

## New taxonomic status to the French Guianan *Nectomys parvipes* Petter (Rodentia, Sigmodontinae)

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ABSTRACT. Morphological characters used for separating *Nectomys parvipes* Petter, 1979 from *N. squamipes melanius* Thomas, 1910 are the same used for separating *Nectomys* from the smaller taxon *Sigmodontomys* J.A. Allen, 1897. Principal Component analyses grouped *N. parvipes* holotype with *S. alfari* specimens and apart from *N. s. melanius* specimens. Both morphology and morphometry indicated that *N. parvipes* belongs to the genus *Sigmodontomys*.

KEY WORDS. Rodentia, Sigmodontinae, *Nectomys*, *Sigmodontomys parvipes*, taxonomy

In French Guiana, PETTER (1979) discovered a water rat sympatric with *Nectomys squamipes melanius* Thomas, 1910. He described this new rodent as *Nectomys parvipes* Petter, 1979, distinguishing it from *N. s. melanius* by a smaller body, hind foot, and third upper molars' size (Tab. I) as well as by the shape of the fronto-parietal suture and anterior border of the zygomatic plate. Characters used in Petter's description of *N. parvipes*, including illustrations of dental differences and morphometric comparisons, were practically the same as those used by HERSHKOVITZ (1944) for diagnosing the subgenus *Sigmodontomys* Allen, 1897. However, shape of fronto parietal suture and of anterior border of the zygomatic plate were variable and overlapping among *Sigmodontomys* and *Nectomys* specimens when examined at the Field Museum of Natural History and the United States Natural Museum.

Table I. Comparative measurements. (X) mean, (SD) standard deviation, range, and (n) number of specimens of *Sigmodontomys alfari* and *Nectomys squamipes melanius*. The measurements of *Nectomys parvipes* holotype are from Petter's description.

	<i>N. parvipes</i>		<i>S. alfari</i>		<i>N. squamipes melanius</i>		
	Holotype	X	SD	n	X	SD	n
Head-body	135.0	143.0 ± 5.7	135 – 152.0	10	185.4 ± 20.4	162.0 – 213.0	5
Tail	152.0	169.6 ± 6.6	161 – 180.0	9	195.0 ± 13.9	180.0 – 215.0	5
Hind foot	37.0	34.6 ± 0.9	33.5 – 36.5	9	47.2 ± 4.9	38.0 – 51.0	9
Ear	17.0	19.8 ± 1.5	18.0 – 22.0	5	22.8 ± 1.2	22.0 – 25.0	6
Greatest skull length	ca 35.0	35.0 ± 0.9	33.6 – 35.9	9	41.5 ± 3.0	37.2 – 43.2	7
Zygomatic breadth	19.2	18.6 ± 0.5	17.4 – 19.1	9	21.3 ± 1.3	19.2 – 22.5	6
Interorbit constriction	6.0	6.1 ± 0.2	5.9 – 6.4	10	7.1 ± 0.3	6.5 – 7.4	10
Upper molar row	5.8	5.7 ± 0.3	4.9 – 6.0	10	6.7 ± 0.3	6.2 – 7.1	10

The genus *Sigmodontomys* Allen, 1897 was considered a junior synonym of *Nectomys* (GYLDENSTOLPE 1932), a sub genus of *Nectomys* (HERSHKOVITZ 1944) or a subgenus of *Oryzomys* (GARDNER & PATTON 1976), and again considered a

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valid genus (MUSSEY & CARLETON 1993). However, these latter authors commented that its relationship with other sigmodontines rodents required investigations and, following earlier reports (NOWAK & PARADISO 1983), treated *parvipes* as a species of *Nectomys*.

Two thousand and sixty five *Nectomys* and 115 *Sigmodontomys* specimens in the following Institutions were examined: American Museum of Natural History (New York, 268 *Nectomys*), Field Museum of Natural History (Chicago, 333 *Nectomys* and 18 *Sigmodontomys*), United States National Museum (Washington, 323 *Nectomys* and 97 *Sigmodontomys*), Museu Nacional (Rio de Janeiro, 519 *Nectomys*), Museu de Zoologia da Universidade de São Paulo (São Paulo, 301 *Nectomys*), Museu Paraense Emílio Goeldi (Belém, 154 *Nectomys*), Universidade de Brasília (Brasília, 41 *Nectomys*), Universidade da Paraíba (João Pessoa, 49 *Nectomys*), and Universidade Federal do Rio Grande do Sul (Porto Alegre, 7 *Nectomys*). On the basis of these examinations, I agree that *parvipes* is a different species of water rat, though it should be transferred to the genus *Sigmodontomys*. In order to investigate the relationship of *N. parvipes* with *Nectomys* and *Sigmodontomys* I carried out morphological analyses using a sample of *Sigmodontomys alfari*, *Nectomys squamipes melanius* and the single known specimen of *N. parvipes*, the holotype. For Principal Components Analysis I exclusively considered adult animals (with all teeth erupted and functional) using natural logarithmic variables. Principal Components Analysis (Fig. 1) grouped *N. parvipes* with *S. alfari* apart from *N. s. melanius*. This separation occurred in the plane of the first principal component.

The resemblance noted by PETER (1979) between the French Guianan *N. parvipes* and the geographically remote populations of *Sigmodontomys* sp. in Central America, Venezuela, and Colombia was considered to be a result of convergence. This postulation must have been based on the geographic discontinuity and distances separating *Sigmodontomys* sp. from *Nectomys* sp.. In view of the arguments herewith presented, PETER's (1979) report provided the first records of *Nectomys squamipes melanius* and *Sigmodontomys* in French Guyana, thus extending the range of *Sigmodontomys*.

The genus *Sigmodontomys* can be diagnosed by its smaller body size than *Nectomys*, about the size of a moderate large *Oryzomys*, skull moderately large, robust, more heavily built than in *Nectomys* or any other oryzomyine rodent, supraorbital ridges lower and more projected than in *Nectomys*, incisive foramina proportionally lower than in *Nectomys*, cheek teeth proportionately larger with lower crests than in *Nectomys*, upper and lower second and third molars almost equally wide as long but distinctly longer than wider in *Nectomys*, upper and lower third molar significantly smaller than in *Nectomys*; upper  $M^3M^3$  distance smaller than upper  $M^1M^1$  distance against same upper  $M^3M^3$  and  $M^1M^1$  distances in *Nectomys*; first  $M^1$  fold (on labial side) interrupted in *Sigmodontomys* and continuous in *Nectomys*.

It is therefore concluded that *Nectomys parvipes* is a member of a genus of smaller body size and should be named *Sigmodontomys parvipes*, **comb.n.**

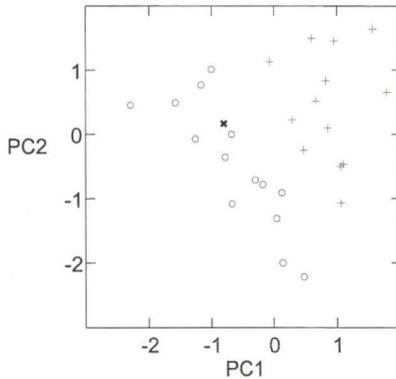


Fig. 1. Scores of the first two principal components (PC). *Nectomys squamipes melanius* (+), *Nectomys parvipes* holotype (X) and *Sigmodontomys alfari* (O). The eigenvalues of the first two principal components are 2.954 (PC1) and 0.676 (PC2), corresponding to 73.8% and 16.9% of total variance.

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