Cytogenetic Study of the Endemic Malagasy Lemurs
Subfamily Cheirogaleinae Gregory 1915

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ABSTRACT
Karyotypes were determined on 27 lemurs from six species of...
DISCUSSION

Our results confirm those of Chu and Swomley for *M. murinus*, but we can describe precisely the morphology of the X chromosome. Surprisingly, *M. coquereli* and the two species of *Cheirogaleus* have the same karyotype as *M. murinus*, although *Cheirogaleus* and *Microcebus* ap-
# Cytogenetics of the Cheirogaleinae Lemurs

## Table 1

<table>
<thead>
<tr>
<th>Genus and species</th>
<th>Number of animals examined</th>
<th>Chromosomes</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Microcebus murinus</em></td>
<td>0 1</td>
<td>66 — 2 64 — —</td>
<td>Chu and Swomley '61</td>
</tr>
<tr>
<td><em>Microcebus murinus murinus</em></td>
<td>2 0</td>
<td>66 — — 64 M A</td>
<td>This paper</td>
</tr>
<tr>
<td><em>Microcebus murinus rufus</em></td>
<td>1 0</td>
<td>66 — — 64 M A</td>
<td>This paper</td>
</tr>
<tr>
<td><em>Cheirogaleus major</em></td>
<td>4 1</td>
<td>66 — — 64 M A</td>
<td>This paper</td>
</tr>
<tr>
<td><em>Cheirogaleus medius</em></td>
<td>3 6</td>
<td>66 — — 64 M A</td>
<td>This paper</td>
</tr>
<tr>
<td><em>Phaner furcifer</em></td>
<td>3 3</td>
<td>46 4 12 28 M A</td>
<td>This paper</td>
</tr>
</tbody>
</table>

Chromosome number and types in the Cheirogaleinae; 2N, diploid number; M, metacentric; S, submetacentric; A, acrocentric.

Fig. 2 Metaphase spread and karyotype of a leukocyte from a male *Phaner furcifer*. 
pear morphologically as two very different genera. The particular karyotype of *P. furcifer* allows us to recognize two groups in the subfamily of Cheirogaleinae; the first comprises *Cheirogaleus* and *Microcebus*, and the second only *Phaner*. Among the malagasy lemurs most of the genera and species differ from each other in their karyotypes. For instance, within the lemurinae subfamily, except for *L. fulvus* and *L. mongoz mongoz*, each species exhibits a peculiar karyotype; but all the animals show the same fundamental number: FN = 64 (Rumpler and Albignac, '69). Since the *P. furcifer* karyotype differs greatly from those of *Microcebus* and *Cheirogaleus* and has a smaller FN, it cannot derive from those of *Microcebus* or *Cheirogaleus* (the most primitive chromosomal complement) by a simple mechanism.

On the other hand, new gross morphological characteristics allow us to distinguish *Phaner* from the two other genera: a. *Phaner* is the only one to possess a voluminous scent-marking gland on the anterior wall of the neck (Rumpler and Andriamiandra, '71).

b. The finger-prints of *Phaner* differ conspicuously from those of *Microcebus* and *Cheirogaleus* (Rumpler and Rakotosamimanana, '71). All these differences agree with the view that the *Phaner* is a part of a special subfamily, Phanerinae; whereas *Microcebus* and *Cheirogaleus* are included within the Cheirogaleinae subfamily.

**CONCLUSION**

The cytogenetic study of the ancient Cheirogaleinae subfamily reveals that it contains two groups, a—*Microcebus* and *Cheirogaleus*, and b—*Phaner*. The two first genera have a FN equal to 66, and the third genus has a FN equal to 62. This result and the fact that *Phaner* has a particular scent-marking gland, and also knuckle pads and finger prints quite different from those of other genera, agree with the view that this genus constitutes a special subfamily, Phanerinae, genus type *P. furcifer* Blainville, 1839; while the genera *Microcebus* and *Cheirogaleus* constitute the subfamily of Cheirogaleinae.

**LITERATURE CITED**


