELD

The following summarises the key characteristics of domestic and wild guineafowl. In hybrids, one or more of these characters is likely to be intermediate.

Character	Domestic birds	Wild birds
Wattles	Lobed	Pennant-shaped
Helmet shape	Short, triangular	Long, sabre-shaped and hooked backwards
Face	Whitish	Pale blue
Collar colour	Plain purple, blue or grey	Barred and spotted white
Body and wing feathers	Plain, some may be white	Black with white spots
Leg and/or foot colour	Orange to yellow	Dark brown or black

Visit the FitzPatrick website: <http://www.uct.ac.za/depts/fitzpatrick>

Percy FitzPatrick Institute of African Ornithology, University of Cape Town, Rondebosch 7701, Cape Town, South Africa. Phone (021) 650 3290; fax (021) 650 3295; e-mail birds@botzoo.uct.ac.za