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### **Fotografía portada / Cover photograph**

The first ever published photograph in life of Santa Marta Wren *Troglodytes monticola*, an Endangered and Colombian endemic species restricted to a highly degraded timberline ecotone in the Sierra Nevada de Santa Marta. By Juan Carlos Luna. All rights reserved © Fundacion ProAves.

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# A new group name for the Chachalacas (Aves: Cracidae: *Ortalis*)

*Un nuevo nombre para el grupo de las chachalacas (Aves: Cracidae: Ortalis)*

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## Abstract

A new group name is described for the Chachalacas *Ortalis*. Various recent studies have discussed whether the Chachalacas are more closely related to the Curassows Cracini or the Guans Penelopini (where traditionally treated) and whether it is better to “shoe-horn” the Chachalacas into one of these two groups. Levels of molecular divergence between the Penelopini, Cracini, Horned Guan *Oreophasis* (Oreophasini) and *Ortalis* are broadly equivalent; and morphological differences between the Chachalacas and Cracini/*Oreophasis* (the only relationships not strongly rejected by molecular studies) are substantial. It is proposed that the Chachalacas be assigned to a new monogeneric tribe.

## Resumen

Se describe un nuevo nombre para agrupar las chachalacas *Ortalis*. Recientes estudios han discutido si las chachalacas están más relacionadas a los Paujiles Cracini o a las Pavas Penelopini (como tradicionalmente se conoce) y si es mejor tratarlos dentro de uno de estos dos grupos. Niveles de divergencia molecular entre los Penelopini, Cracini, la Pava cornuda *Oreophasis* (Oreophasini) y *Ortalis* son en general equivalentes; y las diferencias morfológicas entre las Chachalacas y Cracini/*Oreophasis* (la única relación no rechazada por estudios moleculares) es substancial. Se propone que las Chachalacas sean asignadas a una nueva tribu monogénica.

## Introduction

The Cracidae are a family of large terrestrial birds found in South and Central America and the southern United States. As discussed in Olsson (1995), the name Cracidae has been attributed in recent times either to the authors Rafinesque (e.g. Bock 1994) or Vigors (e.g. Brodkorb 1964). There are various groups within this family referred to by their vernacular names as Guans, Curassows and Chachalacas. Bonaparte (1831) made available the name Penelopidae for the Guans, which Huxley (1868) recognised as a Cracidae subfamily (with Penelopinae for the Guans and Chachalacas; Cracinae for the Curassows). Sclater & Salvin (1870) described a further sub-family name for the monospecific genus *Oreophasis* (Oreophasinae: Horned Guan), which Huxley (1868) had treated as part of the Penelopinae. The matter of higher-level relations in extant Cracidae went without much further change or comment until Verheyen (1956) reduced the previous subfamilies to tribe status and further recognised a new tribe Pipilini from within what used

to be the Penelopini, whose type genus is that for the Piping-Guans *Pipile*. This latter treatment has not been widely followed. Vaurie (1968) recognised three major divisions within the family based on morphological data: the Guans and Chachalacas (Penelopini: *Chamaepetes*, *Penelopina*, *Penelope*, *Pipile*, *Aburria* and *Ortalis*), the Curassows (Cracini: *Pauxi*, *Mitu*, *Nothocrax* and *Crax*) and the Horned Guan (Oreophasini: *Oreophasis*). Delacour & Amadon (1973) re-lumped Oreophasini into Penelopini. Del Hoyo (1994) and del Hoyo & Motis (2004) ranked Delacour & Amadon (1973)'s tribes as subfamilies.

A further subfamily Gallinuloidinae Lucas was described for the fossil genera *Gallinuloides* and *Procrax* (discussed in Tordoff & MacDonald 1957) and this name has been considered applicable to some other fossil genera (Brodkorb 1964). However, some of these genera have recently been considered to be more primitive Galliformes (Dyke 2003, van Tuinen & Dyke 2004, Mayr & Weidig 2004). A further higher-level name Filholornithinae Brodkorb is also available, with an extinct type genus *Filholornis*. No higher-level name is apparently available for the Chachalacas *Ortalis* (e.g. Brodkorb 1964, Bock 1994).

Several recent molecular studies (Pereira *et al.* 2002, 2009; Pereira & Baker 2004; Crowe *et al.* 2006; Frank-Hoeflich *et al.* 2007; Eo *et al.* 2009) have proposed phylogenies for the Cracidae. Strong statistical support has been elucidated for two separate clades formed by each of the curassows and guans. However, the position of the Chachalacas *Ortalis* and Horned Guan *Oreophasis* in one or the other group remains controversial. All molecular studies and one supertree study hold these genera to be more closely related to the Curassows than the Guans (Pereira *et al.* 2002, 2009, Pereira & Baker 2004, Crowe *et al.* 2006, Frank-Hoeflich *et al.* 2007, Kimball *et al.* 2011) with strong support in some instances for rejecting a Guan-Chachalaca relationship (Pereira *et al.* 2002, 2009). However, molecular analyses have variously held *Oreophasis* and *Ortalis* to be sisters to one another or either of them to be basal to a group formed by the Curassows plus the other of these two groups. All past morphological studies (e.g. Delacour & Amadon 1973) and a recent phylogeny including molecular, morphological and behavioural data (Frank-Hoeflich *et al.* 2007) found the Chachalacas to be more closely related to the Guans than the Curassows, a conclusion which contradicts molecular studies. A more recent super-tree study by Eo *et al.* (2009) was unable to resolve the conflict although indicated that

both *Ortalis* and *Oreophasis* have closer affinities to the Cracinae. They also found a divergent *Ortalis vetula* sample, suggesting that Cracidae may not be monophyletic. This latter conclusion requires corroboration with further molecular samples, given that *vetula* is a fairly typical Chachalaca in its morphology and voice and that other studies have found *Ortalis* to constitute a cohesive monophyletic group with good statistical support.

Pereira *et al.* (2002), using 'molecular clock' techniques, hypothesised the following periods (95% confidence interval) for major divisions in the Cracidae: 'core' Guans vs. other Cracids - 26.9-40.6 million years ago (Early Oligocene); *Oreophasis* from the remainder: 26.6-36.1 mya (Early Oligocene); and *Ortalis* from Curassows: 25.8-36.5 mya (Early Oligocene). Other generic-level divergences in the Cracids are postulated to have occurred in the Miocene or later. However, despite the Cracidae having a long fossil record in North America, there are no tertiary fossils known from South America. Cracids do not easily cross large water barriers, so this could suggest instead that the South American radiation in Cracidae postdated the closure of the Panamanian land bridge, which has been postulated to have occurred at the end of the Pliocene. Although more research is required into when major divisions in the Cracidae may have occurred, it is clear from various molecular studies that Chachalacas are broadly as distantly related from other Cracid subfamilies or tribes as the other groups which have historically been recognised above generic level. Pereira *et al.* (2002) also concluded that *Ortalis* and *Oreophasis* may merit their own higher-level taxonomic rank within Cracidae.

All five recent phylogenetic studies use the names for del Hoyo (2004)'s subfamilies. Pereira *et al.* (2002, 2009), Crowe *et al.* (2006), Eo *et al.* (2009) and Kimball *et al.* (2011) each found *Ortalis* and *Oreophasis* to be more closely related to the Cracinae; whilst Frank-Hoeflich *et al.* (2007) placed *Ortalis* in the Penelopinae. However, seeking to shoe-horn *Ortalis* (and/or *Oreophasis*) into one of Delacour & Amadon's (1973) or del Hoyo's (2004) subfamilies or tribes is rejected by molecular data in the case of a Guan-Chachalaca group; or involves creating a heterogeneous group without strong defining morphological characters in the event of a Curassow-Chachalaca group. Given morphological and molecular differences, it is here proposed that a new tribe name be made available for the Chachalacas, allowing adoption of a 'third way' of treating *Ortalis* (and *Oreophasis*) as separate tribes or subfamilies. Such a treatment which is already adopted in some online resources (although without a higher-level name for the *Ortalis*) following a proposal by the author to Remsen *et al.* (2012) on linear orders and higher-level taxonomy of cracids. Making a name available would allow those who wish to use higher-level divisions within Cracids to make determinations based on levels of divergence rather than historical optionality.

The names Ortalides (Fallén 1810), Ortalidae (Swainson 1840) and Ortalididae (Harris 1841) have each been used in the past as family-group names for a family of Diptera that includes *Ortalis* Fallén, 1810, with various alternatives for, or mis-spellings of, those names having also been used in the entomological literature (Sabrosky 1999). The name Ortaliinae (Mulsant 1850) is used for Coleoptera (Coccinellidae) related to the genus *Ortalia* Mulsant, 1850.

In the light of prior usage of certain more obvious *Ortalis*-derivatives for other higher-level animal taxa and usage of the word and stem *Ortalida* for *Ortalis* (discussed further below), I propose the following family-group name for the Chachalacas:

### **Ortalidaini n. tribe**

#### **Diagnosis**

The Ortalidaini differ from the Curassows (Cracini) and Horned Guan (Oreophasini) in having extensive bare skin in the throat; no knob or other ornaments on the head; less robust and less hooked bills; lighter mass and smaller size; a lack of elaborate ground display courtships in which males feed females; and in having plumage which is generally dull brownish, reddish, dark green or grey, sometimes with light streaking on feathers, without strong black and white or rufous pigmentation; and in voice. Ortalidaini differ from the Guans (Penelopini) in showing no elaborate flight display courtship or modified primaries; in having coloured and extensive bare skin in the throat; and in voice. The Ortalidaini differ ecologically from all other Cracids (and particularly the Cracini) in being able to withstand significant human habitat modification and thriving in secondary forest and scrub. The song of the Ortalidaini is unique among Cracids, consisting of a gruff, unmusical repeated call, transcribed as "Guacharaca" or "Chachalaca" for various species, with different rhythms and frequencies of gruff notes occurring in different species' songs (Donegan *et al.* 2010). Skeletal characters are not considered here but would be expected to yield further diagnostic characters.

#### **Type genus**

*Ortalis* (or *Ortalida*) Merrem, 1786, by present designation.

#### **Etymology**

*Ortalis* in the sense of the name used for Cracids, is a Greek word, feminine gender, and means 'a young bird, fowl'. The stem for this name would ordinarily be *Ortalid-*, meaning that Ortalidinae or Ortalidini are available as tribal names (S. Gregory *in litt.* 2012). To avoid homonymy with names used in Diptera (even if perhaps incorrectly, due to the homonymy of their type genus) the Code allows 'avoidance of homonymy' in Art. 29.6 (see also Art. 29.3.3). The Example in the Code in this section would suggest that using *Ortalida-* as the stem is an available and appropriate approach, resulting in Ortalidaini being both an acceptable

tribal name and one which is not (to the knowledge of the author) preoccupied.

The correct author, date and spelling of the genus *Ortalis* are however controversial. The name *Ortalida* was used by Merrem (1786) in the original description. To explain its subsequent replacement in the ornithological literature by the name *Ortalis*, *Ortalida* has been considered the former's accusative case (e.g. AOU 1998). However, *Ortalida* could alternatively be a nominative first declension singular Latin noun (in the *puella* (f) group). As the point is not strictly relevant to the description of a new family-group taxon herein, I follow AOU (1998) and other recent authors in attributing the name *Ortalis* to Merrem (1786) rather than to any subsequent author or reverting to *Ortalida* and treat *Ortalis* as the valid generic name for these birds.

### Sequence and rank

The following sequence for extant taxa is proposed:

Penelopini or Penelopinae

*Chamaepetes*

*Penelopina*

*Penelope*

*Pipile*

*Aburria*

Oreophasini or Oreophasinae

*Oreophasis*

Ortalidaini or Ortalidainae

*Ortalis*

Cracini or Cracinae

*Nothocrax*

*Crax*

*Mitu*

*Pauxi*

Although most authors to have considered the issue have recognised subfamilies, Remsen et al. (2012) rejected such an approach. Given uncertainties over divergence times, recognition of tribes would be a conservative and defensible present treatment. All of the tribal groups mentioned above presumably diverged within a relatively short period and, based on molecular differentiation, appear likely to be roughly equivalent in age. The precise sequence of divergence between tribes remains a matter of controversy based on present data (and may never be exactly known). Recognition at tribal level of Oreophasini would also be consistent with these treatments, since there would no longer be any need to shoe-horn it into the Cracini in light of this description.

There is currently no consensus among ornithologists on the level of molecular divergence which should be required to recognise higher-level taxa within Aves. Under the above sequence, tribal or subfamily divisions within Cracidae approximate closely to genera, more so than before. Moreover, some Cracidae genera (e.g. *Aburria/Pipile*,

*Mitu/Pauxi*) are now considered paraphyletic and some of them have been proposed as candidates for lumping in the molecular and morphological phylogenetic studies cited above. The proposition that only the family Cracidae should be recognised (without further sub-divisions above genus level) also requires re-evaluation. However, even if genera and higher-level limits seem to be coming ever closer together, Cracids are comprised of four quite distinct groups (morphologically, vocally and ecologically), reflected historically in different vernacular names for all of them except *Oreophasis*.

Two or more sub-families could alternatively be recognised, with tribes within such sub-families. No view is expressed here on whether Ortalidaini and Oreophasini should be elevated to sub-family rank or treated as tribes within Cracinae or Penelopinae. The making available of a needed tribal or subfamily level name does not necessarily constitute a recommendation of the author that it or other tribal names should be used at all within the family, given that any such determination is a matter of taste and depends on a particular author's approach to higher-level taxonomy generally.

### Postscript

It has become evident from review of manuscripts which led to this paper that some ornithologists consider that descriptions of higher-level names and related studies constitute an unmeritorious and derivative checklist-housekeeping exercise. Separately, we have seen "cybertaxonomists" describe many genera based on molecular studies, named for their employer and sometimes including erroneous treatments, a practice criticised as self-indulgent (e.g. O'Hara 2011). As molecular phylogenies constantly shed more and more light on higher-level relationships of organisms, higher-level nomenclatural studies should be considered of value (cf. Cibois *et al.* 2010). This paper is solely intended as a contribution to ornithological nomenclature and communication, to provide new perspectives on higher-level relationships in the Cracids and to assist in communication through usage of a properly described name that is not preoccupied.

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