



Rediscovery of *Mus nitidulus* Blyth (Rodentia: Muridae), an endemic murine rodent of the central basin of Myanmar

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Abstract

A genetically distinct population of mice from south central Myanmar is identified as *Mus nitidulus* Blyth, a taxon described in 1859 but subsequently treated as a synonym of a more widely distributed Asian mouse—*Mus cervicolor* Hodgson, 1845. We present molecular sequence data from mitochondrial and nuclear genes which demonstrate that *M. nitidulus* is distinct from *M. cervicolor* and from all other species of *Mus* currently recognized in the Asian region. The molecular data further show that *M. nitidulus* is a member of the *Mus booduga* Species Group within subgenus *Mus*, and thus phylogenetically remote from *M. cervicolor*. We stabilize the nomenclature of *M. nitidulus* by designating a lectotype with associated molecular sequence data. We review and illustrate the morphology of *M. nitidulus* and reassess all previously referred material. *Mus nitidulus* appears to be confined to the central basin of Myanmar, an area that formerly supported a mosaic of evergreen and deciduous monsoon forests. Today, this region is largely cleared and employed for rainfed rice cultivation. *Mus nitidulus* is only the second mammal species recorded as endemic to Myanmar. It can be locally abundant in ricefield habitat and is regarded locally as an agricultural pest.

Key words: *Mus*; endemic mammal; Myanmar; molecular phylogeny; biogeography

Introduction

Prior to Marshall's (1977) comprehensive revision of Asian species of *Mus* Linnaeus, 1758 the taxonomy of this group was essentially anarchic—plagued by early names without designated type specimens, by sparse collections drawn from a large and environmentally complex region, and by the special problems of working with such small-bodied taxa. Marshall used a combination of morphological, cytological and ecological evidence to distinguish a minimum of 16 species of Asian *Mus*, which he divided between three subgenera: *Mus* with six species, *Pyromys* Thomas, 1911 with five, and *Coelomys* Thomas, 1915 also with five. He regarded several of the earlier historical names as indeterminate (e.g. *lepidus* Elliot, 1839; *albidiventris* Blyth, 1852; *spinulosus* Blyth, 1854) but flagged others as potentially distinct at species or subspecies level (e.g. *gurkha* Thomas, 1914; *lepidoides* Fry, 1931; *nitidulus* Blyth, 1859). Marshall's taxonomic arrangement of Asian *Mus* was repeated essentially without modification by Corbet and Hill (1992) and by Musser and Carleton (1993).

Recent years have seen a resurgence of interest in Asian *Mus*, stimulated in large part by the application of molecular genetic methods. Significant developments include clarification of the phylogenetic position of *M. famulus* Bonhote, 1898 of southern India, resulting in its transfer from subgenus *Coelomys* to subgenus *Mus* (Chevret *et al.* 2003); the description of an entirely new species of subgenus *Mus* from Thailand (*M. fragili-cauda*, Auffray, Orth, Catalan, Gonzalez, Desmarais & Bonhomme, 2003) and its subsequent recognition in