

Giving Up the Heavens

Ten Flightless Birds

Stephen Kacir

Ostrich (*Struthio camelus*)

- Early Ratite Branch
 - Defense: Speed (46mph) & Kick
- Largest Extant Species: 8.9ft (2.7m) & 200-285lbs to 340lbs



Flightless Cormorant

(Phalacrocorax harrisi)

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- Galapagos Islands
- Rich food sources
- Absence of Predators
- Population 1,500
(2004)
- 35-40 inches
- 5.5-11 pounds

“Salas’s Penguin” (*Icadyptes salasi*)

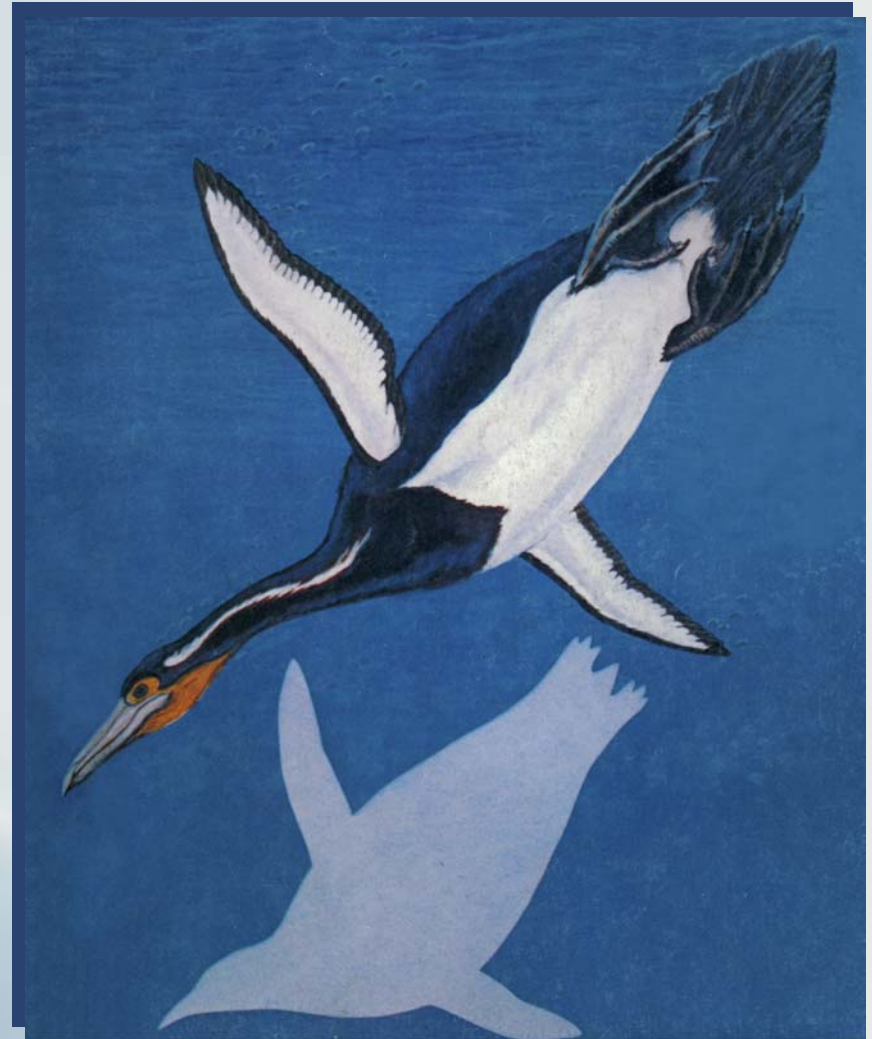


- Atacama Desert in Peru
- 36 MYA, Late Eocene
- 5 Feet Tall
- Spear-fishing
- Subtropical



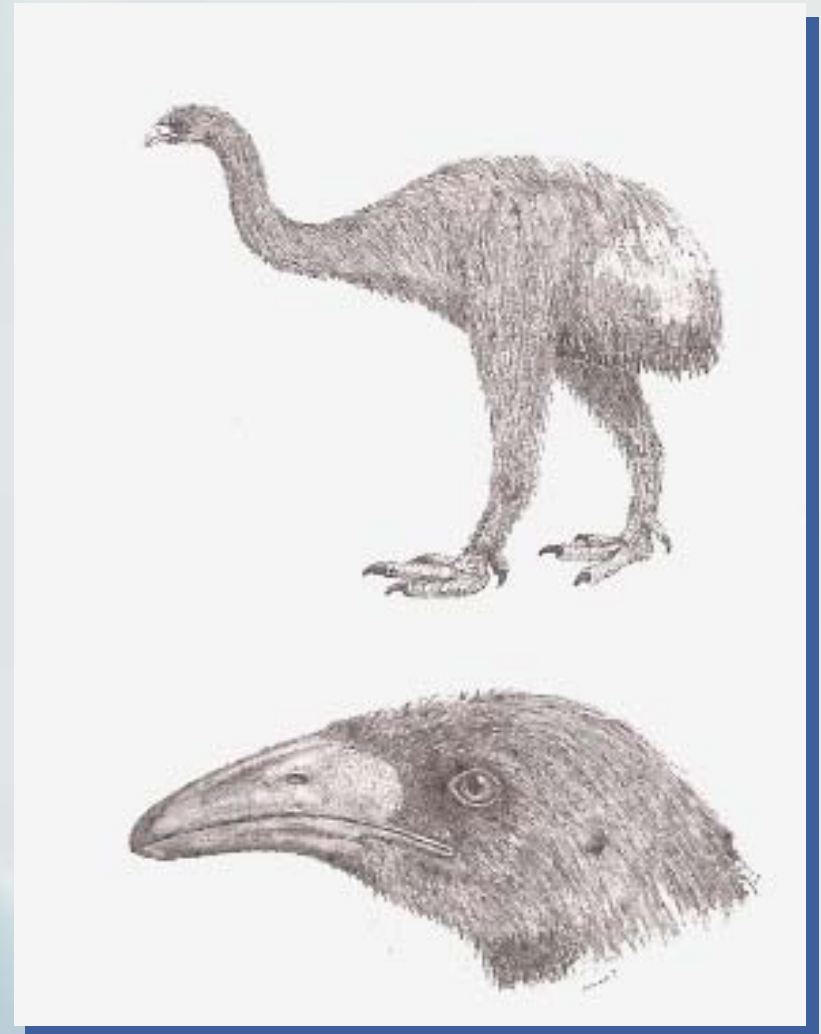
Plotopterid (*Copepteryx hexeris*)

- Mid-Tertiary
(55-5MYA)
- Japan
- 5.9 Feet Long
- *C. titan* -- Largest
- Pelicaniformes or
sister group to
Penguins
- Competition from
Miocene Seals



Upland Moa (*Megalapteryx didinus*)

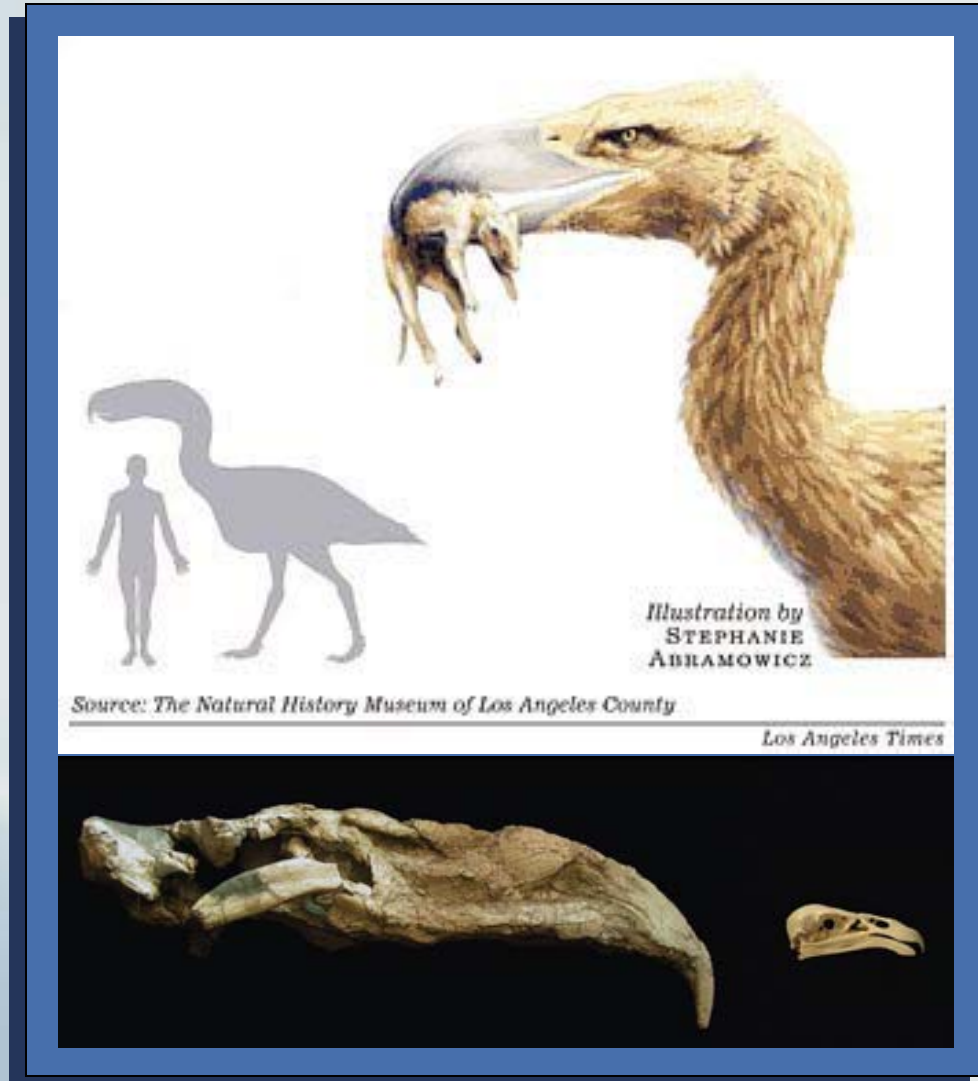
- High Elevation
(1700-3000 feet)
- Subalpine Grasslands
- Altitudinal Migrant
- South Island, NZ
- 4.3 Feet, 55 Pounds
- Slender and Agile
- Vocal
- The Last Moa (~1850)
- Haast's Eagle & Kea



Phorusrhacids: Terror Birds

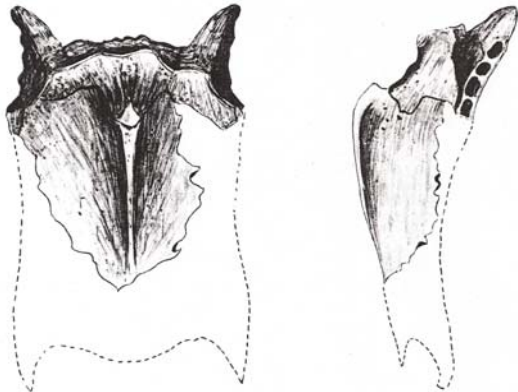
(Kelenken guillermoi)

- Fearsome Spirit of the Tehuelche Tribe of Patagonia
- Largest Bird Skull:
2.3 feet long
- 10 Feet, 400 Pounds
- Gruiformes, Closest relative is Seriemas
- Convergent on Theropods
- Weapons: Feet, Kick Clawed Wings, Beak



Cuban Giant Cursorial Owl (*Ornimegalonyx oteroi*)

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- Largest Owl
- Extremely Reduced Keel
- Reduced Wings
- 3.3 Feet Tall, 20 Pounds
- Related to *Strix*
- Similar to Burrowing Owl
- Ran down Prey
- Misidentified as Phorusrhacid

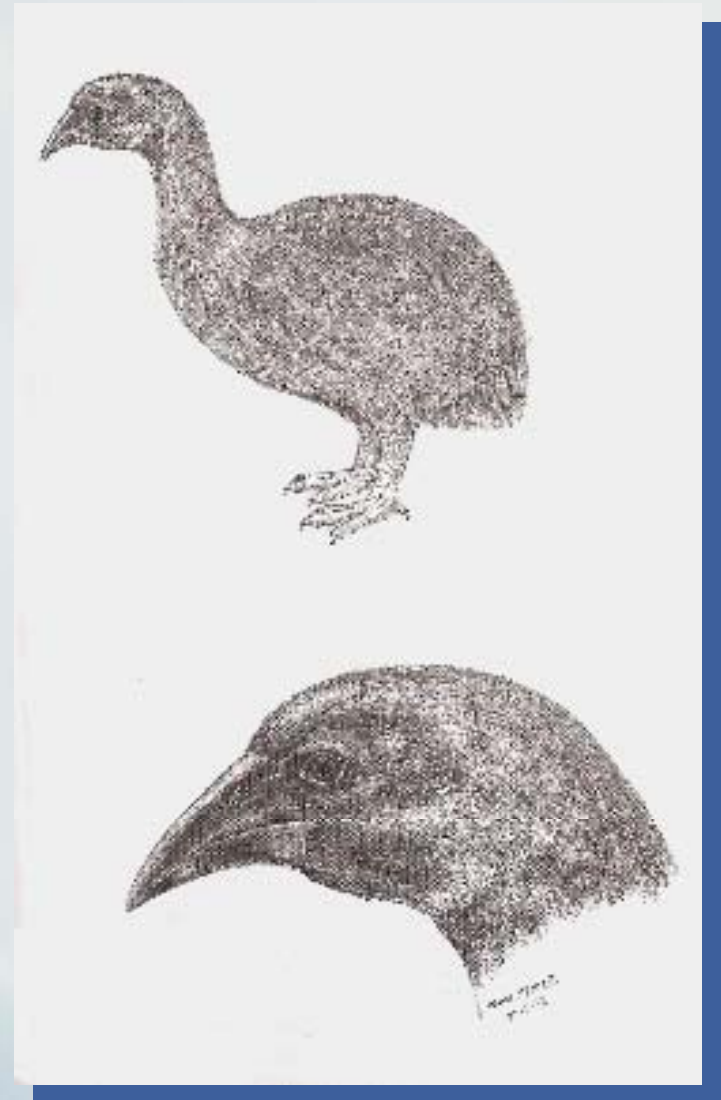
Kakapo (*Strigops habroptilus*)

- Nocturnal Parrot
- Parachuting
- 4.5-9 Pounds
- Herbivore
- Polygynous Lek
- Pleasant Smelling
- Mammal Predators
- Mast Years & Reproduction



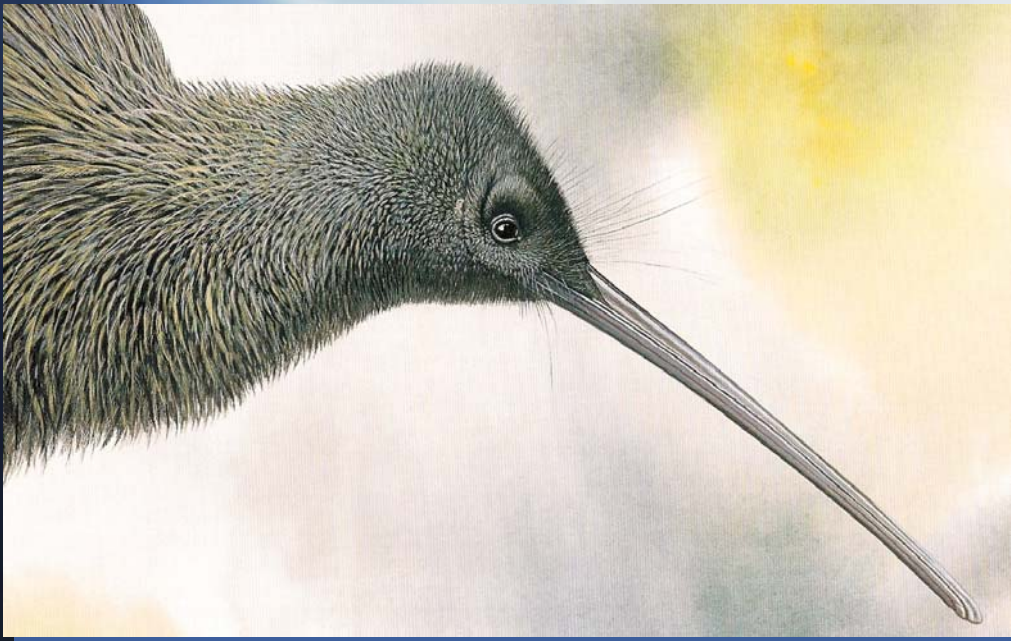
South Island Adzebill (*Aptornis defossor*)

- “Killer Rail”
- Diet: Worms, Insects, Lizards, Tuataras
Birds (not Frogs)
- Stable Isotopes &
Small Gizzard Stones
- Preferred dry habitats
- ~42lbs
- North Island Adzebill
slightly smaller



Tokoeka -- *Apteryx australis*

- “South Island Brown Kiwi”
- 4 Subspecies
- Most ancestral Kiwi Species
- Beaches to Mountains
- Known to catch fish
- Burrows in Snow
- Egg ~20% body size
- Convergent on mammals
 - Nostrils Location
 - Good Hearing
 - Whiskers
 - Burrowers
 - Lower Metabolism



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Thanks!



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Illustration Credits

- **Ostrich:**
Perrins, CM. 1990. *The Illustrated Encyclopedia of Birds: The Definitive Reference to Birds of the World*. NY: Prentice Hall Press.
- **Flightless Cormorant:**
http://www.treknature.com/gallery/South_America/Ecuador/photo146764.htm
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- **Upland Moa:**
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- **Phorusrhacids:**
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