

Phegornis Mitchellii

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BES 485

Description

The Diademed Sandpiper-plover (*Phegornis mitchellii*), which is also locally known as “Chorlito”, is an endemic species that is mostly found in Andean wetlands of Argentina, Bolivia, and Chile (Johnson, et al 2011). In Argentina, mostly plovers are found in provinces Jujuy, Salta, Patagonia, Chubut and Neuquen (Ferrer D et.al 2013). It is a small shorebird approximately 19 cm on average (Azocar 2009). Their wings are short and broad. The *P.mitchellii* has the most distinctive bill shape and plumage pattern that make them separable from any other types of sandpipers. Their bills are long, slender and little bit swollen at the tip (Zusi R.L, et al 1970). This feature is helpful for feeding when there is low prey supply in the habitat (Pierce 1990). Across the plover's forehead, appears a white superciliary lines that again are another distinctive feature of plover for this species. The plumage color pattern of the chorlito are grey throughout the head and back, another color is dove gray on the throat, breast, and ventral surface (Zusi R.L, et al 1970).

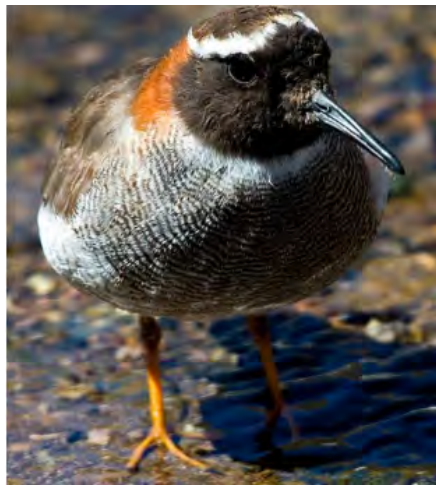
The description above is on *P.mitchellii*'s adulthood phase. Overall, males and females are similar in appearance. During chick (Figure 1a) and juvenile phase (Figure 1b), plovers look completely different. The chicks have longer legs relative to their body, so that they can look for foods on the wetlands. Also, a chick's beak is long and slightly curved (Azocar 2009). In the juvenile phase, the neck is brown and slightly curved.



Figure 1a)Plover's chick(IUCN 2009)



b) Plover Juvenile(Acozar 2009)



c)Plover adult(Acozar 2009)



Figure 2. The diademed sandpiper plover geographical habitat(BirdLife 2014)

Additionally, *P.mitchellii*'s song is clear, short and is a repetitive shrill whistle (Ferrer et al 2013).

Range and Habitat

P. mitchellii mainly inhabit wetland habitats that are close to alpinos, riverine brackish springs, and sedge ferns wetland habitats, called vegas located in the elevation range between 2400-3800m (Johnson, et.al 2011). The wetland characteristic has water, and saturated soils, so that wetlands have better pastures qualities for feeding livestock that live surrounding the alpine. The better pastures qualities also are supported by an Andes habitat temperature that has sharp temperature fluctuations. The nest site of a plover bird is located at alluviums(). Following is a picture of habitat of Chorlito

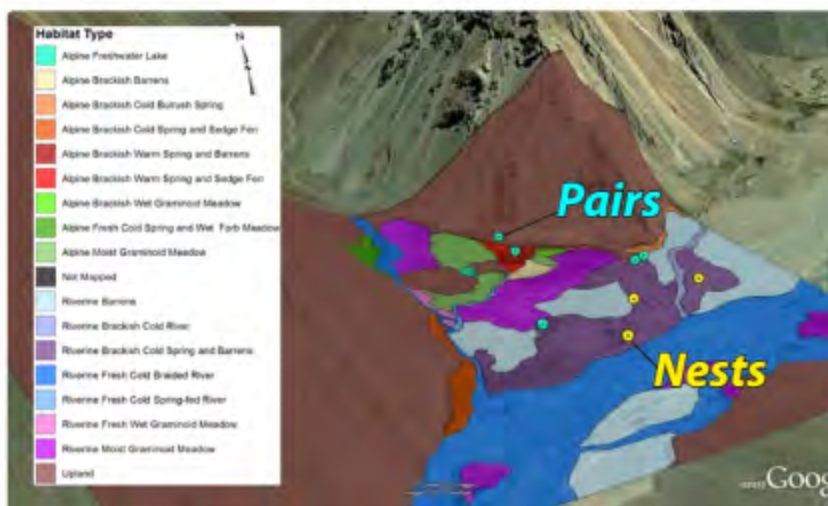


Figure 3. Wetland classification of lower Yeso valley draped in Google Earth, including PHMI Observations.

Figure 2. Mapping the

habitat for *P.mitchellii*(Johnson, et al 2011).

An example of focused habitat study for *P. mitchellii* is Aconcagua Provincial Park, Mendoza Province, Argentina by Diego Ferrer et al .The study was conducted during summer in order to monitor living environments in 2005. The size of conservation area is

about 71,000 hectares embedded in Prepuna, puna and Altos Andes. This park was built as a conservation site in 1983. The park vegetation is mostly dominated by open grassland that filled with perennial grasses, and its watershed consists of chlorophyceae and cyanobacteria ecosystem. The bird monitoring of *P. mitchellii* was held by Neotropical Waterbird Census(CNAA). Generally, the timeline habitat development is following: the *P. mitchellii* mostly lived in Argentina in October-November. They then start building nests in December and January, and March is another time to migrate to another region(Ferrer et al 2013).

The most reported migration pattern of *P.mitchellii* is the winter migration. There are a variety of opinions of a *P.mitchellii*'s migration. Generally, the Diademed sandpiper-plover is non-migratory. During winter, plover birds will fly 2000m to South Argentina. According to Johnson's study in Valle del Río Yeso Chile, during the winter, the *P.mitchellii* will stay at higher elevations where thermal springs are located that will provide birds food for foraging (Johnson, et al 2011).

Ecology and Behavior

The main diets of *P.mitchellii* are amphipods and copepods (Johnson, et all 2011). Mostly Plover are found foraging in distichia bogs located in puna zone (BirdLife,2014). Raymond Pierce on his report "Observations on the Diademed Sandpiper-Plover *P.mitchellii* in Peru" revealed that plovers prefer to look for foods in shallow water covered by most of aquatic plants (Pierce 1990). Plovers eat the foods by probing their bills inside the bog. Then, based on study by Diego G.Ferrer, et al, the feeding strategies of *P. mitchellii* are visual feeders (pecking the preys directly from the surface of substrate) and

limnicolas hunters touch (able to peck their prey while walking at the same time) (Ferrer, et al 2013).

Based on a report from Johnson, the general ecology information of The Diademed Sandpiper-plover has not been discovered. However, the expedition team found out and observed the breeding ecology aspect. *P.mitchellii* is considered as monogamous, with includes chicks being taken care of equally by both parents. The females lay two eggs during each breeding season (Johnson, et al 2011).

The threats of species existence and species population status

P.mitchellii is really dependent in wetlands. Thus climate change will potentially dry up the habitat (Johnson, et al 2011). However, human causes also contribute. For example, off-road activities, overgrazing, and hydroelectric projects (Johnson, et al 2011). Based on a report by Fernando Diaz Segovia, human causes that are mentioned above are more detrimental for destroying habitat and nesting sites because of pollution that is generated to waters and soils, as well as noise. Additionally, the cause of *P. mitchellii* decreasing in Aconcagua Provincial Park is unquoted tourists numbers and disturbance by wild dogs that hunt chicks and destroy nests (Ferrer, et al 2013). Based on IUCN status, the *P.mitchellii* is “near threatened” status as the number of population is small (1500-7000 individuals) (Johnson, et al 2011) (BirdLife,2014). However, countries where plovers are mostly found have also determined the status. For example, the report from Argentina’s Department of Environment and Sustainable development considered *P.mitchellii* as “threatened, ” and Chile reported them as “rare”. These status varieties are due to inaccessible habitat to count real number of plovers’ population (Ferrer, et al 2013).

Development in conservation of the species

P. Mitchellii is considered as species that highly sensitive to environment modification. One of the conservation project of *P. mitchellii* was supported by a nonprofit organization named Manomet with financial grants from the Rufford foundation of about \$10,000. The Manomet program for conserving *P. mitchellii* is called Manomet's Shorebird Recovery Project. The conservation studies were conducted in 2010-2013 during the nesting season, and it took place in Valle del Río Yeso Chile. Fernando Diaz Segovia, the *P. mitchellii* researcher wrote a brief founding on the research, the results are following:

a) the researchers banding the adult plover in order for resighting, found that there are 21 adults and 1 juvenile that survived in the Valle del Rio Yeso throughout the years of observations.

b) The dominant threat in Yeso Valley is livestock trampling which about 29%-30%.

Fernando Diaz and his team also would like to further studies of the *P. mitchelliis* in order to figure out conservation actions. The team's plan to work on the following: capture visual data of adults migration during winter, determine population trend from surveying and monitoring the Yeso Valley, completing genetics analyses and species conservation plan, conducting survey to "determine the species' distribution and population, estimate adult survival (Segovia 2014).

Furthermore, the Aconcagua Provincial Park Management implemented Porello Project as conservation project for *P. mitchellii*. The effort is more preventive rather than concentrated on conservation research species. The projects are consists of managing foods for livestock by bundling grazes and reconstructing pens for mules in order to

prevent overgrazing, and expand networks with other local natural resources managements for promoting conservation objectives and deciding the priority of conservation plans. Additionally, the park management needs to raise awareness of *P.mitchellii* conservation to the public by establishing an education center in the camp house and also proposing on quota on tourists(Ferrer, et al 2013).

In conclusion, searching information resources about *P. mitchellii* from internet database was limited. I found a thorough morphology differences of *P. mitchelli*, *Aechmorhunchus*, and *Prosobonial* from Zusi's article. However, that article gave more in-depth explanation of morphological differences on hummers, skull structures among those three species, which is irrelevant for description information. Yet, I have successfully contacted a researcher who had done an actual field work of *P. mitchellii*, Fernando Diaz Segovia through email. He was the researcher who sent me Azocar's article that explains the differences of physical appearances between chick and juvenile *P. mitchellii*. Overall, there has not been any specific general ecology information about *P. mitchelii*.

Citations

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