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# Udzungwa Red Colobus

## *Piliocolobus gordonorum*

Matschie 1900

Andrew R. Marshall, Francesco Rovero, Thomas T. Struhsaker



Neil Roloff/Nature Picture Library

loud crashing sound as they land heavily in vegetation after leaping. The conspicuousness of this species (and probably the genus) may be a reason for its vulnerability to hunting.<sup>7</sup>

**Diet** Fruits (18%), young leaves (12%), mature leaves (7%), flowers (4%), buds (2%), leaf petioles (57%);<sup>8</sup> lichens, seeds,<sup>6</sup> soil and soil material from arboreal termite tunnels.<sup>9</sup> Large juvenile and adult males sometimes suckle from adult females. Large juvenile and adult females have never been seen to suckle. Thus, mothers may invest more heavily in their sons, which stay in the group rather than daughters.<sup>9</sup> **Total plants eaten:** 52.<sup>9</sup>

**Life History** NA.

**Social Organization** Multi♂-multi♀,<sup>10</sup> solitary.<sup>11</sup>

Fission-fusion is suspected but not proven.<sup>12</sup> Though the social organization of this species has not been studied in detail, males appear to remain with their natal group (are philopatric) and form its core, whereas females emigrate when they approach maturity. Within the group, males are tolerant, and aggression has rarely been observed.<sup>9</sup> **Group size:** 7–83.<sup>9</sup> **Home range:** NA. **Day range:** 200–600m (656–1969ft).<sup>9</sup> **Activity budget:** Foraging, 34–41%.<sup>9</sup>

**Behavior** Arboreal; diurnal.<sup>6</sup> **Associations:** *P. gordonorum* associates with *R. unguwecebus kipunji*,<sup>13</sup> *Cercopithecus sanjei*, *Cercopithecus (mitis) albogularis*, *Colobus angolensis sharpei*, and *Papio cynocephalus cynocephalus*,<sup>10</sup> as well as with red duikers.<sup>9</sup> Lord Derby's anomalure, a flying squirrel, has twice been observed gliding within red colobus groups.<sup>6</sup> **Mating:** Females involved in mating usually have large perineal swellings, and adult males have been observed competing for them. Before mounting, the male may nuzzle the female's perineum and/or briefly handle her swelling and/or clitoris. When copulating, the male places his feet firmly on the substrate, grasps the female's body near her back and hips, and makes up to 10 mounts with thrusting; the final mount terminates with a pause. During copulation, the female often shudders, and no vocalizations are made by either participant. Juveniles sometimes harass copulating pairs.<sup>3</sup> **Vocalizations:** The *chist* call is given to human observers by adults and juveniles. Shriek-*sqwacks* and *quavers* are made by males and seem to get the group moving.<sup>3</sup> Other calls include bark, yelp-bark, yelp, *wheet*, shrill squeal, and sneeze.<sup>10</sup> **Sleeping sites:** Usually tall trees, the leaves of which are eaten by this species.<sup>6</sup> **Scent marking:** None has been observed, although this species has a distinctive odor that is detectable in places where groups have recently been settled.<sup>6</sup> Black urine has twice been observed on leaves, but its function is unknown.<sup>14</sup>

Udzungwa red colobus males remain with their natal group (are philopatric) and are tolerant of other males. Very little aggression is reported in their groups.<sup>9</sup>

**Taxonomy** Disputed. The name *Procolobus* has sometimes been used for the genus, and numbers of species and subspecies within the genus have varied among taxonomists. Grubb (1990) classified *Procolobus gordonorum* as a subspecies of *P. kirki*. Mitochondrial data indicate that the 2 taxa are closely related and diverged from one another only recently, relative to the divergence of other putative red colobus species.<sup>1</sup> The Udzungwa red colobus was elevated from a subspecies by Groves (2001) and accepted by Grubb et al. (2003). Zinner et al. (2013) listed it among the 17 species of *Piliocolobus*, none with subspecies.

**Distinguishing Characteristics** *P. gordonorum* has a dark gray to black face with pale pink around the mouth and nose, pale gray to white cheek tufts, a black browband, and a red-orange cap. The chest and belly are pale gray to white.<sup>2</sup> The back and tail are dark gray to black, with a variable amount of red-brown on the lower back and tail,<sup>15</sup> but generally less red-brown than in *P. kirki*.<sup>9</sup> The ventral sides of the legs and arms are gray to black, and the dorsal sides are pale gray to white. The perineal swelling in estrous females is large and pink (~10 × 10cm [3.9 × 3.9in]).<sup>2</sup>

**Physical Characteristics** **Head and body length:** ♀ 600–660mm (23.6–26.0in).<sup>4</sup> **Tail length:** ♀ 640–685mm (25.2–27.0in).<sup>5</sup> **Weight:** NA.

**Locomotion** Climbing, leaping, quadrupedal, vertical clinging and leaping.<sup>6</sup> Relative to other primates in their range, Udzungwa red colobus monkeys often produce a

Suborder Anthropoidea/Haplorhini

Infraorder Catarrhini

Superfamily Cercopithecoidea

Family Cercopithecidae

Subfamily Colobinae

**Present Threats** The range of *P. gordonorum* is less than 5000 sq km (1931 sq mi).<sup>15</sup> Ineffective management, human population pressure, and habitat loss from annual bushfires<sup>16</sup> are threatening populations in several fragments and isolating others, especially in the Udzungwa Scarp Nature Reserve.<sup>17</sup> However, forests that have been disturbed are being smothered by lianas, slowing forest regeneration.<sup>18</sup> Hunting has extirpated this species from high-elevation forests and is threatening their existence in New Dabaga/Ulangambi Forest Reserve.<sup>19</sup>

## Tanzania

**Habitat** Tropical, tree plantation,<sup>18</sup> broadleaf,<sup>20</sup> cloud forest, swamp,<sup>21</sup> deciduous,<sup>22</sup> edge, flooded,<sup>6</sup> evergreen,<sup>23</sup> gallery,<sup>24</sup> lowland,<sup>14</sup> montane,<sup>11</sup> primary,<sup>25</sup> rain forest,<sup>19</sup> remnant,<sup>26</sup> riverine,<sup>14</sup> secondary,<sup>12</sup> semideciduous.<sup>21</sup> **Elevation:** 250–2200m (820–7218ft).<sup>18</sup>



<sup>1</sup>Ting 2008 <sup>2</sup>Kingdon 1997 <sup>3</sup>Struhsaker et al. 2010  
<sup>4</sup>Groves & Ting 2013 <sup>5</sup>Groves 2007 <sup>6</sup>Marshall n.d.  
<sup>7</sup>Struhsaker 2005 <sup>8</sup>Wasser 1993 <sup>9</sup>Rovero n.d.  
<sup>10</sup>Struhsaker & Leland 1980 <sup>11</sup>Marshall et al. 2005  
<sup>12</sup>Struhsaker et al. 2004 <sup>13</sup>Jones n.d. <sup>14</sup>Decker 1994  
<sup>15</sup>Struhsaker et al. 2008 <sup>16</sup>Marshall et al. n.d. <sup>17</sup>Nielsen  
 2006 <sup>18</sup>Marshall 2007 <sup>19</sup>Topp-Jørgensen et al. 2009  
<sup>20</sup>Rodgers & Homewood 1982 <sup>21</sup>Dinesen et al. 2001  
<sup>22</sup>Ehardt et al. 1999 <sup>23</sup>Rodgers 1981 <sup>24</sup>Norplan n.d.  
<sup>25</sup>Rodgers et al. 1980 <sup>26</sup>Marshall et al. 2001 <sup>27</sup>Rovero et  
 al. 2006 <sup>28</sup>Rovero & Struhsaker 2007



Noel Boone/NATURAL HISTORIC

The *chist* alarm call is made by all red colobus species. (*P. gordonorum*)



Andee/Markah/NATURAL HISTORIC

The density and social group size of *P. gordonorum* decrease as forest is degraded by humans.<sup>28</sup>