First Data Release of the Vertebrates Genome Project

As proof of principle, the release of the first 15 genomes representing 14 species demonstrates the new sequencing technology's dependability and scalability to sequence all vertebrate genomes. These 15 genomes are currently the most complete versions of their species to date:

1) Mammals (4 species):

- Two bat species (Greater horseshoe bat and Pale spear-nose bat) representing lineages that diverged and survived from a common ancestor during the last 5th mass extinction, and also used as models for age longevity and vocal learning, the later a rare trait needed for spoken language, supported by leaders at the Bat 1000 (Bat1K) genome project (Gene Myers, lead at the Max Planck Institute of Molecular Cell Biology and Genetics and Center for Systems Biology, Dresden, Germany; Bat1K; G10K Council member; Sonja Vernes, lead for Bat 1K, Max Planck Institute for Psycholinguistics in the Netherlands; and Emma Teeling, lead for Bat 1K, University College Dublin in Ireland);
- The Canada lynx, an iconic wild cat Canadian species, once nearly extinct in the United States and now recovering, supported by scientists studying conservation (Tanya Lama at Massachusetts Cooperative Fish & Wildlife Research Unit, Amherst and Warren Johnson at the Smithsonian's National Zoo & Conservation Biology Institute in Washington DC); and
- The Platypus, a egg-laying mammal that has traits resembling both mammals (such as fur) and reptiles (such as laying eggs), supported by leaders within BGI in China (Guojie Zhang, University of Copenhagen, Denmark).

2) Birds (3 species, 4 genomes):

- In addition to the Kakapo, the VGP re-sequenced the reference zebra finch male songbird, a new genome of a female zebra finch, and the Anna's hummingbird; with parrots, these species belong to the only three vocal learning bird orders among over 40 orders. These genomes are supported by leadership within the songbird neurobiology community (Erich Jarvis, Claudio Mello, David Clayton, Wes Warren, Christopher Balakrishnan, Julia George, Dave Burt, and Sarah London) and the Bird 10,000 (B10K) consortium (Guojie Zhang; Tom Gilbert at University of Copenhagen, Denmark; and Erich Jarvis).

3) Reptiles (1 species):

- A newly discovered turtle species, Goode's Thornscrub Tortoise, from Mexico, supported by University of Arizona geneticist Taylor Edwards and Royal Ontario Museum and University of Toronto conservation biologist Robert Murphy.

4) Amphibians (1 species):

- Two-lined caecilian, which belongs to a group of amphibian species that independently lost their limbs, making them look like worms or snakes, supported by Mark Wilkinson of the Natural History Museum in London and Richard Durbin, lead at the Wellcome Sanger Institute, UK; fishes; G10K Council member.

5) Fish (5 species):

- Four fish species - Flier Cichlid, Climbing perch, Eastern happy, Blunt-snouted clingfish and Tire track eel, - that represent a large diversity of traits among fishes, are used to study species evolution, adaptation and for some as aquarium pets, supported by leaders of the Fish VGP group (Richard Durbin; Byrappa Venkatesh of the Institute of Molecular and Cell Biology in Singapore; Axel Meyer of the University of Konstanz in Germany; and Gene Myers).