



Female Blue-billed Curassow (*Crax alberti*) photo by Proaves-Colombia

Northern South America: Colombia, Venezuela and Trinidad

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The threatened species of cracids listed below are found in northern South America. The sole cracid occurring on Trinidad is the endemic local Piping-guan (*Aburria pipile*). Blue-billed Curassow (*Crax alberti*) and Cauca Guan (*Penelope perspicax*) are also endemic species, restricted to different portions of the Colombian Andes. Both Helmeted Curassow (*Pauxi pauxi*) and Yellow-knobbed Curassow (*Crax daubentoni*) are restricted to Colombia and Venezuela, in montane forest and Llanos habitat, respectively, whereas the Baudó Guan (*Penelope orton*) is restricted to the Andes of Colombia and Ecuador. Species found in three or more countries include the higher dwelling Rufous-headed Chachalaca (*Ortalis erythroptera*) and Wattled Guan (*Aburria aburri*), as well as the lowland dwelling Great Curassow (*Crax rubra*) and Wattled Curassow (*C. globulosa*), with the latter species restricted to Varzea habitat.

<i>Aburria pipile</i>	Trinidad Piping-guan	CR - C2a(ii)
<i>Crax alberti</i>	Blue-billed Curassow	CR - A3b,c,d
<i>Penelope orton</i>	Baudó Guan	EN - A2c,d; A3c,d
<i>Penelope perspicax</i>	Cauca Guan	EN - B2a+b(i,ii,iii,v); C2a(i)
<i>Pauxi pauxi</i>	Helmeted Curassow	EN - C2a(i)
<i>Crax globulosa</i>	Wattled Curassow	EN - A2b,c,d; A3b,c,d; C2a(i)
<i>Ortalis erythroptera</i>	Rufous-headed Chachalaca	VU - A2c,d; A3c,d; B1a+b(i,ii,iii,v); C2a(i)
<i>Crax daubentoni</i>	Yellow-knobbed Curassow	VU - A3a,c,d
<i>Aburria aburri</i>	Wattled Guan	NT - C1; C2b
<i>Crax rubra</i>	Great Curassow	NT - A2c,d; A3c,d

Reserves

Functioning protected areas are mandatory where lacking. For example, the proposed Matural National Park in northeastern Trinidad would provide legal habitat protection in a large portion of the range of *Aburria pipile*, but passing such legislation will require political lobbying; although legislation has been proposed for developing a system of national parks in Trinidad, such legislation has yet to be passed.

Similarly, new reserves need to be established for threatened cracids of the Colombian Andes. For example, approximately 1200 ha of forest in the Departments of Boyaca (Puerto Boyaca) and Santander (Cimitarra) need to be purchased to add to El Paujil Natural Reserve property for *Crax alberti*. Additionally, it is important to create a network of protected areas in the Choco biogeographic region of Colombia for *Penelope orton*i, per the Chocó-Manabí conservation corridor (Critical Ecosystem Partnership Fund 2001). It is also imperative to increase the number of established protected areas where *Penelope perspicax* occurs without any legal protection.

It is important to adequately maintain existing reserves, especially in the Colombian Andes. At El Paujil Natural Reserve, an important stronghold for *Crax alberti*, guide training in the Alicante River canyon must be intensified, and it is essential to develop and maintain a nursery for reforestation of deforested patches. Additionally, conservation workshops need to be created on nursery development and management, as well as management of silvo-pastoral systems in tropical zones. Similarly, the Farallones de Cali National Natural Park and Ensenada de Utria National Natural Park need to be well managed, as these two reserves are among the last strongholds for *Penelope orton*i. Habitat management is also needed for sites where *P. perspicax* occurs, identifying needs and opportunities to establish or increase connectivity among populations and restoring degraded habitats where guans still occur.

Establishment of new reserves and maintenance of existing reserves is also important for species that are wider-ranging yet patchy in their geographic distribution, such as *Aburria aburri* and *Crax rubra*. Additionally, conservation should be encouraged in rural landscapes for species such as *Penelope perspicax*; restoring degraded habitats where guans still occur and promoting low-impact use are important aspects of managing rural landscapes for increased connectivity. It also is important to develop education plans with landowners and local communities in areas where the guans occur during this process, and also using the presence of the guan as criteria to provide incentives for conservation on private lands.

Research

Status and population assessments are needed for various species. In Trinidad the status of *Aburria pipile* needs to be determined in remote areas of its range. In Colombia the northern region of Farallones de Cali National Natural Park, the Ensenada de Utria National Natural Park, and the Pangan Private Reserve need population assessments for *Penelope orton*i. Similarly, it is important to assess density, (minimal) population size, and distribution for species such as *Penelope perspicax*, *Pauxi pauxi* (especially in Sierra de Perijá, Colombia and Zulia state, Venezuela), *Crax daubentoni* (especially in Colombia) and *A. aburri* (especially in protected areas). Evaluating presence and conservation status in areas where indigenous communities indicate species occur is also important, especially for *Crax globulosa*.

More intensive population biology research is needed for many species of cracids. Mark-release and radio-tracking studies are needed for species such as *Aburria pipile* to better understand

reproductive biology, life history parameters, actual population size and metapopulation dynamics. Genetic population structure and gene flow should be investigated for species such as *Penelope perspicax*. A long-term demographic study of a protected population of *Crax daubentoni* at Hato Piñero, Venezuela is needed so that fecundity, mortality and dispersal data can be collected for population viability analysis; this will be imperative to plan a network of private and government protected or controlled-hunting areas (Ríos 1997). Habitat use and requirements, population dynamics, seasonal movements and the impact of fragmentation on populations need to be assessed for *A. aburri*.

Basic autecological research is needed for species such as *Pauxi pauxi*. Additionally, ethno-zoological studies are needed to assess the effect of hunting pressure for species such as *Penelope perspicax*, *Pauxi pauxi* and *Crax globulosa*, as well as amount of extraction and use at scales of local community versus rural markets.

Studies of habitat and reserve feasibility are also needed. It is also important to conduct satellite photo analysis of forest cover changes to identify suitably large and connected habitat patches that may be protected for species such as *Crax daubentoni*. The influence of exotic or introduced species as predators or possible resource competitors for species such as *Penelope perspicax* needs to be assessed as well. The relationship between *Pauxi pauxi* and Venezuela's protected areas system needs to be assessed to evaluate the effectiveness of habitat protection, and recommend actions for habitat management. Similarly, the effectiveness of protected areas needs to be evaluated for species such as *Aburria aburri*.

Legal Protection

Hunting bans need to be reinforced throughout the year, or during the breeding season. For example, *Aburria pipile* has been officially protected since 1958 by the Conservation of Wildlife Act of Trinidad, which has been poorly enforced. Because hunting has been the primary cause of this species decline, more effective enforcement of hunting laws are needed, which requires political lobbying, capacity building and training.

It is also important to increase participation by landowners, environmental and road police and military, and wildlife inter-institutional committees to enforce controlling and vigilance of illegal wildlife trafficking. It is imperative to develop informative and sensitization campaigns for hunters, using current cracid status and hunting laws. For example, local authorities proposed and approved a hunting prohibition for *Crax alberti* within local zones of its protected range, whereas subsistence hunting is permitted for *Crax rubra* in Colombia.

Education and Outreach

It is important to support and initiate sustainable development programs (e.g., ecotourism) for communities, as well as initiating hunter education programs (Silva 1997) to reduce use of cracids for protein. Continued public education campaigns are needed to improve public attitudes toward the environment in general and cracids in particular, especially in Trinidad, where there is apparently still some poaching of the Critically Endangered *Aburria pipile*.

Local interest in conserving cracids can be developed by designing and distributing materials (e.g., posters, vests, caps, etc.) to community inhabitants (e.g., land owners and rural schools) by creating ecological groups or environmental clubs, creating wall murals with school children that feature cracid conservation themes, and establishing 'guard badges' for people inhabiting rural communities. Additionally, developing and promoting environmental education events are

essential, such as a National Curassow (or Cracid) Day, local World Birding Festivals, bird banding courses, and environmental education workshops with round-table discussions.

Captive Breeding

A captive breeding program for *Aburria pipile* should be planned and implemented as soon as possible. A captive bird is kept at the Emperor Valley Zoo, which is probably too small, crowded, and noisy to be an effective site for captive breeding. The Point-a-Pierre Wildfowl Trust may be the best facility for a captive breeding project.

Similarly, it is important to design and implement a serious *in-situ* captive breeding program for *Pauxi pauxi* as a ‘backup alternative’ for population preservation.

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