

Most of the truly convincing examples of visual host mimicry among avian brood parasites concern egg mimicry and nestling mimicry, and there would seem to be little profit gained by a brood parasite mimicking the adult plumage of its primary host. Such mimicry, if effective, is likely only to stimulate territorial defensive behavior or otherwise aggressive interactions between host and parasite ¹ ... species-specific host mimicry in the viduine finches includes evolved similarities in (1) size, shape, and color of the hosts' eggs, (2) the interior mouth markings on the host nestlings' palate and tongue, and (3) enlarged, light-reflective and tuberclelike structures ("gape papillae"), or colorful enlargements (mandibular flanges) along the edges and at the base of the mandible in young birds ² ... nestlings showing even minor deviations from the species' norm are "ruthlessly weeded out by starvation" by their own parents ³ ... host mimicry of mouth patterns must be very precise in this group of parasites if the young are to survive close scrutiny by their host parents and be able to compete effectively for food with one or more host chicks. Indeed, nestling mouth patterns are nearly identical in several host-parasite pairs, not only in general patterning, but also in coloration and the presence or absence of reflective tubercles. These highly efficient reflective (but not luminous) structures have complex internal anatomies that allow them to operate as a combination reflecting mirror and refraction-diffraction prism. As such, they make effective attention-getting devices for stimulating parental feeding in the rather dark environment of an enclosed estrildine nest ⁴ ... no two species of the approximately 125 estrildine finches have identical mouth markings, which usually consist of from three to five black or violet spots arranged on the palate in a semicircular or pentagonlike pattern, supplemented by the white, yellow, blue, or violet thickenings or wartlike papillae along the sides of the palate and the edges of the bill. Adult estrildines will innately respond to and may feed only those conspecific young exhibiting the appropriate species-specific palatal markings, or those parasitic young whose palatal markings are essentially indistinguishable from the host's evolved type ⁵ ... Newly hatched nestlings of this species resemble those of their primary host, the common waxbill, but they are more mauve-colored and are covered with down (rather than being pinkish and virtually naked). Nestling gape patterns are similar in both, including a spot on the lower mandible and two dark spots on the tongue. However, the palate of the waxbill has a circle of five spots. ⁶

Avian eggs can usually be characterized by two basic color attributes. The first of these is an overall and rather uniform "ground color" (usually whitish, buff, brownish, bluish, or reddish brown) that is incorporated into the shell during the later stages of oviducal passage. Second, many avian eggs have additional, variably darker or contrasting patterns of stipples, spots, streaks, blotches, or other more superficial pigments that are laid down on the shell surface near the lower ends of the oviduct or even perhaps deposited while the egg is already in the cloaca, shortly before the egg is deposited ⁷ ... host-parasite size matching is usually only approximate; the parasite's eggs tend to be not only larger, but also

are usually more rounded. A more nearly spherical egg can store more potential energy into a given volume, and such eggs may also be harder for a host species to pick up, since eggs are usually grasped at their narrower ends when being grasped by the bill ⁸ ... these cuckoos tend to lay their eggs in nests having eggs closely matching their own in pattern and ground color ⁹... Recognition of an alien egg in a clutch may be achieved by ¹⁰ ... removing any egg that differs in some respect of appearance from the others. This egg-discrimination strategy has been termed “rejection by discordancy” ¹¹ ... Rounded eggs are perhaps more difficult to pierce with the bill than more elongated and flatter eggs ¹² ... eggs of this species are broad oval, with shiny surfaces and polymorphic coloration. The commonest egg morph is a glossy chocolate to olive-brown in ground color, without darker markings, and is an apparent (but poor) mimic of Cape robin chat eggs, which are variably colored (cream, pink, greenish blue, turquoise), but never brown. The size match of this cuckoo’s eggs and those of the Cape robin chat is nevertheless very close ¹³ ... This cuckoo also occasionally lays bluish, olive-green to pale greenish eggs, with reddish brown speckling at the larger end, which may mimic those of the boulder chat ¹⁴ ... Eggs of this species are broad ovals, with a somewhat glossy surface, and range from pale blue to greenish blue, with spots or streaks of reddish brown and lilac that are generally similar to those of its primary corvid hosts ¹⁵ ... The dark egg color may be removed with a wet finger.¹⁶

Printed on the occasion of the exhibition by Alex Impey, *Orangutan*, Glasgow Sculpture Studios, 2 Dawson Road, Glasgow, G4 9SS. 19th November – 15th December 2012. Kindly supported by The Gordon Foundation and The Hope Scott Trust.

¹ Paul A. Johnsgard, *The Avian Brood Parasites: Deception at the Nest* (Oxford: Oxford University Press, 1997) 30 ² 33 ³ 37 ⁴ 37 ⁵ 34-37 ⁶ 309 ⁷ 43-45 ⁸ 42 ⁹ 192 ¹⁰ 100 ¹¹ 100 ¹² 42 ¹³ 174 ¹⁴ 174 ¹⁵ 155 ¹⁶ 233