

CONFERENCES

The IVth International Theriological Congress

During recent decades, the confrontation between molecular biologists and anatomists or paleontologists had focused on Primates, specially on the degrees of kinship between humans and certain apes. Evolutionary histories constructed with paleontological and anatomical data have sometimes conflicted with those using molecular evidence of genetic similarity. This confrontation is now extending to other animals. At the IVth International Theriological Congress (Edmonton, Canada, 13-20 August 1985), the phylogeny of nearly every mammal group was discussed by a wide range of specialists using very different approaches. It turned into a really great opportunity to check the points of agreement or disagreement.

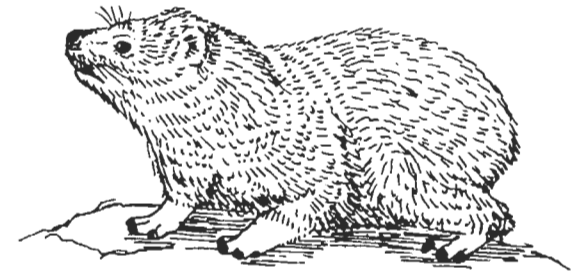
The "Quagga Affair" (see *Mammoth Trumpet* 1(3):4) seems definitely solved to everyone's satisfaction. The DNA of the Quagga, an extinct South African Zebra, cloned from cells from a museum specimen, confirms its close relationship with modern East African plains zebras (Higuchi and Wilson, Berkeley). The conclusions agree with a prior study of the coat pattern by Rau (Cape Town) and of the skulls and teeth by Eisenmann (Paris). At a higher level, there is also agreement on the date of appearance of the first Equus (about 4 MY ago) between the new paleontological data (discussed by Azzaroli, Florence; Repenning, Denver; Voorhies, Lincoln) and the age of the common ancestor deduced by molecular biologists from the mitochondrial DNA (George and Ryder, San Diego).

But things are not going as smoothly everywhere, namely for the Hyraxes. In ancient times, these curious, small animals were considered rodents. The name of Spain is a reminder of this confusion: when Phoenicians saw Spanish rabbits for

the first time, they took them for hyraxes called "Saphans" in the Bible, and named the place "Saphan's Island" or "Hispania". Naturally people no longer confuse rabbits and hyraxes but the exact taxonomic position of the latter is still a matter of controversy. To which order do they belong? Are they closer to Proboscidiens, (elephants), Sireniens, or Perissodactyla (horses and rhinos).

An outstanding work of comparative anatomy presented by M.S. Fischer (Tübingen) has given a new start to the discussion. Fischer is convinced that hyraxes are Perissodactyla and brings to the argument much evidence. But, his hypothesis is in contradiction with biochemical data that point to a close relationship between hyraxes, Proboscidiens, and Sireniens (Kleinschmidt et al., München; Sarich, Berkeley; Shoshani, Detroit). Apparently further work will be needed to settle the question. In the mean time, it is useful to comment on the reaction to such disagreements.

Nowadays, there is sometimes a tendency to give more weight to biochemical studies than to anatomical ones. The former have even been said to be more "objective" than the latter . . . But do not let anatomists despair! They can take comfort in a remarkable communication on biochemical convergences, similarities which may not be due to



Hyrax

common ancestry, (Stewart and Wilson, Berkeley) admitting very honestly that biochemistry may also be wrong: very similar lysozymes (digestive enzymes) are found in the cow and in the langur (an Asian monkey), but this does not mean that they are closely related.

Obviously, molecular biology is not a "panacea," particularly when it deals with only a few biochemical parameters. To try and elucidate the evolutive history of the mammals, the whole range of data must be taken in account, both anatomical and biochemical. And that is why meetings such as the Edmonton Congress are so important, putting in contact people who hardly knew of one another before.

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