

1 **Mangadrill Conservation Action Plan: a strategy for the survival of *Cercocebus* and**
2 ***Mandrillus***

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9 June was a good month for “mangadrills”, the primate clade comprised of species within
10 *Cercocebus* (also known as white-eyelid mangabeys) and *Mandrillus* (Cronin and Sarich
11 1976; Groves 1978; Dutrillaux et al. 1980; Stanyon et al. 1988; Disotell 1994; Fleagle and
12 McGraw 1999; McGraw 2017). A workshop hosted by the Wildlife Division of the Forestry
13 Commission of Ghana and West African Primate Conservation Action (WAPCA), and
14 organised by Andrea Dempsey (WAPCA), Dr. David Fernández (University of the West of
15 England) and Dr. Gráinne McCabe (Bristol Zoological Society), brought together a number
16 of species and range country experts in Accra, Ghana, from June 17 – 19. The purpose of the
17 gathering was to finalise the forthcoming *Cercocebus-Mandrillus* Conservation Action Plan
18 (Figure 1).

19 Mangadrills include nine species of African monkeys: seven within *Cercocebus* and two
20 within *Mandrillus*, including two drill subspecies (Butynski et al. 2013). Together, they
21 represent some of the least studied and hence least known of the Old World Primates.

22 Although they have a wide range across Africa, extending from the Upper Guinean Forests of
23 Senegal in the west to the Tana River Delta in Kenya, they are also some of the most
24 threatened taxa. In 2008, the white golden-bellied mangabey was considered Data Deficient

25 by the IUCN Red List (Hart et al. 2008), while four other *Cercocebus* and both *Mandrillus*
26 species were placed in either the Endangered (Sanje mangabey: Ehardt et al. 2008; Tana
27 River mangabey: Butynski et al. 2008; white-naped mangabey: Oates et al. 2008a; drill:
28 Oates & Butynski 2008a) or Vulnerable (red-capped mangabey: Oates et al. 2008b; mandrill:
29 Oates & Butynski 2008b) category. Given the limited knowledge and threatened conservation
30 status of most of these species, there is urgent need for a collaborative, regional-wide
31 approach to catalyse and facilitate efforts to ensure the protection of mangadrills and their
32 habitats.

33 Prior to the workshop, species experts were asked to collate current information on their
34 species' distribution, density, populations trends and threats, and to recommend evidence-
35 based conservation actions needed to ensure their long-term survival. During the three days in
36 Accra, we worked collectively to review this information and identify overarching threats and
37 conservation actions, highlight priority areas for conservation across the species' range, and
38 determine the best strategy to ensure success in both the short and long term. From our
39 discussions it became clear that there were a number of threats that affected all taxa. As such,
40 we identified a number of priority conservation actions that should be implemented wherever
41 these animals occur and noted that such action items would benefit not only mangadrills, but
42 their habitats and other threatened fauna in tropical Africa.

43 The overarching actions fall into three categories. First, there is a need to increase stakeholder
44 engagement in range countries across all levels of society. As such, we aim to a) encourage
45 mentoring and capacity building for conservation and research among range country
46 nationals; b) support education of women and family planning; c) increase conservation
47 education among local communities living on forest boundaries and urban dwellers; and d)
48 promote effective sustainable livelihoods for communities living alongside mangadrill
49 populations.

50 Second, we need to reduce our existing knowledge gap on mangadrills. In particular, we feel
51 it imperative to (a) conduct surveys in order to establish reliable distribution and population
52 density profiles; and (b) carry out more comprehensive genetic studies to better clarify the
53 taxonomic and evolutionary relationships between populations. Such efforts would enhance
54 our understanding of these animals and provide a much-needed research presence in areas
55 where illegal activities are often uncontrolled.

56 Habitat destruction is, of course, a common threat across the range of most *Cercocebus* and
57 *Mandrillus* species and it was agreed that, whenever possible, habitat restoration should be
58 prioritised.

59 Finally, given the obscurity of *Cercocebus* and *Mandrillus* among the general public,
60 particularly among range country inhabitants, it is a priority to raise the profile of these
61 animals.

62 In addition to proposing priority conservation actions that apply to all taxa, we also identified
63 key priority areas for each mangadrill species. These are regarded as species strongholds
64 because they consist of suitable habitat, supporting viable populations, and include sites such
65 as Taï National Park in Côte d'Ivoire, Lopé National Park in Gabon, and the Udzungwa
66 Mountains National Park in Tanzania. Species have a good chance of surviving at these sites
67 provided protection measures there continue. Other priority sites highlighted include sites that
68 are not currently well protected but are regarded as critical to conservation efforts due to their
69 geographic location or taxonomic uniqueness. Some of these sites are Korup National Park in
70 Cameroon, Monte Alén National Park in Equatorial Guinea, and the Tana River Delta in
71 Kenya. The action plan will include a series of site-specific management recommendations to
72 inform government officials, local and international research organisations and
73 conservationists.

74 So what's next? Species experts have returned to their respective work places full of ideas
75 and deadlines. We aim to launch the Mangadrill Conservation Action Plan in mid-2020. A
76 lot to accomplish in the coming months. So stay tuned!

77

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119 20 Papionini species reveal no necessary correlation with speciation. *American Journal of*
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122

123 **Figure 1 caption:**

124 Mangadrill Conservation Action Plan workshop participants with Mr Joseph Oppong (third
125 from the right, front row). Public Relations Manager for the Wildlife Division of the Forestry
126 Commission of Ghana.