

Bamboos of Kosñipata

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Photos: Belen Fadrique [bjfadrique@gmail.com]. Produced by the authors with support from Programa Bosques Andinos, NSF and University of Miami, with the assistance of Alicia Diaz and Valéria Sampaio, Field Museum. Part of the doctoral thesis of BF at the University of Miami. Legend: CF = Cloud Forest. The species in this work are distributed along elevational gradients (Puna ~3600m a.s.l.; Treeline ~3400m a.s.l.; Upper CF ~2200-3400m a.s.l.; Lower CF ~1200-2200m a.s.l.; Premontane ~500-1200m a.s.l.).

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The Kosñipata Valley in Manu National Park extends from the premontane forests, adjacent to Amazonia, to the high elevation mountain tops such as Apu Kañachuay (~4200m a.s.l.). This incredible diversity of habitats harbors numerous bamboo species. Up to now, we have identified nine bamboo species and there are at least 15 other morphospecies that are unassigned. The bamboo species found in the valley generally have monocarpic flowering with lifecycles that can extend up to thirty years, however the lifecycle length of many species is still unknown. Given the general scarcity of flowers, bamboo identification is regularly made using vegetative characters. For this purpose, it is important to note the characteristics of bamboo culms and nodes, their culm leaves, branching pattern and branch leaves. See Fadrique et al. (2020) for a detailed description of bamboo morphology and specimen collection.

Puna ~3600m a.s.l. (Photos 1-5)



1 *Chusquea intipaqariy*
Habit



2 *Chusquea intipaqariy*
Flowers



3 *Chusquea intipaqariy*
Branch leaf



4 *Chusquea spicata*
Habit



5 *Chusquea spicata*
Flowering heads

Treeline ~3400m a.s.l. (Photos 6-15)



6 *Chusquea scandens*
Branching



7 *Chusquea scandens*
Flowering heads



8 *Chusquea scandens*
Branch leaves



9 *Chusquea* sp.B
Branching



10 *Chusquea* sp.B
Branch leaves

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11 *Chusquea* sp.H
Habit



12 *Chusquea* sp.H
Branching



13 *Chusquea* sp.I
Branching



14 *Chusquea* sp.I
Culm leaves



15 *Chusquea* sp.I
Flowering heads

Upper CF ~2200-3400m a.s.l. (Photos 16-30)



16 *Aulonemia* sp.A
Leaves



17 *Aulonemia* sp.A
Flowers



18 *Aulonemia* sp.C
Culm leaves



19 *Aulonemia* sp.C
Branch leaves



20 *Chusquea dombeyana*
Branching



21 *Chusquea dombeyana*
Flowers



22 *Chusquea dombeyana*
Branch leaves



23 *Chusquea gamarrae*
Branching



24 *Chusquea gamarrae*
Flowers



25 *Chusquea gamarrae*
Branch leaves

Kosñipata Valley, Manú National Park, Cusco, PERU

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26 *Chusquea* sp.A
Branching



27 *Chusquea* sp.A
Branch leaves



28 *Chusquea* sp.A
Habit



29 *Chusquea* sp.J
Habit



30 *Chusquea* sp.J
Branch leaves

Upper CF ~2200-3400m a.s.l. (Photos 32-35)



31 *Aulonemia* sp.B
Branching



32 *Aulonemia* sp.B
Branch leaves



33 *Chusquea aspera*
Branching



34 *Chusquea aspera*
Culm leaves



35 *Chusquea aspera*
Habit

Lower CF ~1200-2200m a.s.l. (Photos 36-45)



36 *Chusquea delicatula*
Branch leaves



37 *Chusquea* sp.C
Culm leaves



38 *Chusquea* sp.C
Branch leaves



39 *Chusquea* sp.D
Branch leaves



40 *Chusquea* sp.E
Branch leaves

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41 *Chusquea* sp.K
Branching



42 *Chusquea* sp.K
Branch leaves



43 *Chusquea* sp.L
Habit



44 *Chusquea* sp.L
Buds



45 *Olyra standleyi*
Leaves

Premontane ~500-1200m a.s.l. (Photos 46-51)



46 *Guadua* sp.A
Branching



47 *Guadua* sp.A
Branch leaves



48 *Guadua* sp.B
Branching



49 *Guadua* sp.B
Culm leaves



50 *Guadua* sp.B
Branch leaves



51 *Taquara micrantha*
Flowering head and leaves

Reference

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