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PART A

INTRODUCTION

The purpose of this paper is twofold. First, it briefly reviews the history and development of marsupial systematics from the time of discovery of the various living and fossil groups to the present. It is demonstrated that although the taxonomy is *relatively* stable at the family and generic levels, above the family level it is debated and is in a state of flux. Second, it presents a complete list of currently recognized families and genera along with synonymies, complete literature citations, and known geologic and geographic occurrences. This is the first attempt since Simpson (1945) to synthesize knowledge of these data, and it is the first attempt in this century to provide in one place complete literature citations for authorship of these names. It is hoped that this compilation will facilitate and expedite further work on these animals and that it will serve as a stepping stone for phylogenetic studies dealing with the relationships of Marsupialia.

The information presented here is drawn solely from a review of the literature, and except for recognition of several new suprageneric ranks I make no claim to originality in any part of the subject content. I have not seen all of the older papers cited and in many cases have drawn their information content from appropriately credited secondary sources. The most important of these include: (1) general coverage of (mostly or entirely) living species—Fletcher (1885), Thomas (1888), Lydekker (1894), Cabrera (1919), Hofer (1952), Grassé (1955), Haltenorth (1958), Sharman (1973, 1974), Tyndale-Biscoe (1973), Hunsaker (1977), and Stonehouse & Gilmore (1977); (2) updated taxonomic lists of living species—Collins (1973) and Kirsch & Calaby (1977); (3) general coverage of fossil forms—Lydekker (1887), Simpson (1930), and Piveteau (1961); (4) living South American species—Cabrera (1957), Cabrera & Yepes (1960), Yepes (1972), and Reig et al. (1977, In prep.); (5) fossil South American species—Simpson (1939, 1971) and Clemens & Marshall (1976); (6) living Australian and/or Australasian species—Lesouef et al. (1926), Marlow (1962), Laurie & Hill (1954), Frith & Calaby (1969), Hope (1974), Ride (1970), Ziegler & Lidicker (1968), and Ziegler (1977); (7) fossil Australasian taxa—Ride (1964a, b), Mahoney & Ride (1975), and Archer & Bartholomai (1978).

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REVIEW OF HISTORY AND DEVELOPMENT OF MARSUPIAL SYSTEMATICS

The first European to hold a marsupial was the Spanish explorer Vicente Yáñez Pinzón. In January of 1500, Pinzón landed on the coast of what is now Brazil where he acquired a female opossum with pouch young. Upon returning

to Spain, Pinzón presented the "incredible mother" at the court of King Ferdinand and Queen Isabella. It is reported that both Ferdinand and Isabella "placed their royal fingers in the pouch and marvelled [at] so strange a contrivance of Nature" (Hartman, 1952, p. 1). This, the first marsupial to be seen in Europe, was described by Trevigliano (1504) but was not provided with a name.

In 1557 Hans Stade published, under the name *Servoy*, an account of an opossum that he observed in Brazil. Later, Sebastian Münster (1550) and Konrad Gesner (1551) mentioned an opossum under the name *sima vulpina* (=*simivulpa*), the monkey-fox or fox-ape, and *Su*. Münster's illustration of the *simavulpa* was evidently derived from figures appearing in various editions of Ptolemy's *Geography* (1522 onward) and from other early maps of South America all traceable to Waldseemüller's world map of 1516 where the same figures occur. The figure is accompanied by virtually the same legend as occurs in the *Tabula Terre nove* of Ptolemy, 1522 (Eastman, 1915, p. 589). Thevet (1557), who visited Brazil, published, under the name *Su*, a grotesque caricature of the opossum, which was later reproduced by Edward Topsell, J. E. Nieremberg, and John Jonston. Subsequently, New World opossums were described under a number of names by various early Spanish travellers and explorers, including Hernandez and others (for listing see Ray, 1693; Linnaeus, 1758; and Eastman, 1915).

Captain John Smith (1612) wrote the first description of the Virginia opossum and bestowed upon it the name opossum:

> An Opossum hath an head like a Swine, and a taile like a Rat, and is of the bignesse of a Cat. Under her belly shee hath a bagge, wherein shee lodgeth, carrieth, and suckleth her young.

The names *possum, pasum, apasum, possowne,* and others (see Hartman, 1952, p. 32) were variants in Algonquian Indian dialects and were used by the early settlers in Virginia. The various Indian words were preceded by a grunt, and we have been plagued with the Irish-sounding appellation *o*possum ever since (*ibid.*).

In 1640 the Dutch traveler Marcgrave gave a detailed description of the *Carigueija brasiliensibus*. He emphasized the extrauterine mode of development of the young in the pouch or *marsupium*,[1] which he mistook for an exterior womb or uterus. About 60 years later Tyson (1698) provided the first accurate description of the anatomy of a marsupial. In this work on the female Virginia opossum, Tyson recognized the double uteri and vaginae (Gregory, 1910).

Linnaeus (1758), however, took little notice of Tyson's work when he compiled his *Systema Naturae*, for he followed Marcgrave and coined the name *Didelphis* (see note 79) in reference to the supposed occurrence of two uteri, one internal and the other (i.e., the pouch) external. Linnaeus placed *Didelphis*, the only marsupial genus recognized at that time, in the order Bestiae, along with pigs, hedgehogs, and shrews because of their common possession of sharp teeth (Gregory, 1910).

In 1629 the Dutch ship *Batavia*, captained by François Pelsaert, wrecked on the Houtman's Abrolhos Islands off the west coast of Australia. There Pelsaert encountered and later described (1630) another animal with a pouch and tiny offspring contained therein. This was the first account of an Australian marsu-

[1]The name marsupial ultimately derives from *marsupium* Lat. for pouch.

pial, the Dama or Tammar wallaby—*Thylogale eugenii* Desmarest, 1817, a member of the kangaroo family (Troughton, 1957).

Pelsaert clearly described the marsupial character of his strange new beast, but he left no hint of acquaintance with earlier descriptions of opossums, about which an extensive literature had accumulated. Although Pelsaert's description covered the general features and habits of the Tammar wallaby surprisingly well, it is evident from the early use of such names as civet-cat, raccoon, and jerboa that observers were misled by the superficial resemblance of Australasian marsupials to the more familiar placental mammals (Troughton, 1957).

The next record of an Australian marsupial was apparently contained in the brief account published in 1658 by another Dutchman, Samuel Volckerson in which he referred to Rottnest Island and "two seals and a wild cat, resembling a civet-cat, but with browner hair." The latter reference is to the short-tailed wallaby, *Setonix brachyurus,* which was not given a scientific name until the French naturalist Lesson named a mainland specimen in 1842 (Troughton, 1957).

Meanwhile, specimens from Dutch trading posts began to reach Europe. Brisson (1762), who studied some of these specimens, recognized their kinship to New World opossums, and named the New Guinea cuscus *Didelphis orientalis.* Three years later Buffon (1765) called attention to the syndactylous condition of digits two and three in the hind foot of this animal—"parce qu'il a les phalanges singulièrement conformées. . . ." In reference to this structure he called the animal Phalanger, although the generic name *Phalanger* technically dates from Storr (1780) (Gregory, 1910; Troughton, 1957).

The pouched animals of Australasia were comfortably classified with the American opossums until the return of Captain James Cook's first voyage in 1771. The naturalist on this expedition, Sir Joseph Banks, had been diligent in collecting animals along the east coast of Australia. He brought back to England the first specimens of wombats, dasyures, and kangaroos. Recognizing the relationship of certain Australian marsupials to the American opossums, Banks (1896) dubbed the ring-tails *Passums*[2] (Troughton, 1957).

Misled by the convergence of marsupials with various placentals (e.g., kangaroos and wombats to rodents), the 18th century naturalists did not recognize the unity of the Marsupialia. Erxleben (1777), for example, first described a species of kangaroo and believed it a gigantic relative of the ricochetal rodents called jerboas and named it *Jaculus giganteus.* Geoffroy & Cuvier (1795) adopted Vicq d'Azyr's (1792) term Pédimanes to accommodate the opossums and dasyures, which they placed between "les Carnivores" and "les Rongeurs," kangaroos being placed in the latter. Geoffroy & Cuvier (1795) recognized the essential characters of the group Pédimanes, but the deceptive similarities of the teeth later led Cuvier (1800) to place *Kangurus* at the head of the Rodentia, but next to *Phalangista,* and the last of the Pédimanes. The Pédimanes in turn were placed next to the carnivores in the superordinal assemblage "Les Carnassiers." The supposed intermediate position of the marsupials between *Carnivores* and *Rongeurs* was accepted by Duméril (1806) and others (Gregory, 1910).

[2]Troughton (1957, p. 80) recommended that to emphasize the difference, *opossum* be applied to the American forms, whereas the shorter *possum* be used in reference to the Australasian forms.

With the increasing number of animals being brought home to Europe from around the world, the practice of classifying animals by their life forms was proving cumbersome and unworkable. In 1816 de Blainville began to look for more fundamental similarities in determining natural affinities. He recognized that despite their many remarkable resemblances to certain Carnivora and Rodentia, the mode of reproduction set marsupials apart from all other mammals. The characters by which he chose to distinguish various mammalian groups were based on reproductive tracts. In marsupials the tract is double, and thus he proposed the name Didelphes (see note 79), and in the placentals single, hence Monodelphes. De Blainville also included monotremes in the subclass Didelphes, which he divided into Normaux (marsupials) and Anomaux (monotremes). The resemblances in teeth and body form of animals in the group Didelphes to various Monodelphes were regarded as "secondary." The Didelphes Normaux he subdivided into Carnassiers and Rongeurs, corresponding in a general way to the Polyprotodonta and Diprotodonta of later workers.

When de Blainville revised his classification in 1834, he recognized the distinctness of the monotremes and in so doing used the same taxonomic criteria as before. The left and right oviducts in the echidna (*Tachyglossus*) and platypus (*Ornithorynchus*) resemble those of birds and reptiles in being separate to the long cloaca; accordingly, he called the monotremes "Les Ornithodelphes" or bird wombs. For the marsupials, in which the oviducts are partly united in the vaginal region, he retained the name "Les Didelphes." All other living mammals he included in "Les Monodelphes." De Blainville also initiated the now common practice of distinguishing those marsupials with separated digits on the hind foot (Didactyla) from those with conjoined digits (Syndactyla).

In 1804 George Cuvier discovered the first European fossil marsupial in the gypsum quarry at Montmartre, France (see Cuvier, 1804; Hoffstetter, 1976, fig. 5; Wendt, 1968, p. 94).

In 1817, Cuvier abandoned the term Pédimanes for Marsupiaux and removed *Kangurus* to that group. In so doing, he implied that foot structure, in this case at least, is of less taxonomic importance than reproductive characters. Cuvier further observed:

> that the marsupials which we arrange at the end of the Carnassières as a fourth family of that great order, might almost be separated as a distinct order, so many peculiarities do they exhibit in their economy. . . . One might, in fact, say that the *Marsupiata* form a distinct class, parallel to that of ordinary quadrupeds, and, like them might be divided into orders (translated from French).

Gervais (1836), in modifying de Blainville's (1816) classification, divided the marsupials (Didelphes) into two groups: (1) "les Eleutherodactyles (didactylous or eleutherodactylous forms), including "les Pédimanes" (*Sarigue, Chironectes*), and "les Phascologales" (Dasyure, Phascologale, Thylacine); and (2) "les Syndactyles" (syndactylous forms), including bandicoots, phalangers, and kangaroos. A year later Bonaparte (1837) placed the marsupials and monotremes in the Ovovivipara, and the placentals in the Placentalia (Gregory, 1910).

The first discovery of fossil marsupials in Australia was made at the caves of Wellington Valley and Buree, New South Wales, in or before 1830. The discoverer was apparently George Ranken, who explored these caves and who made a small collection of bones and teeth. He forwarded these to Professor Robert Jameson in Edinburgh, who reported (1831, p. 393) that:

> some of the teeth were those of the wombat, some belonged to the kangaroo, others we could not refer, from want of means of comparison. One bone, from its great size, particularly arrested our attention, from its appearing to belong to an animal larger than any of the living species in the Australian world. It appeared, on comparing it with the splendid skeleton of the hippopotamus in the Museum, to resemble the radial bone of that animal.

The next communication is by Major Thomas L. (later Sir Thomas) Mitchell, Surveyor-General of New South Wales, who in 1831, gave a short account of the caves and the contained bones. Mitchell's collection, as well as the original collection of Ranken, was forwarded to G. Cuvier at Paris and was examined by him and W. Pentland. These fossils were reported upon by Pentland (1831, 1832, 1833) (for review of early literature see Anderson, 1933).

The first systematic account of the Wellington Cave fossils was made by Richard Owen [in Mitchell's *Three Expeditions into the Interior of Eastern Australia* (see Owen, 1838a; 1839a; Mitchell, 1831, 1838, 1839)]. In this short account were established a number of extinct species, including *Diprotodon optatum*, *Macropus (=Sthenurus) atlas*, *Macropus titan*, *Dasyurus (=Sarcophilus) laniarius*, and *Phascolomis (=Lasiorhinus) mitchelli*. A summary of early papers of Australian fossil Marsupialia is given by Owen (1877).

Haeckel (1866) first recognized that marsupials and placentals shared a common ancestor, later called Prodidelphia, and in his diagrams so represented the relationships of these groups.

Gill (1872), in his table of contents, placed the word Eutheria in brackets in front of Placentalia *s.* Monodelphia and Didelphia, whereas Prototheria was placed in brackets in front of Ornithodelphia. This implies that Gill recognized a closer relationship between Monodelphia and Didelphia than between Didelphia and Ornithodelphia. Gill's use of the term Eutheria antedates Huxley's, 1880 (see below), use of the same word, but in a different sense. Gill thus used a dual primary subdivision like that of de Blainville (1816), but associated marsupials with placentals rather than with monotremes.

It was subsequently discovered that monotremes laid eggs. Other similarities of the monotremes (Ornithodelphia) with Reptilia led Huxley (1880) to suggest that monotremes and marsupials represent earlier, serial stages in the evolution of true viviparous mammals, the placentals. To reflect this idea Huxley coined the terms Prototheria for monotremes, Metatheria for marsupials, and Eutheria for placentals. These terms were used by Huxley to denote successive stages of evolutionary development, with Metatheria representing an intermediate stage between Prototheria and Eutheria. Huxley's view implies that living mammals represent three groups that evolved in a stepwise manner one from the other, in the sequence Prototheria–Metatheria–Eutheria. This idea has had a long and baneful influence on the understanding of marsupials and monotremes. It encouraged people to think that by studying these mammals they could ride a sort of "Wellsian Time Machine" back to the origin of mammals (Tyndale-Biscoe, 1973, p. 4). It is this background against which features of marsupial anatomy and physiology were interpreted as primitive in comparison with more derived placental equivalents.

Marsh (1887) believed that placentals and marsupials evolved independently from oviparous ancestors, of which the living monotremes were the direct but derived descendants.

With Hill's (1897) discovery of a chorioallantoic placenta in the Australian genus *Perameles* came the theory that marsupials evolved from placentals through the retrogression of the "milk" dentition and placenta. Dollo (1899, 1900, 1906) promoted this view and attempted to further prove that marsupials were primitively arboreal (also see Hains, 1958; Bensley, 1901a, b). Dollo believed that because of possession of an arboreally modified foot (i.e., opposable hallux, predominance of digit four, syndactyl) marsupials were too specialized to have been ancestral to placentals but were instead derived from them.

Between 1887 and 1906 a number of important papers on South American fossil Marsupialia were written by the Argentine paleontologist Florentino Ameghino. Ameghino did not recognize the Marsupialia as a natural group. His classification of 1906 placed what we now regard as South American fossil marsupials in eight major taxa (mainly orders, although the categorical level is not always clear): Allotheria, Paucituberculata, Pedimana, Insectivora, Sparassodonta, Creodonta, Prosimiae, and Protungulata. Within these, 17 families were based on forms now considered marsupial, and some marsupials were erroneously referred to four nonmarsupial families. One family, Odontomysopidae, was placed in association with marsupials, but is based on specimens of indeterminable affinities (Simpson, 1970a, p. 56).

Ameghino (*op. cit.*) believed that most placentals were derived independently from one or more of these families. For example, he divided the polyprotodont marsupials into three groups: Pedimana (didelphoids), Dasyura (Australian carnivorous marsupials), and Sparassodonta (large South American carnivorous marsupials=Borhyaenidae *sensu stricto*). These, along with Insectivora and Carnivora, he placed in a group, Sarcobora, that included all more or less carnivorous mammals. The borhyaenids, divided into various families, were all grouped as Sparassodonta, considered indirectly related to the Australian carnivorous marsupials and through them to the Fissipedia and Pinnipedia (Simpson, 1948; Marshall, 1978a).

Some of Ameghino's contemporaries realized that many of the groups here in question were marsupials. Smith Woodward (1898), for example, noted that Ameghino's four families of Paucituberculata represent one or more families of Marsupialia. He also noted the remarkable resemblance of Ameghino's Sparassodonta to the carnivorous marsupials of Australia, but referred them to the suborder Creodonta of the placental order Carnivora (Simpson 1970a, p. 56).

Sinclair (1906) showed that almost all of the Santacrucian (Early Miocene) representatives of Ameghino's orders and families belong to three groups: (1) Ameghino's Sparassodonta, placed by Sinclair in the Australasian family Thylacinidae with *Thylacinus*, but now given family or superfamily distinction as Borhyaenidae and Borhyaenoidea; (2) Ameghino's Paucituberculata, placed in the Caenolestidae; and (3) Ameghino's Pedimana placed in the "Didelphyidae" (Simpson, 1970a, pp. 56-57).

Genera referred by Ameghino to the Allotheria were later shown to represent a single distinctive marsupial family, Polydolopidae (Simpson, 1928, 1948). The Caroloameghiniidae, referred by Ameghino to the Protungulata, are closely related to the opossums (Simpson, 1948). As noted above, the Odontomysopidae, placed by Ameghino in the Allotheria, are indeterminate and are probably not marsupials (Simpson, 1967). *Anissodolops*, placed by Ameghino in the multituberculate family Neoplagiaulacidae, is a synonym of *Polydolops* and belongs

in the Polydolopidae (Simpson, 1948). *Argyrolestes* and *Nemolestes*, placed by Ameghino in the Jurassic family Spalacotheriidae, which he erroneously considered as belonging to the Insectivora, are borhyaenids (Simpson, 1948). *Acrocyon*, referred by Ameghino to the Creodonta, is similar to *Borhyaena* and hence belongs in the Borhyaenidae. In Ameghino's Prosimiae, the Clenialitidae and *Pitheculites*, referred to the primate family Homunculidae, are now recognized as Caenolestidae (Marshall, 1976c).

The first comprehensive and authoritative review of marsupial taxonomy and phylogeny was by Gregory (1910). He discussed previous concepts of marsupial classification and presented a reasoned, usable classification as follows:

- Subclass Theria
  - Infraclass Metatheria
    - Order Marsupialia
      - Suborder Allotheria (multituberculates)
      - Suborder Polyprotodontia
        - Superfam. Didelphoidea
          - Fam. Didelphidae
          - Fam. Dasyuridae
          - Fam. Myrmecobiidae
          - Fam. Thylacynidae
        - Superfam. Perameloidea
          - Fam. "Properamelidae" (hypothetical rank of Bensley, 1903)
          - Fam. Peramelidae
        - Superfam. Notoryctoidea
          - Fam. "Pronotoryctids" (hypothetical rank)
          - Fam. Notoryctidae
      - Suborder Paucituberculata
        - Superfam. Caenolestoidea
          - Fam. Epanorthidae
          - Fam. Abderitidae
          - Fam. Garzoniidae
          - Fam. Caenolestidae (*etc.*)
      - Suborder Diprotodontia
        - Superfam. Hypsiprymnoidea (=Phalangeroidea)
          - Fam. Phalangeridae
            - Subfam. Phalangerinae
            - Subfam. Tarsipedinae
            - Subfam. Phascolarctinae
          - Fam. Macropodidae
          - Fam. Phascolomyidae
          - Fam. Diprotodontidae
          - Fam. Thylacoleontidae

As noted by Gregory (1910, p. 230n), the term Eutheria has come to stand for two very distinct concepts—first, for marsupials and placentals (see Gill, 1872; Osborn, 1910; Beddard, 1902); and second, for placentals (see Huxley, 1880). Although Gill's usage of the term has priority, there exists a long-standing and widely used nomenclatural practice of using the terms metatherian and marsupial synonymously, as contrasted with the terms eutherians and placentals. Because of priority, some workers (e.g., Kermack, 1967, p, 245) have suggested that the term Eutheria (*sensu* Gill, 1872) be used to include both the marsupial and placental mammals and that Marsupialia and Placentalia be used, respectively, in the place of Metatheria and Eutheria as arranged by Simpson (1945).

Simpson (1945, p. 164) noted that the terms Metatheria and Eutheria are so

widely accepted and so generally understood in the sense in which he employed them that it would be puristic to reject them or to attempt to maintain their forgotten original significations. Because of this, and in an attempt to avoid contributing to the regrettable confusion, Gregory (1910) employed the term Theria (*sensu* Parker & Haswell, 1897, p. 448) as the equivalent of Eutheria of Gill. The name Theria was available, appropriate, and unambiguous. Such an arrangement is reasonable and has been widely used for the last 65 years.

Many subsequent students overlooked the fact that Huxley's terms ending in *-theria* were not really taxonomic names but merely theoretical terms designating stages of evolution (Simpson, 1945, p. 164). Thus, Hypotheria of Huxley designated an unknown, hypothetical, first stage of mammalian evolution, and the later stages were designated successively Prototheria, Metatheria, and Eutheria. According to Huxley, living primates, for example, are eutherian but were derived from metatherian primates (not from marsupials), these in turn from prototherian primates (not from monotremes), and these finally from hypotherian primates (Simpson, 1945, p. 164).

Although the boundaries of the group Marsupialia are now rather well established (see Marshall, 1979b; Tyndale-Biscoe, 1973, p. 6), the same cannot be said for its subdivisions (Simpson, 1945, p. 171). Simpson (1930, 1945) recognized six marsupial groups, each of which he considered a monophyletic unit. These groups he recognized as superfamilies—Didelphoidea, Borhyaenoidea, Dasyuroidea, Perameloidea, Caenolestoidea, and Phalangeroidea. As noted by Simpson (1945, p. 171), many attempts have been made to unite these basic groups, under these or other names, into more inclusive groups of about subordinal rank.

The best known and most frequently adopted system is division into Polyprotodontia and Diprotodontia, following the characters of the incisor teeth, see, *e.g.*, Gregory, 1910. An old alternative is to classify these six groups according to whether the second and third toes of the hind foot are or are not united, giving such suborders as Didactyla and Syndactyla, see, *e.g.*, Wood-Jones, 1923-1925. The arrangements are as follows:

INCISORS

Polyprotodontia	Didelphoidea Borhyaenoidea Dasyuroidea Perameloidea
Diprotodontia	Caenolestoidea Phalangeroidea

TOES

Didactyla	Didelphoidea Borhyaenoidea Dasyuroidea Caenolestoidea
Syndactyla	Perameloidea Phalangeroidea

As might be expected of classifications based essentially on single characters, these are contradictory and unsatisfactory. The Caenolestoidea and Perameloidea are anomalous in any arrangement of this kind, and if they are, in turn, elevated to separate subordinal rank the advantage of simplicity, the primary aim of this attempt to define suborders, is lost. Structurally it would be justifiable to combine the Didel-

> phoidea, Borhyaenoidea, and Dasyuroidea into one higher group, as these are nearly intergrading morphological complexes. The other three basic groups do not even remotely intergrade, and there really is no proper basis for uniting any two of them on the subordinal level (Simpson, 1945, p. 171).

Simpson (1945, p. 171) justly argued that because of the uncertainties concerning the phylogenetic relationships of these marsupial groups, it is best to recognize six coordinate groups, which he called superfamilies, and not to unite them further into suborders. "This at least is more conservative than following any one disputed and ill-supported hypothesis."

Simpson's abandonment of the two subordinal groupings of earlier workers was one of the most important advances in marsupial classification of our time. By discarding these suborders (i.e., Diprotodontia, Polyprotodontia; or Syndactyla and Didactyla), Simpson promoted a freer approach to problems of interrelationships within the marsupials as a whole (see Ride, 1964a, p. 98).

The classification proposed by Simpson (1945) follows:

- Subclass Theria
  - Infraclass Metatheria
    - Order Marsupialia
      - Superfam. Didelphoidea
        - Fam. Didelphidae
          - Subfam. Pediomyinae
          - Subfam. Thlaeodontinae
          - Subfam. Microbiotheriinae
          - Subfam. Didelphinae
        - Fam. Caroloameghiniidae
      - Superfam. Borhyaenoidea
        - Fam. Borhyaenidae
          - Subfam. Borhyaeninae
          - Subfam. Thylacosmilinae
      - Superfam. Dasyuroidea
        - Fam. Dasyuridae
          - Subfam. Phascogalinae
          - Subfam. Dasyurinae
          - Subfam. Thylacininae
          - Subfam. Myrmecobiinae
        - Fam. Notoryctidae
      - Superfam. Perameloidea
        - Fam. Peramelidae
      - Superfam. Caenolestoidea
        - Fam. Caenolestidae
          - Subfam. Caenolestinae
          - Subfam. Palaeothentinae
          - Subfam. Abderitinae
        - Fam. Polydolopidae
      - Superfam. Phalangeroidea
        - Fam. Phalangeridae
          - Subfam. Phalangerinae
          - Subfam. Tarsipedinae
          - Subfam. Phascolarctinae
          - Subfam. Burramyinae
        - Fam. Thylacoleonidae
        - Fam. Phascolomidae
        - Fam. Macropodidae
          - Subfam. Macropodinae
          - Subfam. Potoroinae
        - Fam. Diprotodontidae

In 1947 Gregory presented his "Palimpsest Theory" in which he attempted to demonstrate that: (1) the existing monotremes are, on the whole but with certain exceptions, far more "specialized away" from the primitive mammalian type than any known marsupials; and (2) that the monotremes have been derived probably within the Australasian region and by relatively rapid divergence from the ancestors of the Australian marsupials. In short, Gregory attempted to demonstrate that monotremes were derived from an ancestor shared with Australasian marsupials. He proposed transfer of the orders Monotremata and Marsupialia to a new subclass Marsupionta, characterized as:

> didelphian, cloacate to trivaginate, oviparous or fetiparous, marsupiate mammals, typically with epipubic bones; primitively a large rhinarium (lost in tachyglossids); brain with hippocampus but without a corpus callosum; malleus with large anterior process (goniale) (Gregory, 1947, p. 46).

He proposed the following classification:

Class Mammalia
  Subclass Marsupionta
    Order Marsupialia
    Order Monotremata
  Subclass Monodelphia (Placentalia)

Gregory suggested that this arrangement avoided the confusing terms Prototheria, Metatheria, Eutheria, and Theria. The views presented in Gregory's paper have not received wide credence, and most of the conclusions have been controverted.

The views of Kühne (1972, 1975), which perpetuate this scheme, are likewise controverted. The presence of epipubic bones is not a shared, derived character of monotremes and marsupials as stated by Kühne (1975), but simply represents retention in these groups of a primitive mammalian character. The loss of these bones in placentals is the derived condition (Marshall, 1979b).

Kühne (1972) emphatically stated that monotremes and marsupials are synapomorphous in the replacement of but one postcanine tooth, the dP4. However, the dental formula of the living monotreme *Ornithorhynchus*, upon which he based his conclusions, is not certainly known. Kühne's view that monotremes and marsupials are sister-groups is further refuted by the numerous apomorphies shared by marsupials and placentals, but not shared with monotremes or other prototherians (Marshall, 1979b, table 1, fig. 1).

A choice of alternatives for recognizing the Marsupialia as an order or group of higher rank in a phylogenetic classification involves decisions on the best procedures for expressing evolutionary relationships and diversity both within and without the group. Considering the number of hierarchical levels available, does ranking of Marsupialia as an order provide adequate degrees of taxonomic freedom to express affinity and supposed relationships? In terms of its diversity, is the group Marsupialia comparable to or does it encompass greater variety than the larger orders of placental mammals? (Clemens & Marshall, 1976).

The superfamilial arrangement proposed by Simpson (1930, 1945) fits well with the traditional practice of regarding the Marsupialia as a single order. This ranking, however, implies a high degree of homogeneity in a group of animals that has evolved for just as long as the Eutheria (Air et al., 1971; Marshall, 1979b; Lillegraven, 1969, 1974, 1976; Moeller, 1968; Turnbull, 1971; Kirsch, 1977d),

Table 1. Comparison of various nomenclatures used by early workers for the major groups of living Mammalia.

De Blainville, 1816	**De Blainville, 1834**	**Bonaparte, 1837**
Didelphes (monotremes and marsupials)	Ornithodelphia (monotremes)	Ovovivipara (monotremes and marsupials)
Monodelphes (placentals)	Didelphia (marsupials)	Placentalia (placentals)
	Monodelphia (placentals)	

Gill, 1872	**Huxley, 1880**	**Gregory, 1910 Simpson, 1945**
Prototheria (monotremes)	Prototheria (monotremes, *s.l.*)	Prototheria (monotremes)
Eutheria (marsupials and placentals)	Metatheria (marsupials, *s.l.*)	Theria Metatheria (marsupials)
	Eutheria (placentals, *s.l.*)	Eutheria (placentals)

which, in contrast, is currently subdivided into some 35 orders (see McKenna, 1975; Ride, 1964a).

> Fossil marsupials, particularly those of the Australian Pleistocene clearly demonstrate a wide variety of forms which, if they had been eutherian, would have been distributed among several orders. Thus, if the kangaroos and wallabies are antelope- and deer-like, the stheurines bovid-like and the diprotodontids hippo-like then the native cats can only represent some such unspecialized Carnivora as the civets and mongooses. The bandicoots are very different again from both of these groups and clearly invite comparison with yet another order (Ride, 1964a, p. 98).

Ride (1964a, p. 98) has noted that this idea is not original, for taxonomists have long recognized this inconsistency in classification.

> Because of their peculiar features [marsupials] are always ranked as a single order of mammals within a separate class, although the briefest inspection is enough to show that there is at least as much difference between a kangaroo and a dasyure (for example) as between an insectivore and a rodent, let alone a rodent and a lagomorph. Because eutherian mammals were the first to become familiar to the anatomists of the western world, and even more because our species belongs to them, they have been taken as normal and the extraordinary abnormality of the marsupial urogenital system has sufficed to keep marsupials as a single order. Had we known the marsupials first and especially if we had belonged to them, they would have been classified in several orders, and no doubt the abnormality of the eutherian genitalia would have sufficed to keep the number of eutherian orders much lower than at present (Cain, 1959, p. 214).

Ride (1964a, p. 98) has justly argued that when Simpson proposed his classification of the Marsupialia in 1930 there did not seem to be good reason for grouping the six superfamilies at a higher level. Since then, fossils of about the right age and with suitable characters to provide a transitional stage between the superfamilies Didelphoidea and Borhyaenoidea have been discovered (e.g., *Patene*). Ride continued that if the Dasyuroidea were added to these, the argu-

ment that Dasyuroidea, Didelphoidea, and Borhyaenoidea form a single unit comparable with the eutherian Carnivora would become even stronger.

> Most authors regard the modern Dasyuroidea as not very greatly modified descendants of the original didelphoid invaders of Australia and, since Phalangeroidea at least (and also the Perameloidea) warrant ordinal status by comparison with Eutheria (Ride, 1964a, p. 99),

he took the step of proposing four orders of Marsupialia.

In his classification, Ride did not discard the six superfamilies of Simpson, but, in an attempt to emphasize the breadth of the whole radiation, he grouped (1964a, p. 99) these as follows:

- Infraclass Metatheria
  - Superorder Marsupialia
    - Order Marsupicarnivora
      - Superfam. Didelphoidea
      - Superfam. Borhyaenoidea
      - Superfam. Dasyuroidea
        - Fam. Dasyuridae
        - Fam. Thylacinidae
    - Order Paucituberculata
      - Superfam. Caenolestoidea
        - Fam. Caenolestidae
        - Fam. Polydolopidae
    - Order Peramelina
      - Superfam. Perameloidea
        - Fam. Peramelidae
    - Order Diprotodontia
      - Superfam. Phalangeroidea
        - Fam. Phalangeridae
        - Fam. Wynyardiidae
        - Fam. Vombatidae
        - Fam. Diprotodontidae
        - Fam. Macropodidae
  - Marsupialia *incertae sedis*
    - Fam. Notoryctidae

The probable phylogenetic relationships of the orders proposed by Ride (1962a, 1964a) were established on the basis of five key features of living forms (see Ride, 1962a, fig. 10).

Based largely upon serological data, although taking into account other information as well, Kirsch (1968a) proposed a new classification for the Marsupialia. He followed Ride (1964a) in recognizing several orders, for Ride's reasons (as outlined above) and also because this makes available a greatly expanded hierarchy for showing supposed relationships. The classification proposed by Kirsch (1968a, p. 420) follows:

- Superorder Marsupialia
  - Order Polyprotodonta
    - Suborder Didelphimorphia
      - Superfam. Didelphoidea
      - Superfam. Borhyaenoidea
    - Suborder Dasyuromorphia
      - Superfam. Dasyuroidea
        - Fam. Dasyuridae
          - Subfam. Dasyurinae

Subfam. Myrmecobiinae
Fam. Thylacinidae
Suborder Peramelemorphia
Superfam. Perameloidea
Fam. Peramelidae
Subfam. Peramelinae
Subfam. Thylacomyinae
Polyprotodonta *incertae sedis*
Fam. Notoryctidae
Order Paucituberculata
Superfam. Caenolestoidea
Order Diprotodonta
Superfam. Vombatoidea
Fam. Vombatidae
Fam. Phascolarctidae
Superfam. Phalangeroidea
Fam. Phalangeridae
Subfam. Phalangerinae
Subfam. Trichosurinae
Fam. Wynyardiidae
Fam. Petauridae
Subfam. Petaurinae
Subfam. Pseudocheirinae
Fam. Burramyidae
Fam. Thylacoleonidae
Fam. Macropodidae
Subfam. Macropodinae
Subfam. Sthenurinae
Subfam. Potoroinae
Fam. Diprotodontidae
Subfam. Diprotodontinae
Subfam. Nototheriinae
Subfam. Palorchestinae
Subfam. Zygomaturinae
Phalangeroidea *incertae sedis*
Dactylopsila, Distoechurus
Superfam. Tarsipedoidea
Fam. Tarsipedidae

In the scheme proposed by Kirsch, the Australasian diprotodonts (Diprotodontia) and the South American caenolestoids (Paucituberculata) represent distinct orders. In spite of the separation of Australasian and American Marsupialia on serology and sperm morphology, Kirsch agreed with Ride that it was "useful" to place the American polyprotodonts (i.e., Didelphoidea and Borhyaenoidea) and the dasyuroids (Dasyuroidea) in a single order, Polyprotodontia. Kirsch believed that there were compelling reasons for including the perameloids in the Polyprotodontia, and he did not separate them from it as did Ride. To show the breadth of the order Polyprotodontia, Kirsch recognized suborders in it, but not in the Paucituberculata and Diprotodontia. Gill's (1872) names Didelphimorphia and Dasyuromorphia were available for two of the suborders, and for the third Kirsch proposed the name Peramelemorphia.

Kirsch did not then offer opinions on the organization of the American marsupials below the level of superfamily. He did, however, considerably reorganize the Australasian Diprotodontia. He placed *Tarsipes* in a monotypic superfamily Tarsipedoidea. This move was a compromise between the serological results that suggested *Tarsipes* was as distinct from phalangeroids as it was from

dasyuroids and perameloids and the occurrence in *Tarsipes* of diprotodonty, syndactyly, and a superficial thymus gland, which seemed to remove all doubts that *Tarsipes* is a true phalangeroid. Kirsch restricted the superfamily Phalangeroidea to include the possums, kangaroos, and several extinct groups (the Diprotodontidae, tentatively). The possums were reorganized into three families based in serology, cytology (Sharman, 1961), and sperm morphology (Hughes, 1965). Kirsch considered *Dactylopsila, Distoechurus,* and *Notoryctes* as aberrant, and their affinities with other marsupials conjectural.

Simpson (1970a, 1971) presented excellent reviews of the suprageneric groups of South American Marsupialia, fossil and Recent. His proposed classification was traditional in that a single order Marsupialia and three South American superfamilies were recognized:

- Order Marsupialia
  - Superfam. Didelphoidea
    - Fam. Didelphidae
      - Subfam. Didelphinae
      - Subfam. Caroloameghiniinae
      - Subfam. Sparassocyninae
    - Fam. Borhyaenidae
      - Subfam. Borhyaeninae
      - Subfam. Thylacosmilinae
  - ?Didelphoidea *incertae sedis*
    - Fam. Necrolestidae
  - Superfam. Caenolestoidea
    - Fam. Caenolestidae
      - Subfam. Caenolestinae
      - Subfam. Palaeothentinae
      - Subfam. Abderitinae
    - Fam. Polydolopidae
  - ?Caenolestoidea *incertae sedis*
    - Fam. Groeberiidae
  - Superfam. Argyrolagoidea
    - Fam. Argyrolagidae

As Simpson (1970a) pointed out, there are a number of Recent and fossil taxa—particularly *Necrolestes, Notoryctes, Groeberia,* and *Tarsipes*—that fit only marginally into the currently recognized superfamilial groupings. He did, however, add the Argyrolagoidea to the roster of superfamilies, but placed the Borhyaenidae in the superfamily Didelphoidea "with the clearly ancestral and similar Didelphidae" (Simpson, 1971, p. 113).

In 1976 Clemens & Marshall presented another classification for non-Australasian Marsupialia. Three new superfamilies (Polydolopoidea, Groeberioidea, and Necrolestoidea) were proposed:

- Order Marsupialia
  - Superfam. Didelphoidea
    - Fam. Didelphidae
      - Subfam. Didelphinae
      - Subfam. Microbiotheriinae
      - Subfam. Glasbiinae
      - Subfam. Caroloameghiniinae
      - Subfam. Sparassocyninae
    - Fam. Pediomyidae
    - Fam. Stagodontidae
  - Superfam. Borhyaenoidea
    - Fam. Borhyaenidae

Subfam. Borhyaeninae
Subfam. Thylacosmilinae
Superfam. Argyrolagoidea
Fam. Argyrolagidae
Superfam. Necrolestoidea
Fam. Necrolestidae
Superfam. Caenolestoidea
Fam. Caenolestidae
Subfam. Caenolestinae
Subfam. Palaeothentinae
Subfam. Abderitinae
Superfam. Polydolopoidea
Fam. Polydolopidae
Superfam. Groeberioidea
Fam. Groeberiidae

In polydolopoids the sectorial, bladelike tooth is the last premolar and not the first molar, as is the case in those caenolestids with plagiaulacoid (see Simpson, 1933) dentitions (Paula Couto, 1952b; Pascual & Herrera, 1973). Evolution of plagiaulacoid teeth is thus a convergent feature in these lineages, and there is no convincing evidence that the polydolopoids are any closer phylogenetically to caenolestids than they are to didelphids. For these reasons, the new superfamily Polydolopoidea was proposed.

There appeared to be several advantages in placing *Groeberia* and *Necrolestes* in separate superfamilies. This action recognized the phylogenetically isolated positions of these taxa and seemed a better expression of the diversity within the Marsupialia. Also, Clemens & Marshall returned to Simpson's earlier classification of 1945 and maintained the superfamily Borhyaenoidea.

> In addition to recognizing diversity, these changes balance the classification of the poorly-known but very distinct side branches, and leave the Didelphoidea and Caenolestoidea uncluttered and cohesive groups (Clemens & Marshall, 1976, p. 10).

The most recent attempt to classify all fossil and living Marsupialia at a suprageneric level is by Kirsch (1977b). His classification is again based largely on serological data (see Kirsch, 1968a), but it incorporates consideration of cytological and some anatomical information as well. This work is clearly the most comprehensive and synthetic treatment of this subject to date. The scheme proposed by Kirsch (1977b, p. 111) follows:

Superorder Marsupialia
Order Polyprotodonta
Suborder Didelphimorphia
Superfam. Didelphoidea
Fam. Didelphidae
Subfam. Didelphinae
Subfam. Caluromyinae
Subfam. Glasbiinae
Subfam. Caroloameghiniinae
Subfam. Sparassocyninae
Fam. Microbiotheriidae
Fam. Pediomyidae
Fam. Stagodontidae
Superfam. Borhyaenoidea
Fam. Borhyaenidae
Subfam. Borhyaeninae
Subfam. Hathlyacyninae
Subfam. Prothylacyninae

Subfam. Proborhyaeninae
Fam. Thylacosmilidae
Fam. Necrolestidae
Fam. Thylacinidae
Suborder Dasyuromorphia
Superfam. Dasyuroidea
Fam. Dasyuridae
Fam. Myrmecobiidae
Suborder Peramelemorphia
Superfam. Perameloidea
Fam. Peramelidae
Fam. Thylacomyidae
Suborder Notoryctemorphia
Superfam. Notoryctoidea
Fam. Notoryctidae
Order Paucituberculata
Superfam. Caenolestoidea
Fam. Caenolestidae
Subfam. Caenolestinae
Subfam. Palaeothentinae
Subfam. Abderitinae
Superfam. Polydolopoidea
Fam. Polydolopidae
?Paucituberculata
Superfam. Groeberioidea
Fam. Groeberiidae
Superfam. Argyrolagoidea
Fam. Argyrolagidae
Order Diprotodonta
Superfam. Vombatoidea
Fam. Vombatidae
Fam. Phascolarctidae
Superfam. Phalangeroidea
Fam. Phalangeridae
Subfam. Phalangerinae
Subfam. Trichosurinae
Fam. Ektopodontidae
Fam. Petauridae
Subfam. Petaurinae
Subfam. Pseudocheirinae
Subfam. Dactylopsilinae
Fam. Burramyidae
Fam. Thylacoleonidae
Fam. Macropodidae
Subfam. Macropodinae
Subfam. Sthenurinae
Subfam. Potoroinae
Fam. Diprotodontidae
Subfam. Nototheriinae
Subfam. Diprotodontinae
Subfam. Palorchestinae
Subfam. Zygomaturinae
Superfam. Tarsipedoidea
Fam. Tarsipedidae
Superfam. Wynyardioidea
Fam. Wynyardiidae

This classification is similar to that proposed in his 1968 paper, with the following notable differences. A new subfamily, the Caluromyinae, is proposed for inclusion of the living didelphid genera *Caluromys, Caluromysiops,* and *Glironia.*

Four subfamilies of Borhyaenidae are recognized following the study by Marshall (1978a), and the saber-tooth marsupials are placed in a distinct family, the Thylacosmilidae, following Marshall (1976a). The enigmatic South American fossil *Necrolestes*, family Necrolestidae, is placed in the Borhyaenoidea following the conclusions of Patterson (1958), and the Australasian family Thylacinidae is placed in the Borhyaenoidea following Archer (e.g., 1976b, c). The superfamilies Groeberioidea and Polydolopoidea are recognized following Clemens & Marshall (1976).

For the Australasian forms, the marsupial mole, *Notoryctes*, is placed in a monotypic suborder, Notoryctemorphia, in the order Polyprotodontia. *Ektopodon* Stirton, Tedford, & Woodburne (1967), described originally as possibly a monotreme, is now recognized as a marsupial (see Woodburne & Tedford, 1975) and is placed in the family Ektopodontidae, superfamily Phalangeroidea. *Dactylopsila* is placed in a new petaurid subfamily Dactylopsilinae; *Distoechurus* is placed in the Burramyidae; and the fossil *Wynyardia* is placed in a monotypic superfamily, the Wynyardioidea. Last, two families of perameloids, Peramelidae and Thylacomyidae, are recognized.

Only five new suprageneric ranks have been proposed subsequent to Kirsch's study. Crochet (1979) recognized two tribes for the subfamily Didelphinae, the Didelphini and Peradectini; Marshall (1980) recognized the tribes Pichipilini, Parabderitini, and Abderitini in the family Caenolestidae.

As noted above, a large number of names are available for taxonomic groups between the rank of Marsupialia and family. Although these and other names will not be considered further, they, their authorship, and their previous usage are summarized as follows:

EOMETATHERIA Simpson, 1970a, p. 38—rank not originally specified, but suggested to include all Australasian forms.
HESPEROMETATHERIA Simpson, 1970a, p. 38—rank not originally specified, but suggested to include all American and European forms.
Cohort MARSUPIATA Turnbull, 1971, p. 176 (=Old Metatheria or Marsupialia).
Order MARSUPIALIA Illiger, 1811, p. 75 (=Didelphia de Blainville, 1816, p. 109) [MARSUPIALIA has also been used as a Superorder (e.g., Ride, 1964a, p. 99; Kirsch, 1977b, p. 111) and Supercohort (McKenna, 1975, p. 40)].
Order MARSUPICARNIVORA Ride, 1964a, p. 99.
Order DIPROTODONTIA Owen, 1866.
Order POLYPROTODONTIA Owen, 1866.
Order PERAMELINA Gray, 1825, p. 340.
Order PAUCITUBERCULATA Ameghino, 1894, p. 332 (=ASYNDACTYLIA Thomas, 1895b, p. 870).
Order MICROBIOTHERIA Ameghino, 1889, p. 263.
Suborder DIDELPHIMORPHIA Gill, 1872, p. 26.
Suborder DASYUROMORPHIA Gill, 1872, p. 26.
Suborder PERAMELEMORPHIA Kirsch, 1968a, p. 420.
Suborder NOTORYCTEMORPHIA Kirsch, 1977b, p. 112.
*Superfam. ARGYROLAGOIDEA (Ameghino, 1904, p. 255) Simpson, 1970a, p. 3.
*Superfam. BORHYAENOIDEA (Ameghino, 1894, p. 371) Simpson, 1930, p. 9 (including SPARASSODONTA Ameghino, 1894, p. 364).
Superfam. CAENOLESTOIDEA (Trouessart, 1898, p. 1205) Osborn, 1910, p. 517.
Superfam. DASYUROIDEA (Goldfuss, 1820, pp. xxxiii, 447) Simpson, 1930, p. 9 (CREOPHAGA Haeckel, 1866, p. clvii; DASYUROMORPHIA Gill, 1872, p. 26).
Superfam. DIDELPHOIDEA (Gray, 1821, p. 308) Osborn, 1910, p. 515 [including CECILIOLEMUROIDEA Weigelt, 1933, p. 145; ENTOMOPHAGA Owen, 1859, p. 52; PEDIMANA Haeckel, 1866, p. cxliii; DIDELPHIMORPHIA Gill, 1872, p. 26].
*Superfam. GROEBERIOIDEA (Patterson, 1952, p. 39) Clemens & Marshall, 1976, p. 10.

*Fam. Properamelidae Bensley, 1903, p. 192 (hypothetical group that included common ancestors of syndactylous Australasian taxa).

*Fam. Pronotoryctidae Gregory, 1910, p. 204 (hypothetical group that evolved from Properamelidae and gave rise to Notoryctidae).

Superfam. NOTORYCTOIDEA (Ogilby, 1892, p. 5) Gregory, 1910, p. 204.

Superfam. PERAMELOIDEA (Gray, 1825, p. 340) Osborn, 1910, p. 516 (=PERAMELINA Gray, 1825, p. 340).

Superfam. PHALANGEROIDEA (Thomas, 1888, p. 126) Weber, 1928, p. xiii (=CARPOPHAGA Owen, 1859, p. 52).

*Superfam. POLYDOLOPOIDEA (Ameghino, 1897, p. 496) Clemens & Marshall, 1976, p. 10.

Superfam. TARSIPEDOIDEA (Gervais & Verreaux, 1842, p. 1) Kirsch, 1968a, p. 420.

Superfam. VOMBATOIDEA (Iredale & Troughton, 1934, p. 33) Kirsch, 1968a, p. 419 (=PHASCOLOMYDA Goldfuss, 1820, pp. xxii, 444, RHIZOPHAGA Owen, 1859, p. 52).

Superfam. WYNYARDIOIDEA (Osgood, 1921, p. 138) Kirsch, 1977b, p. 113.

The classification of the families and genera of Marsupialia that follows is divided into two parts—I. New World and European, and II. Australasian. The families, subfamilies, and tribes are listed in an order that *roughly* goes from most generalized to most specialized, although this arrangement is not exact nor does it necessarily represent any sound phylogenetic sequence. The genera are listed in alphabetical order. Notes are used freely to help clarify spelling, rank usage, synonymies, and/or to list significant or recent papers dealing with the distribution (geographic or temporal) and/or taxonomic usage of a particular rank or name. Fossil taxa are marked with an asterisk (*), and their known distributions in time are recorded. For the European, North American, and South American fossils the Provincial Land Mammal Ages are also listed. Land Mammal Ages are not yet recognized in Australia. Last, the most commonly used and/or diagnostic vernacular names are given for living genera.

The following abbreviations are used for geologic occurrence:

E.	Early
M.	Medial
L.	Late
Cretac.	Cretaceous
Paleoc.	Paleocene
Eoc.	Eocene
Olig.	Oligocene
Mioc.	Miocene
Plioc.	Pliocene
Pleist.	Pleistocene
R.	Recent

The following abbreviations are used for geographic distribution:

Aus.	Australia
Eu.	Europe
C.A.	Central America (including Mexico)
N.A.	North America
S.A.	South America
Tas.	Tasmania

PART B

DETAILED CLASSIFICATION OF FAMILIES AND GENERA OF MARSUPIALIA

I. New World and European Marsupialia

Fam. Didelphidae Gray, 1821, p. 308 [including Chironectida Haeckel, 1866, p. clvii; Chironectidae (Anon.) 1897, *fide* Palmer, 1904, p. 734; Ceciliolemuridae Weigelt, 1933, p. 146; Genuina Eichwald, 1831, p. 373 (*partim*); Opossina Wagner, 1843, pp. v, 39 (*partim*); Scansoridae Reichenow, 1886, p. 143; Caroloameghiniidae Ameghino, 1901, p. 353; Monodelphidae Talice et al., 1960, p. 149]. "Opossums."

Subfam. Didelphinae[1] (Gray, 1821, p. 308) Simpson, 1927a, p. 5 (=Didelphidae Gray, 1821, p. 308) (including Herpetotheriinae Trouessart, 1879, p. 225; Peradectini Crochet, 1979, p. 367; Didelphini Crochet, 1979, p. 368). "Opossums."

**Albertatherium* Fox, 1971, p. 149. L. Cretac. (Aquilan), N.A.

**Alphadon* Simpson, 1927b, p. 125. L. Cretac. (Aquilan–Lancian), N.A.; L. Cretac.[2] (?), S.A.

**Amphiperatherium*[3] Filhol, 1879, p. 201 (including *Oxygomphius* Meyer, 1846, p. 474; ?*Ceciliolemur* Weigelt, 1933, p. 146; ?*Microtarsioides* Weigelt, 1933, p. 143). E. Eoc. (Sparnacian)–L. Mioc. (Sarmatian), Eu.

**Bobbschaefferia* Paula Couto, 1970, p. 20 [=*Schaefferia* Paula Couto, 1952a, p. 12; *nec Schaefferia* Absolon, 1900, p. 265 (Collemb.), *nec Schaefferia* Houlbert, 1918, p. 421 (Lepidoptera)]. L. Paleoc. (Riochican), S.A.

Chironectes[44] Illiger, 1811, p. 76 (=*Memina* Fischer, 1813, p. 579; *Cheironectes* Gray, 1821, p. 308; *Gamba* Liais, 1872, p. 329). E. Plioc. (Montehermosan)[4]–R., S.A.; R., C.A. "Yapok or Water Opossum."

**Coona*[10] Simpson, 1938, p. 1. E. Eoc. (Casamayoran), S.A.

**Derorhynchus* Paula Couto, 1952a, p. 13. L. Paleoc. (Riochican), S.A.

Didelphis[79] Linnaeus, 1758, p. 54 (including *Didelphys* Schreber, 1778, p. 532; *Opossum* Schmid, 1818, p. 115; *Sarigua* Muirhead, 1819, p. 429; *Dasyurotherium* Liais, 1872, p. 331; *Gambatherium* Liais, 1872, p. 331; *Thylacotherium* Lund, 1839, p. 223, *nec Thylacotherium* Valenciennes, 1838, p. 580; *Leucodelphis* Ihering, 1914, p. 347; *Leucodidelphys* Krumbiegel, 1941, p. 34; **Dimerodon* Ameghino, 1889, pp. 277, 282). M. Pleist. (Ensenadan)–R., S.A.; R., C.A.; L. Pleist. (Irvingtonian)[61]–R., N.A. "Common Opossums" or "Zarigueyas."

**Didelphopsis* Paula Couto, 1952a, p. 7. L. Paleoc. (Riochican), S.A.

**Entomacodon* Marsh, 1872, p. 214 (?including **Centracodon* Marsh, 1872, p. 215). M. Eoc. (Bridgerian), N.A.

**Gaylordia* Paula Couto, 1952a, p. 16 (including **Xenodelphis* Paula Couto, 1962, p. 160). L. Paleoc. (Riochican), S.A.

**Guggenheimia* Paula Couto, 1952a, p. 11. L. Paleoc. (Riochican), S.A.

**Herpetotherium* Cope, 1873, p. 1. E. Eoc. (Wasatchian)–E. Mioc. (Hemingfordian), N.A.

**Hondadelphys* Marshall, 1976b, p. 405. M. Mioc. (Friasian), S.A.

**Hyperdidelphys*[5] Ameghino, 1904, p. 262 (including *Paradidelphys* Ameghino, 1904, p. 263; and *Cladodidelphys* Ameghino, 1904, p. 264). L. Mioc. (Huayquerian)–L. Plioc. (Chapadmalalan), S.A.

Lestodelphys[57] Tate, 1934, p. 154 [=*Notodelphys* Thomas, 1921, p. 137, *nec Notodelphys* Allman, 1847, p. 2 (copepod), *nec* Lichtenstein & Weinland, 1854, p. 373 (Anura)]. E. Pleist. (Uquian)–R., S.A. "Patagonian Opossum."

Lutreolina[58] Thomas, 1910b, p. 247 [=*Peramys* Matschie (*nec* Lesson), 1916a, p. 259]. L. Mioc. (Huayquerian)[6]–R., S.A. "Thick-tailed Opossum" or "Comadreja Colorada."

Marmosa[5] Gray, 1821, p. 308 [including *Asagis* Gloger, 1842, p. 82; *Notogogus* Gloger, 1842, p. 82; *Grymaeomys* Burmeister, 1854, p. 138; *Cuica* Liais, 1872, p. 329; *Quica* Cabrera, 1957, p. 12 (misprint for *Cuica* Liais); *Marmosops* Matschie, 1916c, p. 262]. M. Mioc. (Friasian)–R., S.A.; R., C.A. "Murine opossums" or "Achocayas."

**Marmosopsis* Paula Couto, 1962, p. 157. L. Paleoc. (Riochican), S.A.

Metachirus[55] Burmeister, 1854, p. 135 (as a subgenus, considered a genus by Burmeister, 1856, p. 69). L. Pleist. (Lujanian)–R., S.A.; R., C.A. "Pouchless four-eyed Opossum" or "Brown four-eyed Opossum."

Micoureus[5] Lesson, 1842, p. 186. L. Pleist. (Lujanian)–R., S.A. "Large murine opossums."

**Mimoperadectes* Bown & Rose, 1979, p. 90. E. Eoc. (Clarkforkian and early Wasatchian), N.A.

**Minusculodelphis* Paula Couto, 1962, p. 161. L. Paleoc. (Riochican), S.A.

**Mirandatherium* Paula Couto, 1952c, p. 503 [=*Mirandaia* Paula Couto, 1952a, p. 22, *nec Mirandaia* Travassos, 1937, p. 360 (Vermes)]. L. Paleoc. (Riochican), S.A.

Monodelphis Burnett, 1830, p. 351 (=*Peramys* Lesson, 1842, p. 187) (including *Minuania* Cabrera, 1919, p. 43; *Hemiurus* Gervais, 1855, p. 101; *Microdelphys* Burmeister, 1856, p. 83; *Monodelphiops* Matschie, 1916c, p. 261). L. Mioc. (Chasicoan)[5]–R., S.A. "Short-tailed Opossums."

**Monodelphopsis* Paula Couto, 1952a, p. 24. L. Paleoc. (Riochican), S.A.

**Nanodelphys* McGrew, 1937, p. 452 (including *Didelphidectes* Hough, 1961, p. 225). M. Eoc. (Uintan)–M. Mioc. (Barstovian),[7] N.A.

**Pachybiotherium* Ameghino, 1902b, p. 123. L. Olig. (Colhuehuapian), S.A.

**Peradectes*[3] Matthew & Granger, 1921, p. 2 (including *Thylacodon* Matthew & Granger, 1921, p. 2). L. Cretac. (Lancian)–E. Eoc. (Wasatchian), N.A.; E. Eoc. (Sparnacian), Eu.; L. Cretac. (?), S.A.

**Peratherium*[3] Aymard, 1850, p. 81 (including *Alacodon* Quinet, 1964, p. 273). E. Eoc. (Sparnacian)–L. Olig. (Stampian), Eu.

Philander[55] Tiedemann, 1808, p. 426 (including *Metachirops* Matschie, 1916a, p. 262; *Holothylax* Cabrera, 1919, p. 47; *Metacherius* Sanderson, 1949, p. 787). E. Plioc. (Montehermosan)[8]–R., S.A.; R., C.A. "Pouched four-eyed Opossums" or "Gray" and "Black four-eyed Opossums."

**Protodidelphis* Paula Couto, 1952a, p. 5. L. Paleoc. (Riochican), S.A.

**Sternbergia* Paula Couto, 1970, p. 30. L. Paleoc. (Riochican), S.A.

Thylamys[5] Gray, 1843, p. 101. E. Plioc. (Montehermosan)–R., S.A. "Small murine opossums."

**Thylatheridium* Reig, 1952, p. 125. L. Mioc. (Huayquerian)–L. Plioc, (Chapadmalalan), S.A.

**Thylophorops* Reig, 1952, p. 124. L. Plioc. (Chapadmalalan)–E. Pleist. (Uquian), S.A.

**Zygolestes*[8] Ameghino, 1898, p. 243. E. Plioc. (Montehermosan), S.A.

Subfam. Caluromyinae Kirsch, 1977b, p. 111.

Caluromys Allen, 1900, p. 189 (=*Philander* Burmeister, 1856, p. 74, *nec Philander* Tiedemann, 1808, p. 426) [including *Mallodelphys* Thomas, 1920a, p. 195n (as a subgenus, considered a genus by Miranda Ribeiro, 1936, p. 328)]. L. Pleist. (Lujanian)–R.,S.A.; R., C.A. "Woolly Opossums."

Caluromysiops Sanborn, 1951, p. 473. R., S.A. "Black-shouldered Opossum."

Glironia[60] Thomas, 1912, p. 239. R., S.A. "Bushy-tailed Opossum."

*Subfam. Glasbiinae Clemens, 1966, p. 24.

**Glasbius* Clemens, 1966, p. 24. L. Cretac. (Lancian), N.A.

*Subfam. Caroloameghiniinae (Ameghino, 1901, p. 353) Clemens, 1966, p. 34 (=Caroloameghiniidae Ameghino, 1901, p. 353).

**Caroloameghinia* Ameghino, 1901, p. 354. E. Eoc. (Casamayoran), S.A.

*Subfam. Sparassocyninae Reig, 1958a, p. 249.

**Sparassocynus*[66] Mercerat, 1898, p. 59 [including *Perazoyphium* Cabrera, 1928, p. 335; *Gerazoyphus* L. Kraglievich, 1934, p. 30 (misprint of *Perazoyphium*)]. L. Mioc. (Huayquerian)–E. Pleist. (Uquian), S.A.

*Fam. Pediomyidae[9] (Simpson, 1927a, p. 6) Clemens, 1966, p. 34 (=Pediomyinae Simpson, 1927a, p. 6).

**Aquiladelphis* Fox, 1971, p. 155. L. Cretac. (Aquilan), N.A.

**Pediomys* Marsh, 1889a, p. 89 (including *Synconodon* Osborn, 1898, p. 171; *Protolambda* Osborn, 1898, p. 172). L. Cretac. (Aquilan–Lancian), N.A.; L. Cretac. (?),[2] S.A.

*Fam. Microboitheriidae Ameghino, 1887, p. 6 (=Microbiotheriinae Simpson, 1929, p. 116) (including Clenialitidae Ameghino, 1909, p. 204).

Dromiciops[59] Thomas, 1894, p. 186. R., S.A. "Monito del Monte."

**Microbiotherium*[41] Ameghino, 1887, p. 6 [including *Oligobiotherium* Ameghino, 1902b, p. 124; *Clenia*[11] Ameghino, 1904, p. 260; *Clenialites* Ameghino, 1906, p. 422; *Microbiotheridion* Ringuelet, 1953, p. 280; *Hadrorhynchus* Ameghino, 1891b, p. 311; *Eodidelphys* Ameghino, 1891b, p. 310; *Prodidelphys* Ameghino, 1891b, p. 310; *Proteodidelphys* Ameghino,

1898, p. 187; *Stylognathus* Ameghino, 1891b, p. 309; *Phonocdromus* Ameghino, 1894, p. 355 (*partim*)]. L. Olig. (Colhuehuapian)–E. Mioc. (Santacrucian), S.A.

*Fam. Stagodontidae Marsh, 1889b, p. 178 (=Thlaeodontidae Cope, 1892, p. 760; Didelphodontinae Simpson, 1927b, p. 124; Thlaeodontinae Hay, 1930, p. 390).

**Boreodon*[78] Lambe, 1902, p. 79. L. Cretac. (Judithian), N.A.

**Delphodon* Simpson, 1927b, p. 127. L. Cretac. (Lancian), N.A.

**Didelphodon*[12] Marsh, 1889a, p. 88 (including *Didelphops* Marsh, 1889a, p. 88, inserted errata; *Stagodon* Marsh, 1889b, p. 178; *Thlaeodon* Cope, 1892, p. 759; *Ectoconodon* Osborn, 1898, p. 171; *Diaphorodon* Simpson, 1927b, p. 127). L. Cretac. (Edmontonian–Lancian), N.A.

**Eodelphis* Matthew, 1916, p. 482. L. Cretac. (Aquilan–Judithian), N.A.

*Fam. Borhyaenidae Ameghino, 1894, p. 371 (including Amphiproviverridae Ameghino, 1894, pp. 333n, 389; Acyonidae[13] Ameghino, 1889, p. 894; Cladictidae Winge, 1923, p. 77; Hathliacynidae Ameghino, 1894, p. 382; Prothylacynidae Ameghino, 1894, p. 377; Sparassodontidae Roger, 1896, p. 16; Proborhyaenidae Ameghino, 1897, p. 501; Cladosictidae Ameghino, 1935, p. 131; Conodonictidae Ameghino, 1935, p. 131).

*Subfam. Hathlyacyninae (Ameghino, 1894, p. 382) Kirsch, 1977b, p. 112 (including Acyonidae Ameghino, 1889, p. 894; Hathliacynidae Ameghino, 1894, p. 382; Amphiproviverridae Ameghino, 1894, pp. 333n, 389; Cladictidae Winge, 1923, p. 77; Cladosictidae Ameghino, 1935, p. 131; Cladosictinae Cabrera, 1927, p. 273).

**Anatherium* Ameghino, 1887, p. 8 (including *Acyon* Ameghino, 1887, p. 8). L. Olig. (Colhuehuapian)–E. Mioc. (Santacrucian), S.A.

**Borhyaenidium* Pascual & Bocchino, 1963, p. 101. L. Mioc. (Huayquerian)–E. Plioc. (Montehermosan), S.A.

**Chasicostylus* Reig, 1957b, p. 29. L. Mioc. (Chasicoan), S.A.

**Cladosictis* Ameghino, 1887, p. 7 (including *Cladictis* (*sic*) Winge, 1923, p. 67; *Hathliacynus* Ameghino, 1887, p. 7; *Agustylus* Ameghino, 1887, p. 7; *Ictioborus* Ameghino, 1891b, p. 315). L. Olig. (Colhuehuapian)–E. Mioc. (Santacrucian), S.A.

**Notictis* Ameghino, 1889, p. 911. L. Mioc. (Huayquerian), S.A.

**Notocynus* Mercerat, 1891b, p. 81. E. Plioc. (Montehermosan), S.A.

**Notogale* Loomis, 1914, p. 216. E. Olig. (Deseadan), S.A.

**Patene* Simpson, 1935a, p. 3 (including *Ischyrodidelphis* Paula Couto, 1952a, p. 9). L. Paleoc. (Riochican)–E. Eoc. (Casamayoran), S.A.

**Perathereutes* Ameghino, 1891b, p. 313. E. Mioc. (Santacrucian), S.A.

**Procladosictis* Ameghino, 1902c, p. 46. M. Eoc. (Mustersan), S.A.

**Pseudonotictis* Marshall, 1981, p. 19. E. Mioc. (Santacrucian), S.A.

**Sipalocyon* Ameghino, 1887, p. 8 [including *Amphithereutes* Ameghino, 1935, p. 108; *Thylacodictis* Mercerat, 1891a, p. 54; *Protoproviverra* Ameghino, 1891b, p. 312, *nec* Lemoine, 1891, p. 279 (Creodonta); *Amphiproviverra* Ameghino, 1891c, p. 397n to replace *Protoproviverra*

Ameghino, 1891b, p. 312]. L. Olig. (Colhuehuapian)–E. Mioc. (Santacrucian), S.A.

*Subfam. Borhyaeninae (Ameghino, 1894, p. 371) Cabrera, 1927, p. 273 (including Borhyaenidae Ameghino, 1894, p. 371; Sparassodontidae Roger, 1896, p. 16; Conodonictidae Ameghino, 1935, p. 131).

**Acrocyon* Ameghino, 1887, p. 8. L. Olig. (Colhuehuapian)–E. Mioc. (Santacrucian), S.A.

**Angelocabrerus* Simpson, 1970b, p. 2. E. Eoc. (Casamayoran), S.A.

**Arctodictis* Mercerat, 1891a, p. 51. L. Olig. (Colhuehuapian)–E. Mioc. (Santacrucian), S.A.

**Argyrolestes* Ameghino, 1902c, p. 48. E. Eoc. (Casamayoran), S.A.

**Borhyaena* Ameghino, 1887, p. 8 (including *Dynamictis* Ameghino, 1891a, p. 148; *Conodonictis* Ameghino, 1891b, p. 314; *Pseudoborhyaena* Ameghino, 1902b, p. 125). L. Olig. (Colhuehuapian)–E. Mioc. (Santacrucian), S.A.

**Eutemnodus* Burmeister, 1885, p. 97 (including *Apera* Ameghino, 1886, p. 13). L. Mioc. (Huayquerian)–E. Plioc. (Montehermosan), S.A.

**Nemolestes* Ameghino, 1902c, p. 48. E. Eoc. (Casamayoran), S.A.

**Parahyaenodon* Ameghino, 1904, p. 266. E. Plioc. (Montehermosan), S.A.

**Pharsophorus* Ameghino, 1897, p. 502. E. Olig. (Deseadan), S.A.

**Plesiofelis* Roth, 1903, p. 156. M. Eoc. (Mustersan), S.A.

*Subfam. Prothylacyninae[74] (Ameghino, 1894, p. 377) Trouessart, 1898, p. 1211 (=Prothylacynidae Ameghino, 1894, p. 377).

**Lycopsis* Cabrera, 1927, p. 295. E. Mioc. (Santacrucian)–M. Mioc. (Friasian),[40] S.A.

**Prothylacynus* Ameghino, 1891b, p. 312 (including *Prothylacocyon* Winge, 1923, p. 67; *Napodonictis* Ameghino, 1894, p. 380). E. Mioc. (Santacrucian), S.A.

**Pseudolycopsis* Marshall, 1976e, p. 291. L. Mioc. (Chasicoan), S.A.

**Pseudothylacynus* Ameghino, 1902b, p. 127. L. Olig. (Colhuehuapian), S.A.

**Stylocynus* Mercerat, 1917, p. 20. L. Mioc. (Huayquerian), S.A.

*Subfam. Proborhyaeninae (Ameghino, 1897, p. 501) Trouessart, 1898, p. 1211 (including Proborhyaenidae Ameghino, 1897, p. 501; Arminiheringiidae Ameghino, 1902a, p. 316 *nomen nudum*, 1902c, p. 44).

**Arminiheringia* Ameghino, 1902c, p. 44 (including *Dilestes* Ameghino, 1902c, p. 46). E. Eoc. (Casamayoran), S.A.

**Proborhyaena* Ameghino, 1897, p. 501. E. Olig. (Deseadan), S.A.

*Fam. Thylacosmilidae (Riggs, 1933, p. 65) Marshall, 1976a, p. 8 (=Thylacosmilinae Riggs, 1933, p. 65).

**Achlysictis* Ameghino, 1891a, p. 147 (including *Acrohyaenodon* Ameghino, 1904, p. 267). L. Mioc. (Huayquerian)–E. Plioc. (Montehermosan), S.A.

**Hyaenodonops* Ameghino, 1908, p. 423. L. Plioc. (Chapadmalalan), S.A.

**Notosmilus* Kraglievich, 1960, p. 55. L. Plioc. (Chapadmalalan), S.A.

**Thylacosmilus* Riggs, 1933, p. 61. L. Mioc. (Huayquerian)–E. Plioc. (Montehermosan), S.A.

*Fam. Argyrolagidae Ameghino, 1904, p. 255 (including Microtragulidae Reig, 1955b, p. 61).

**Argyrolagus*[67] Ameghino, 1904, p. 255. Plioc. (Montehermosan–Chapadmalalan), S.A.

**Microtragulus* Ameghino, 1904, p. 191. L. Mioc. (Huayquerian)–E. Pleist. (Uquian), S.A.

Fam. Caenolestidae[14,23] Trouessart, 1898, p. 1205 (including Epanorthidae Ameghino, 1889, pp. 268, 270; Abderitesidae[19] (*sic*) Ameghino, 1889, pp. 268, 269; Garzonidae Ameghino, 1891b, pp. 304, 307; Decastidae Ameghino, 1893b, p. 79; Palaeothentidae Osgood, 1921, pp. 143, 151).

Subfam. Caenolestinae[54] (Trouessart, 1898, p. 1205) Sinclair, 1906, p. 416 (=Caenolestidae Trouessart, 1898, p. 1205, *sensu stricto;* Caenolestini Winge, 1923, p. 84) (including Garzonidae Ameghino, 1891b, p. 304).

Tribe Caenolestini (Trouessart, 1898, p. 1205) Winge, 1923, p. 84.[15]

Caenolestes[49] Thomas, 1895a, p. 367 [=*Hyracodon* Tomes, 1863, p. 50, *nec Hyracodon* Leidy, 1856, p. 91 (Perissodactyla)]. R., S.A. "Opossum-rat."

Lestoros Oehser, 1934, p. 240 [=*Orolestes* Thomas, 1917, p. 3, *nec Orolestes* MacLachlan, 1895, p. 21 (a dragonfly); *Cryptolestes* Tate, 1934, p. 154, *nec Cryptolestes* Ganglbauer, 1899, p. 608 (a subgenus of beetles)]. R., S.A. "Opossum-rat."

**Pseudhalmarhiphus* Ameghino, 1899, p. 7. E. Olig. (Deseadan), S.A.

**Stilotherium*[64] Ameghino, 1887, p. 7 (including *Garzonia* Ameghino, 1891b, p. 307; *Halmarhiphus*[16] Ameghino, 1891b, p. 308; *Parhalmarhiphus*[17] Ameghino, 1894, p. 356). E. Mioc. (Santacrucian), S.A.

Rhyncholestes Osgood, 1924, p. 169. R., S.A. "Chilean Opossum-rat."

*Tribe Pichipilini Marshall, 1980, p. 40.[15]

**Pliolestes*[65] Reig, 1955b, p. 66. L. Mioc. (Chasicoan)–E. Plioc. (Montehermosan), S.A.

**Phonocdromus* Ameghino, 1894, p. 355. E. Mioc. (Santacrucian), S.A.

**Pichipilus* Ameghino, 1890, p. 155. L. Olig. (Colhuehuapian)–E. Mioc. (Santacrucian), S.A.

*Subfam. Palaeothentinae Sinclair, 1906, p. 417 [including Epanorthidae Ameghino, 1889. pp. 268, 270 *sensu stricto;* Epanorthini Winge, 1923, p. 84 (*partim*); Decastidae Ameghino, 1893b, p. 79; Epanorthinae Trouessart, 1904, p. 840; Palaeothentidae Osgood, 1921, pp. 143, 151].

**Acdestis* Ameghino, 1887, p. 5 (including *Dipilus* Ameghino, 1890, p. 153; *Decastis* Ameghino, 1891b, p. 305; *Callomenus* Ameghino, 1891b, p. 306). E. Olig. (Deseadan)–E. Mioc. (Santacrucian), S.A.

**Palaeothentes*[18] Ameghino, 1887, p. 5 [=*Palaeothentes* Moreno, 1882, p. 122 (*nomen nudum*)] (including *Epanorthus* Ameghino, 1889, p. 271; *Essoprion* Ameghino, 1891b, p. 306; *Halmadromus* Ameghino, 1891b, p. 306; *Halmaselus* Ameghino, 1891b, p. 306; *Palaepanorthus* Ameghino, 1902b, p. 123; *Metriodromus* Ameghino, 1894, p. 342; *Metaepanorthus*[20] Ameghino,

1894, p. 348; *Paraepanorthus* Ameghino, 1894, p. 349; *Prepanorthus* Ameghino, 1894, p. 350; *Cladoclinus* Ameghino, 1894, p. 358; *Pilchenia* Ameghino, 1903, p. 128). E. Olig. (Deseadan)–E. Mioc. (Santacrucian), S.A.

*Subfam. Abderitinae (Ameghino, 1889, pp. 268, 269) Sinclair, 1906, p. 417 [including Abderitesidae (*sic*) Ameghino, 1889, pp. 268, 269; Epanorthini Winge, 1923, p. 84 (*partim*)].

*Tribe Parabderitini Marshall, 1980, p. 43.

**Parabderites* Ameghino, 1902b, p. 121 [including *Tideus* Ameghino, 1890, p. 157, *nec Tydeus* Koch, 1837, table II (Arachnida), *nec* Sauvage, 1870, p. 23 (Pisces); *Tidaeus* Ameghino, 1893a, p. 15; *Mannodon* Ameghino, 1893a, p. 15]. E. Olig. (Deseadan)–E. Mioc. (Santacrucian), S.A.

*Tribe Abderitini (Ameghino, 1889, pp. 268, 269) Marshall, 1980, p. 47 [=Abderitesidae (*sic*) Ameghino, 1889, pp. 268, 269].

**Abderites*[21] Ameghino, 1887, p. 5 (including *Homunculites* Ameghino, 1902b, p. 73). L. Olig. (Colhuehuapian)–E. Mioc. (Santacrucian), S.A.

**Pitheculites* Ameghino, 1902b, p. 74 (including *Eomannodon* Ameghino, 1902b, p. 119; *Micrabderites* Simpson, 1932, p. 6). L. Olig. (Colhuehuapian), S.A.

*Fam. Polydolopidae[63] Ameghino, 1897, p. 496 (including Promysopidae Ameghino, 1902a, p. 36).

**Amphidolops* Ameghino, 1902c, p. 42 (including *Anadolops* Ameghino, 1903, p. 186). E. Eoc. (Casamayoran), S.A.

**Epidolops* Paula Couto, 1952b, p. 7. L. Paleoc. (Riochican), S.A.

**Eudolops* Ameghino, 1897, p. 498 (including *Promysops* Ameghino, 1902a, p. 36; *Propolymastodon* Ameghino, 1903, p. 100). E. Eoc. (Casamayoran), S.A.

**Polydolops* Ameghino, 1897, p. 497 (including *Pseudolops* Ameghino, 1902c, p. 40; *Pliodolops* Ameghino, 1902c, p. 41; *Orthodolops* Ameghino, 1903, p. 130; *Anissodolops* Ameghino, 1903, p. 148; *Archaeodolops* Ameghino, 1903, p. 150). L. Paleoc. (Riochican)–M. Eoc. (Mustersan),[62] S.A.

**Seumadia* Simpson, 1935a, p. 5. L. Paleoc. (Riochican), S.A.

*Fam. Groeberiidae Patterson, 1952, p. 39.

**Groeberia*[68] Patterson, 1952, p. 39. L. Eoc. (Divisaderan), S.A.

MARSUPIALIA *incertae sedis*

**Ideodelphys* Ameghino, 1902c, p. 43. E. Eoc. (Casamayoran), S.A.

**Progarzonia* Ameghino, 1904, p. 260. E. Eoc. (Casamayoran), S.A.

**Eobrasilia* Simpson, 1947, p. 2. L. Paleoc. (Riochican), S.A.

MARSUPIALIA(?)

**Gashternia* Simpson, 1935a, p. 7. L. Paleoc. (Riochican), S.A.

**Holoclemensia* Slaughter, 1968b, p. 1306 [=*Clemensia* Slaughter, 1968a, p. 254, *nec Clemensia* Packard, 1864, p. 100 (Lepidoptera)].

**Potamotelses* Fox, 1972, p. 1483. L. Cretac. (Aquilan), N.A.

**Camptomus*[22] Marsh, 1889a, p. 87. L. Cretac. (Lancian), N.A.

II. Australasian Marsupialia

Fam. Dasyuridae (Goldfuss, 1820, pp. xxxiii, 447) Waterhouse, 1838 (*fide* Waterhouse, 1841, p. 60) [=Dasyurini Goldfuss, 1820, pp. xxxiii, 447; Opossina Wagner, 1843, pp. v, 39 (*partim*)].

Subfam. Dasyurinae (Goldfuss, 1820, pp. xxxiii, 447) Thomas, 1888, p. 253 (=Dasyurini Goldfuss, 1820, pp. xxxiii, 447) [including Phascogalina Bonaparte, 1850, p. 1; Phascogalinae Gill, 1872, p. 26; Antechini Murray, 1866, pp. xv, 286; Sarcophilinae Gill, 1872, p. 26].

Tribe Dasyurini Goldfuss, 1820, p. xxxiii, 447 (=Dasyurini Moeller, 1973a, p. 300).

**Ankotarinja* Archer, 1976d, p. 53. M. Mioc., Aus.

Antechinomys[56] Krefft, 1867, p. 434. Pleist.–R., Aus. "Kultarr, Wuhl-Wuhl."

Antechinus MacLeay, 1841, p. 241 (including *Parantechinus* Tate, 1947, p. 137; *Pseudantechinus* Tate, 1947, p. 139). Pleist.–R., Aus.; R., Tas.; R., New Guinea. "Antechinus, Dibbler, Mardo."

Dasycercus Peters, 1875, p. 73 [=*Chaetocercus* Krefft, 1867, p. 434, *nec* Gray, 1855, p. 22 (Aves); *Amperta* Cabrera, 1919, p. 65]. Pleist.–R., Aus. "Mulgara."

Dasyuroides Spencer, 1896, p. 36. Pleist.–R., Aus. "Kowari."

Dasyurus Geoffroy, 1796, p. 469 (including *Nasira* Harvey, 1841, p. 210; *Dasyurinus* Matschie, 1916a, p. 262; *Notoctonus* Pocock, 1926, p. 1082; *Dasyurops* Matschie, 1916a, p. 262; *Stictophonus* Pocock, 1926, p. 1083; *Satanellus* Pocock, 1926, p. 1083). Plioc.[45]–R., Aus.; R., Tas., New Guinea. "Native Cat, Quoll, Chuditch, Tiger cat, Satanellus."

**Keeuna* Archer, 1976d, p. 64. M. Mioc., Aus.

Murexia Tate & Archbold, 1937, pp. 335n, 339. R., New Guinea.

Myoictis Gray, 1858, p. 112. R., New Guinea.

Neophascogale Stein, 1933, p. 87. R., New Guinea.

Ningaui Archer, 1975, p. 239. R., Aus. "Ningaui."

Phascogale Temminck, 1827, pp. xxiii, 23n, 56 (=*Phascologale* Lenz, 1831, pp. 156-157; *Ascogale* Gloger, 1841, pp. xxx, 83; *Tapoa* Lesson, 1842, p. 190) (including *Phascolictis* Matschie, 1916a, p. 263). Pleist.–R., Aus. "Phascogale, Tuan, Wambenger."

Phascolosorex Matschie, 1916a, p. 263. M. Plioc.–R., New Guinea.

Planigale[43] Troughton, 1928, p. 282. Plioc.–R., Aus., New Guinea. "Planigale."

Sminthopsis Thomas, 1887d, p. 503 [=*Podabrus* Gould, 1845a, p. 79; 1845 b, text to pl. 47, v. 1, *nec* Fischer von Waldheim *in* Westwood, 1840, p. 27 (Coleoptera)]. Pleist.–R., Aus.; R., Tas., New Guinea. "Dunnart."

**Wakamatha* Archer & Rich, 1979, p. 309. ?M. Mioc., Aus.

Tribe Sarcophilini (Gill, 1872, p. 26) Moeller, 1973a, p. 300.

**Glaucodon* Stirton, 1957a, p. 129. E. Pleist., Aus.

Sarcophilus Geoffroy & Cuvier, 1837, p. 6 (=*Ursinus* Boitard, 1841, p. 290; *Diabolus* Gray, in Grey, 1841, p. 400). Pleist.[47]–R. (now extinct), Aus.; Pleist.–R., Tas. "Tasmanian Devil."

Fam. Myrmecobiidae Waterhouse, 1838, *fide* Waterhouse, 1841, p. 60 [=Ambulatoria Owen, 1841a, p. 332; Opossina Wagner, 1843, pp. v, 39 (*partim*); Myrmecobiinae Gill, 1872, p. 26].

Myrmecobius[70] Waterhouse, 1836, p. 69. L. Pleist.–R., Aus., "Numbat."

*Fam. Thylacinidae Bonaparte, 1838, p. 113 (=Thylacininae Bensley, 1903, p. 91).

**Thylacinus* Temminck, 1827, p. 60 (=*Thylacynus* Temminck, 1827, p. 23; *Paracyon* Gray, 1827, p. 192; *Peralopex* Gloger, 1841, p. 82). L. Mioc.–R. (now extinct), Aus.[51]; Pleist.–R. (now extinct), Tas.; Plioc.–Pleist., New Guinea.[52] "Tasmanian wolf."

Fam. Peramelidae[69] (Gray, 1825, p. 340) Waterhouse, 1838, *fide* Waterhouse, 1841, p. 60 [=Peramelina Gray, 1825, p. 340; Opossina Wagner, 1843, pp. v, 39 (*partim*); Syndactylina Wagner, 1855, pp. xiii, 209; Peramelinae Bensley, 1903, p. 110] (including Choeropodinae Gill, 1872, p. 26).

Chaeropus Ogilby, 1838, p. 25 (=*Choeropus* Gray *in* Mitchell, 1839, p. 131). E. Pleist.–R., Aus. "Pig-footed bandicoot."

Echymipera Lesson, 1842, p. 192 (including *Brachymelis* Miklouho-MacLay, 1884, p. 713; *Anuromeles* Heller, 1897, p. 5; *Suillomeles* Allen & Barbour, 1909, p. 44). R., Aus., New Guinea and surrounding islands. "Rufous Spiny Bandicoot."

Isoodon Desmarest, 1817, p. 409 (=*Thylacis* of Simpson, 1945, p. 44 and others, *nec Thylacis* Illiger, 1811, p. 76[24]). Pleist.–R., Aus.; R., Tas., New Guinea. "Short-Nosed Bandicoot, Brown Bandicoot, Quenda, Wintarro."

Microperoryctes Stein, 1932, p. 256. R., New Guinea.

Perameles Geoffroy, 1804, p. 56, pl. 44 (=*Thylacis* Illiger, 1811, p. 76; *Thylax* Oken, 1816, p. 1128). Plioc.–R., Aus.; R., Tas. "Long-nosed bandicoot, Barred bandicoot, Marl."

Peroryctes Thomas, 1906, p. 476 (including *Ornoryctes* Tate & Archbold, 1937, p. 352). R., New Guinea.

Rhynchomeles Thomas, 1920b, p. 430. R., New Guinea (Ceram).

Fam. Thylacomyidae[25] (Bensley, 1903, p. 110) Archer & Kirsch, 1977, p. 23 (=Thylacomyinae Bensley, 1903, p. 110).

**Ischnodon* Stirton, 1955, p. 249. Plioc., Aus.

Macrotis Reid, 1837, p. 131, *nec* Dejean, 1834, p. 186, *nomen nudum* (Coleoptera) [=*Thylacomys* Anon., 1838, p. 747 (*nomen nudum*); Owen, 1838b, p. 747 (*nomen nudum*); *Thalacomys* Blyth, 1840, p. 104 (misprint); *Paragalia* Gray, *in* Grey, 1841, p. 401; *Peragale*[71] Thomas, 1887a, p. 397]. Pleist.–R., Aus. "Rabbit-eared bandicoot, Bilby, Dalgyte, Yallara."

Fam. Notoryctidae Ogilby, 1892, p. 5.

Notoryctes[48] Stirling, 1891, p. 154 [=*Psammoryctes* Stirling, 1889, p. 158 *nec Psammoryctes* Poeppig, 1835, p. 252 (Rodentia); *Neoryctes*[26] Stirling, 1891, p. 186]. R., Aus. "Marsupial mole."

Fam. Phalangeridae Thomas, 1888, p. 126 (=Phalangistadae Gray, 1821, p. 308; Phalangistidae Owen, 1841a, p. 332; Trichosuridae Flynn, 1911, p. 120).

Subfam. Phalangerinae (Thomas, 1888, p. 126) [including Genuina Eichwald, 1831, p. 373 (*partim*); Marsupidae Swainson, 1835, p. 391 (*partim*)].

Phalanger Storr, 1780, p. 33 (=*Phalangista* Geoffroy & Cuvier, 1795, p. 183; *Coescoes* Lacépède, 1799, p. 5; *Balantia* Illiger, 1811, p. 77; *Sipalus* Fischer von Waldheim, 1813, pp. ix, 581; *Cuscus* Lesson, 1826, p. 150; *Ceonyx* Temminck, 1827, p. 10; *Ailurops* Wagler, 1830, p. 26) (including *Eucuscus* Gray, 1862, p. 316; *Spilocuscus* Gray, 1862, p. 316; *Strigocuscus* Gray, 1862, p. 319). E. Plioc.–R., Aus.; R., Celebes, Moluccas, New Guinea, Bismarks, Solomons. "Cuscus."

Subfam. Trichosurinae (Flynn, 1911, p. 120) Kirsch, 1977b, p. 112.

Trichosurus Lesson, 1828, p. 333 (=*Cercaertus* Burmeister, 1837, p. 814; *Psilogrammurus* Gloger, 1841, p. 85; *Trichurus* Wagner, 1843, p. 74). Plioc.–R., Aus.; Pleist.–R., Tas. "Brush-tailed possum."

Wyulda Alexander, 1919, p. 31. R., Aus. "Scaly-tailed possum."

*Fam. Ektopodontidae Stirton, Tedford & Woodburne, 1967, p. 437.

**Ektopodon* Stirton, Tedford & Woodburne, 1967, p. 438. M. Mioc., Aus.

Fam. Petauridae (Gill, 1872, p. 25) Kirsch, 1968a, p. 420 (=Petaurina Bonaparte, 1838, p. 112; Petaurinae Gill, 1872, p. 25; Petaurusideae Lesson, 1842, p. 189).

Subfam. Petaurinae Gill, 1872, p. 25.

Gymnobelideus McCoy, 1867, p. 287 (including **Palaeopetaurus* Broom, 1895, p. ii.). Pleist.–R., Aus. "Leadbeater's possum."

Petaurus Shaw & Nodder, 1791, pl. 60 (=*Ptilotus* Fischer von Waldheim, 1814, p. 512) (including *Belideus* Waterhouse, 1839, p. 151; *Xenochirus* Gloger, 1841, p. xxx, 85; *Petaurella* Matschie, 1916a, p. 261; *Petaurula* Matschie, 1916a, p. 261). Pleist.–R., Aus.; Tas. (introduced); R., New Guinea. "Yellow-bellied glider, sugar glider, squirrel glider."

Subfam. Pseudocheirinae Winge, 1893, p. 99 (=Pseudochirini Winge, 1893, pp. 89, 100).

Pseudocheirus Ogilby, 1837, p. 457 (=*Hepoona* Gray, *in* Grey, 1841, p. 402) (including *Hemibelideus* Collett, 1884, p. 385; *Pseudocheirops* Matschie, 1915, p. 86; *Pseudochirulus* Matschie, 1915, p. 91; *Petropseudes* Thomas, 1923, p. 250). Plioc.–R., Aus.; R., Tas., New Guinea. "Ring-tail possum."

**Pseudokoala* Turnbull & Lundelius, 1970, p. 26. Plioc., Aus.

Schoinobates[77] Lesson, 1842, p. 190 (=*Petaurista* Waterhouse, 1846, p. 320 *nec* Link, 1795, p. 52; *Petauroides* Thomas, 1888, p. 163). Pleist.–R., Aus. "Greater glider."

Subfam. Dactylopsilinae Kirsch, 1977b, p. 113.

Dactylopsila Gray, 1858, p. 109 (including *Dactylonax* Thomas, 1910a, p. 610). R., Aus., New Guinea. "Striped possum."

Fam. Burramyidae (Broom, 1898, p. 63) Kirsch, 1968b, p. 45 (=Burramyinae Broom, 1898, p. 63).

Acrobates Desmarest, 1817, p. 405 (=*Cercoptenus* Gloger, 1841, p. 44). Pleist.–R., Aus. "Feather-tail glider."

Burramys[53] Broom, 1895, p. ii. Pleist.–R., Aus. "Mountain pygmy-possum."

Cercartetus[27] Gloger, *ante* May, 1841, p. 85 (=*Dromicia* Gray *in* Grey, 1841, p. 401) (including *Eudromicia* Mjöberg, January, 1916, p. 13; *Dromiciella*

Matschie, 1916a, p. 260; *Dromiciola* Matschie, 1916a, p. 260). Pleist.–R., Aus.; R., Tas., New Guinea. "Dormouse or Pygmy possum."

Distoechurus Peters, 1874, p. 303. R., New Guinea. "Pen-tailed possum."

Fam. Macropodidae[50] Gray, 1821, p. 308 [=Macropidae Gray, 1821, p. 308; Burnett, 1830, p. 351; Halmaturidae Bonaparte, 1831, p. 19; Halmaturini Goldfuss, 1820, pp. xxiii, 445; Marsupidae Swainson, 1835, p. 391 (*partim*); Macropodidae Owen, 1839b, p. 19; Dendrolagina Bonaparte, 1850, p. 1; Kangeroidae Gray, 1858, p. 108; Hypsiprymnoidea Ameghino, 1894, p. 331; Potoroidae Pearson, 1950, p. 211; Protemnodontidae DeVis, 1883c, p. 221].

Subfam. Macropodinae (Gray, 1821, p. 308) Thomas, 1888, p. 10 (=Macropodineae Lesson, 1842, p. 193).

Tribe Macropodini (Gray, 1821, p. 308) new rank.

Dendrolagus Müller & Schlegel, 1839, p. 138. R., Aus., New Guinea. "Tree Kangaroo."

Dorcopsis Schlegel & Müller, 1842, p. 130. Plioc., Aus.; R., New Guinea.

**Dorcopsoides* Woodburne, 1967b, p. 43. L. Mioc., Aus.

Dorcopsulus Matschie, 1916b, p. 57. R., New Guinea.

**Fissuridon* Bartholomai, 1973b, p. 365. Pleist., Aus.

**Hadronomas* Woodburne, 1967b, p. 83. L. Mioc., Aus.

Lagorchestes[72] Gould, 1841, text to pl. XII. Pleist.–R., Aus. "Hare-Wallaby."

Lagostrophus Thomas, 1887c, p. 544. R., Aus. "Banded hare-wallaby."

Macropus[46] Shaw & Nodder, 1790, text to pl. XXXIII. (=*Gigantomys* Link, 1794, p. 70; *Kangurus* Geoffroy & Cuvier, 1795, p. 188; *Halmaturus* Illiger, 1811, p. 80; *Osphranter*[42] Gould, 1842, p. 80; *Megaleia*[76] Gistel, 1848, p. ix; *Gerboides* Gervais, 1855, p. 271; *Boriogale* Owen, 1874a, p. 247; *Phascolagus* Owen, 1874a, p. 262; *Leptosiagon* Owen, 1874b, p. 785[28]; *Dendrodorcopsis* Rothschild, 1903, p. 414). Plioc.–R., Aus.; Pleist.–R., Tas.; R., New Guinea. "Gray Kangaroo, Red Kangaroo, Euro, Wallaroo, Wallaby (in part)."

Onychogalea Gray, *in* Grey, 1841, p. 402. Pleist.–R., Aus. "Nailtail wallaby."

Peradorcas Thomas, 1904, p. 226. R., Aus. "Little Rock-Wallaby."

Petrogale Gray, 1837, p. 583. Pleist.–R., Aus. "Rock-Wallaby."

**Prionotemnus* Stirton, 1955, p. 252. Plioc.–Pleist., Aus.

**Protemnodon*[39] Owen, 1874a, p. 274. Mioc.,[29] Plioc.–Pleist., Aus.; Pleist., Tas.; Plioc., New Guinea.

Setonix Lesson, 1842, p. 194. Pleist.–R., Aus. "Quokka."

**Synaptodon* DeVis, 1889a, p. 158. Pleist., Aus.

Thylogale Gray, 1837, p. 583. Plioc.–R., Aus.; Pleist.–R., Tas.; R., New Guinea. "Pademelon."

**Troposodon* Bartholomai, 1967, p. 22. Plioc.–Pleist., Aus.

**Wabularoo* Archer, 1979, p. 299. L. Mioc., Aus.

Wallabia[30] Trouessart, 1905, p. 834n. Pleist.–R., Aus. "Swamp Wallaby, Black Wallaby."

*Tribe Sthenurini (Glauert, 1926, p. 71) new rank (=Sthenuridae Glauert, 1926, p. 71; Sthenurinae Raven, 1929, p. 254).

**Sthenurus*[36] (Owen, 1873a, p. 128) Owen, 1874a, p. 265 (including *Simosthenurus* Tedford, 1966, p. 10). Plioc.–Pleist., Aus.; Pleist., Tas.

**Procoptodon*[38] (Owen, 1873b, p. 387) Owen, 1874b, p. 786 (including *Pachysiagon* Owen, 1874b, p. 784). Pleist., Aus.

Subfam. Potoroinae (Gray, 1821, p. 308) Trouessart, 1898, p. 1195 (=Potoridae Gray, 1821, p. 308; Hypsiprymnidae Owen, 1852, p. 933; Bettongiinae Bensley, 1903, p. 143; Potoroidae Pearson, 1950, p. 211). "Rat kangaroos."

Tribe Hypsiprymnodontini (Collett, 1887, pp. 833, 906) new rank (=Hypsiprymnodontidae Collett, 1887, pp. 833, 906; Hypsiprymni Collett, 1887, p. 830) (=Pleopodidae Owen, 1879, p. 574; Hypsiprymnodontinae Thomas, 1888, p. 4). "Rat kangaroos."

Hypsiprymnodon[73] Ramsay, 1876, p. 33 (=*Pleopus* Owen, 1877, p. 542). Plioc.–R., Aus. "Musky rat-kangaroo."

**Propleopus*[73] Longman, 1924, p. 20 [=*Triclis* DeVis, 1888a, p. 8 *nec* Loew, 1851, p. 17 (Diptera)]. Plioc.–Pleist., Aus.

Tribe Potoroini (Gray, 1821, p. 308) new rank.

Aepyprymnus Garrod, 1875, p. 59. Pleist.–R., Aus. "Rufous Bettong, Rufous rat kangaroo."

Bettongia Gray, 1837, p. 584 (including *Bettongiops* Matschie, 1916a, p. 264). M. Mioc.–R., Aus.; Pleist.–R., Tas. "Bettong, Tungoo, Woylie, Boodie."

Caloprymnus Thomas, 1888, p. 114. Pleist.–R., Aus. "Desert Rat Kangaroo, Plains rat kangaroo."

Potorous Desmarest, 1804, p. 20 (=*Hypsiprymnus* Illiger, 1811, p. 79) (including *Potoroops* Matschie, 1916a, p. 264n). Pleist.–R., Aus., Tas. "Potoroo."

Fam. Tarsipedidae Gervais & Verreaux, 1842, p. 1 (=Tarsipédidés Gervais, 1855, p. 277; Tarsipedina Haeckel, 1866, p. clvii; Tarsipedidae Gill, 1872, p. 25; Tarsipedinae Thomas, 1888, p. 130).

Tarsipes Gervais & Verreaux,[31] 1842 (June), p. 1. Pleist.–R., Aus. "Honey possum, Noolbenger."

Fam. Vombatidae Burnett, 1830, p. 351 (=Phascolomyda Goldfuss, 1820, pp. xxii, 444; Phascolomyidae Owen, 1839b, p. 19; Glirina Wiegmann, 1832, p. 52; Phascolomidae Bonaparte, 1845, p. 6).

Lasiorhinus Gray, 1863, p. 458 (including *Wombatula* Iredale & Troughton, 1934, p. 35). Pleist.–R., Aus. "Hairy-nosed wombat."

**Phascolonus* Owen, 1872, p. 257 (=*Sceparnodon* Ramsay, 1881, p. 495). Plioc.–Pleist., Aus.; Pleist., Tas.

**Ramsayia* Tate, 1951b, p. 13. Pleist., Aus.

**Rhizophascolonus* Stirton, Tedford, & Woodburne, 1967, p. 454. M. Mioc., Aus.

Vombatus Geoffroy, 1803, p. 185 (=*Phascolomis* Geoffroy, 1803, p. 364). Pleist.–R., Aus., Tas. "Common Wombat, Naked-nosed wombat."

*Fam. Diprotodontidae Gill, 1872, p. 26 (including Nototheriidae Lydekker, 1887, p. 161).

*Subfam. Diprotodontinae (Gill, 1872, p. 26) Stirton, Woodburne, & Plane, 1967, p. 153 (=Diprotodontinae Gill, 1872, p. 26).

**Diprotodon*[34] Owen, 1838a, p. 362 (including *Diarcodon* Stephenson, 1963, p. 622). Plioc.–Pleist., Aus.; Pleist., Tas. (King Island).

*Subfam. Nototheriinae (Lydekker, 1887, p. 161) Stirton, Woodburne, & Plane, 1967, p. 152 (=Nototheriidae Lydekker, 1887, p. 161).

**Bematherium* Tedford, 1967, p. 232. M. Mioc., Aus.

**Euowenia* DeVis, 1891, p. 159-165 [=*Owenia* DeVis, 1888b, p. 105 *nec* Chiaje, 1844, p. 31 (Annelida) and Prosch, 1849, p. 71 (Cephalopod)]. Plioc., Aus.

**Euryzygoma* Longman, 1921, p. 65. Plioc., Aus.

**Meniscolophus* Stirton, 1955, p. 258. Plioc., Aus.

**Nototherium* Owen, 1845a, p. 314. Plioc.–Pleist., Aus.; Plioc., New Guinea.

**Pyramios* Woodburne, 1967a, p. 57. L. Mioc., Aus.

*Subfam. Zygomaturinae Stirton, Woodburne, & Plane, 1967, p. 152.

**Kolopsis* Woodburne, 1967a, p. 71. L. Mioc., Aus.; Plioc., New Guinea.

**Kolopsoides* Plane, 1967, p. 118. Plioc., New Guinea.

**Neohelos* Stirton, 1967b, p. 48. M. Mioc., Aus.

**Plaisiodon* Woodburne, 1967a, p. 88. L. Mioc., Aus.

**Raemotherium* Rich et al., 1978, p. 86. M. Mioc., Aus.

**Zygomaturus* Owen, 1858a, p. 49 (ex MacLeay, 1857, p. 2)[32] (=*Simoprosopus* DeVis, 1907, p. 4). L. Mioc., Pleist., Aus.; Pleist., Tas.

*Fam. Diprotodontidae, *incertae sedis*

**Brachalletes* DeVis, 1883b, p. 190. Plioc., Aus.

**Koalemus*[37] DeVis, 1889b, p. 106. Plioc., Aus.

**Sthenomerus* DeVis, 1883a, p. 11. Pleist., Aus.

*Fam. Palorchestidae (Tate, 1948a, p. 338) Archer & Bartholomai, 1978, p. 4 (=Palorchestinae Tate, 1948a, p. 338).

**Ngapakaldia* Stirton, 1967a, p. 4. M. Mioc., Aus.

**Palorchestes* (Owen, 1873b, p. 387) Owen, 1874b, p. 797. L. Mioc.–Pleist., Aus.; Pleist., Tas.

**Pitikantia* Stirton, 1967a, p. 30. M. Mioc., Aus.

*Fam. Thylacoleonidae Gill, 1872, p. 26 (=Thylacoleontidae Cope, 1889, p. 876).

**Thylacoleo* Owen, 1858b, p. 447 (including *Thylacopardus* Owen, 1888, p. 215). Plioc.–Pleist., Aus.; Pleist., Tas. "Marsupial Lion."

**Wakaleo* Clemens & Plane, 1974, p. 653. M. Mioc., Aus.

Fam. Phascolarctidae[33] Owen, 1839b, p. 19 (=Phascolarctinae Thomas, 1888, p. 209; Koalidae Burnett, 1830, p. 351).

**Koobor*[35] Archer, 1976e, p. 389 Plioc., Aus.

**Litokoala* Stirton, Tedford, & Woodburne, 1967, p. 446. M. Mioc., Aus.

**Perikoala* Stirton, 1957b, p. 72. M. Mioc., Aus.

Phascolarctos de Blainville, 1816, p. 108 [=*Lipurus* Goldfuss, 1817, p. clv, *nec Lipura* Illiger, 1811, p. 95 (Rodentia); *Morodactylus* Goldfuss, 1820, p. 445; *Koala* Burnett, 1830, p. 351]. Pleist.–R., Aus. "Koala."

*Fam. Wynyardiidae Osgood, 1921, p. 138.

**Namilamadeta* Rich & Archer, 1979, p. 198. M. Mioc., Aus.

**Wynyardia*[75] Spencer, 1901, p. 776. E. Mioc., Tas.

NOTES FOR PART B

[1]Simpson (1927a) proposed a threefold subdivision of the Didelphidae in which he included all Cenozoic genera in the subfamily Didelphiinae. Later he (1929) redefined the subdivision through recognition of a fourth subfamily, Microbiotheriinae. After reconsideration of the etymology of the generic name *Didelphis*, Simpson (1935b) adopted *Didelph-* as the stem (see footnote 79) and amended the spelling of the subfamily name to Didelphinae.

[2]See Sigé (1971, 1972).

[3]Crochet (1977a,b, 1979) recently reviewed the European Didelphinae and recognized three genera—*Peradectes*, *Peratherium*, and *Amphiperatherium*. *Peratherium* is restricted to Europe, whereas a closely related form, *Herpetotherium* ("*Peratherium*" of most earlier workers), is recognized in North America. Also see Crochet (1969), Green & Martin (1976), and Koenigswald (1970).

[4]See Marshall (1977a).

[5]See Reig et al. In prep.

[6]See Simpson (1974).

[7]The Barstovian specimen is from the Town Bluff locality, Tyler County, Texas (Slaughter, 1978, p. 745). **Didelphidectes* was formally regarded as a junior synonym of **Nanodelphys* by Crochet (1977b, p. 130).

[8]See Reig (1957a).

[9]Slaughter (1978) reports a possible pediomyid from Late Eocene middle Wellborn Formation, Polk County, Texas.

[10]In accordance with Articles 27 and 32c of the International Code of Zoological Nomenclature (Stoll et al., 1961, 1964), the diacritic mark is dropped from the name originally spelled *Coöna*.

[11]Ameghino (1906, p. 422; 1909, p. 206) substituted the generic name *Clenialites* for *Clenia* Ameghino, 1904, which he said was preoccupied. However, *Clenia* is not preoccupied, and in a nominal list this name has priority over *Clenialites*.

[12]"Procedures to be followed in selecting a name for the family to include *Didelphodon vorax* are established in Articles 23(d) and 40 of the International Code of Zoological Nomenclature (1961) and result in recognition of the Stagodontidae" (Clemens, 1966, p. 56).

[13]Marshall et al. (1977, 1978) have submitted a proposal to the Commission, requesting use of its plenary powers to suppress the family-group name Acyonidae Ameghino, 1889, for the purpose of the Law of Priority, but not for those of the Law of Homonymy, and to place this family-group name on the Official Index of Rejected and Invalid Family-Group Names in Zoology.

[14]Marshall & Tedford (1978) have submitted a proposal to the Commission, requesting use of its plenary powers to conserve the family-group names Caenolestidae Trouessart, 1898, and Palaeothentidae Sinclair, 1906. These names are to be used over the prior names Abderitidae Ameghino, 1889, Epanorthidae Ameghino, 1889, Garzonidae Ameghino, 1891b, and Decastidae Ameghino, 1893b (also see Marshall, 1980).

[15]The two major evolutionary lineages recognized by Marshall (1976d) within the Caenolestinae are formally placed by Marshall (1980) in distinct tribes.

[16]"*Halmarhiphus didelphoides* Ameghino, 1891b, is based on four partial mandibles (MACN A-5716, A-5717, A-5718, A-5719). Of these the first, considered the type in the collection catalogue, is a typical microbiothere, the same is true of the latter two specimens, one of which (A-5718) is figured by Ameghino (1903, p. 157, fig. 80). Specimen A-5717 is inseparable from *Stilotherium dissimile*. *Halmarhiphus nanus* Ameghino, 1891b, is based on three partial mandibles of which one, A-5720, considered the type in the collection catalogue, is inseparable from *Stilotherium dissimile*. Another A-5721, seems to be a microbiothere, and the third is an edentulous mandibular ramus and may be referred on the basis of size to *Phonocdromus gracilis*. . . . the genus *Halmarhiphus*, therefore, has no validity" (translated from Reig, 1955b, p. 63).

[17]"*Garzonia annectens* Ameghino 1891b is the genotype of *Parhalmarhiphus* Ameghino, 1894, according to the catalogue of the Ameghino collection and the original description of the species. The type is a left mandibular ramus with M_{1-4}, which are well preserved and numbered MACN A-5703. This mandible is inseparable from *Stilotherium*. . . . However, the generic diagnosis of *Parhalmarhiphus* seems to have been obtained from two other specimens, A-5704 and A-5705, of which the first is an indeterminable caenolestid and the second a mandible with M_{3-4} of a microbiothere. Therefore, the genus *Parhalmarhiphus* should be invalidated" (translated from Reig, 1955b, p. 63).

[18]The generic name spelled both *Palaeothentes* and *Palaeotenthes* was listed as a *nomen nudum* by Moreno (1882, p. 122). A valid definition was first published by Ameghino (1887, p. 5) under the name *Palaeothentes*. In 1889 Ameghino (p. 271) decided that this spelling was "impossible" and that the generic name should have been written *Palaeoteuthis* and hence was preoccupied by *Palaeoteuthis* D'Orbigny (1850, p. 327), a genus of cephalopod. On these grounds Ameghino (1889, p. 271) proposed the generic name *Epanorthus* to replace *Palaeothentes* Ameghino, 1887. But the spelling *Palaeothentes* was original, intentional, and *ipso facto* is correct in nomenclature regardless of its etymology, and it cannot be preoccupied by the quite different name *Palaeoteuthis* (see Simpson, 1945, p. 45n). In view of this Sinclair (1906, p. 416) argued that *Epanorthus* "can no longer be retained for a genus either for a genus or to designate a family [Epanorthidae]." There is no possible origin for the name *Palaeothentes*. Palmer (1904) gave "*thereutes*, hunter" as the origin and probably got that from Ameghino.

[19]The family-group name Abderitesidae was proposed by Ameghino (1889, pp. 268, 269) to include the genus *Abderites* Ameghino, 1887, p. 5. The spelling of this family-group name was followed by Ameghino (1890, p. 174), although in later works Ameghino (1903, p. 159; 1906, p. 472) and all other workers used the spelling Abderitidae. For Greek nouns ending in *-tes* the stem for forming family-group names is *-t*, alone (Stoll et al., 1961, 1964, p. 133, example 16). Following the Code [Art. 11 (e) (ii) and Art. 29 (a)], Abderitesidae was an incorrect original spelling, and the change to Abderitidae was a "justified emendation" [Stoll et al., 1961, 1964, Art. 33 (a) (i)] and still dates from Ameghino, 1889. The incorrect spelling Abderitesidae has not been used in any zoological literature for more than 70 years.

[20]In accordance with Articles 27 and 32c of the International Code of Zoological Nomenclature (Stoll et al., 1961, 1964) the diacritic mark is dropped from the names originally spelled *Metaëpanorthus* and *Paraëpanorthus*.

[21]The name *Abderites* is supposed to be Greek for "an inhabitant of Abdera" (Palmer, 1904, p. 71), and presumably Palmer got this from Ameghino.

[22]The type of *Camptomus*, *C. amplus*, is based on a scapula from the Lance formation of Wyoming. This specimen may be regarded as therian without question and marsupial with great probability. *Camptomus* is probably a synonym of one of the Lance marsupial genus-group names (see McKenna, 1961, p. 16).

[23]The African Miocene species *Palaeothentoides africanus* Stromer, 1932, was at first believed by its describer to be not only a marsupial, but a caenolestoid and hence with South American affinities. Butler & Hopwood (1957) and Patterson (1965) have shown, however, that this species belongs in the exclusively African placental family Macroscelididae.

[24]See Lidicker & Follett (1968, pp. 251-256) for discussion.

[25]Family group name formed from junior synonym; see Archer & Kirsch (1977).

[26]An alternate name suggested by Sclater (*in* Stirling, 1891, p. 186) to replace *Psam-*

moryctes, but not adopted by Stirling and apparently never used for any mammal (Palmer, 1904, p. 455).

[27]The spelling *Cercaërtus* was attributed to Gloger by Burmeister (1837, p. 814) (see Palmer, 1904, pp. 171-172). Also see Turnbull & Schram (1973).

[28]Some wallaby species formerly referred to *Protemnodon* and *Wallabia* are included here based on cytological (Sharman, 1961) and serological (Kirsch, 1968a) evidence. Also see Ride (1957, 1962b, 1963).

[29]Woodburne (1967b, p. 103) records a "?Protemnodont" from the late Miocene, Alcoota Fauna, of Northern Territory.

[30]Including only *W. bicolor* (Desmarest, 1804, p. 357) following cytological (Sharman, 1961) and serological (Kirsch, 1968a) evidence. For fossil species see Bartholomai (1976).

[31]Sometimes attributed to Gray [1842 (March), p. 40] who acknowledged adopting Gervais' (1855) manuscript name.

[32]W. S. MacLeay published the name in the *Sydney Morning Herald* in 1857. Owen characterized it the following year (see G. P. Whitley, 1966).

[33]See Archer (1976f, 1977c).

[34]See Archer (1977b).

[35]Also see Archer (1977a).

[36]See Bartholomai (1963) and Tedford (1966).

[37]See Bartholomai (1968).

[38]See Bartholomai (1970).

[39]See Bartholomai (1973a) and Stirton (1963).

[40]See Marshall (1977b).

[41]Del Corro's (1977) report of *Microbiotherium* from Casamayor beds in Argentina is clearly based on a species of *Coona*.

[42]Richardson & Sharman (1976) regard *Osphranter* as a subgenus of *Macropus*.

[43]See Archer (1976a).

[44]See Augustiny (1942), Krumbiegel (1940), and Marshall (1978d).

[45]See Bartholomai (1971).

[46]See Bartholomai (1975).

[47]See Bartholomai & Marshall (1973).

[48]See Calaby et al. (1974) and Gadow (1892).

[49]See Broom (1911), Dederer (1909), and Gregory (1922). The original description of *Caenolestes* was given by Tomes (1860, p. 213), although the animal was not named at that time.

[50]For a review of living forms see Frith & Calaby (1969) and Russell (1974).

[51]See Archer (1974) and Guiler (1961).

[52]See Van Deusen (1963) and Plane (1976).

[53]See Gunson et al. (1968) and Kirsch (1968b).

[54]See Hayman et al. (1971).

[55]On the technical and common names of this genus see Hershkovitz (1949, 1976) and Pine (1973).

[56]See Lidicker & Marlow (1970).

[57]See Marshall (1977c).

[58]See Marshall (1977d).

[59]See Marshall (1978b) and Reig (1955a).

[60]See Marshall (1978c).

[61]See Martin (1974).

[62]See Odreman Rivas (1978).

[63]A largely indeterminate specimen of a polydolopoid is also recorded from the Deseadan of Bolivia (see Patterson & Marshall, 1978).

[64]See Pascual & Herrera (1975).

[65]See Pascual & Herrera (1973).

[66]See Reig & Simpson (1972) and Simpson (1974).

[67]See Simpson (1970c).

[68]Also see Simpson (1970d).

[69]See Tate (1948b).

[70]See Tate (1951a) and Archer & Kirsch (1977).

[71]See Thomas (1887a).

[72]See Thomas (1887c).

[73]See Woods (1960).

[74]This subfamily has been reviewed by Marshall (1979a).

[75]See Wood-Jones (1931).

[76]Dillon (1963), based on a study of structure of the brain, suggested that the red and grey kangaroos be classified into separate genera (i.e., *Megaleia* and *Macropus*, respectively).

[77]McKay (1980) designated a neotype for *Petaurus australis* Shaw, 1791. This move permits maintenance of usage of the names *Petaurus* and *P. australis*, although it makes the name *Schoinobates* Lesson, 1842, unavailable for the Greater Glider and requires usage of the name *Petauroides* Thomas, 1888.

[78]Probably a *nomen dubium* (see Clemens, 1979, p. 193).

[79]"The generic name of the common opossum, . . . was spelled *Didelphis* by Linnaeus, 1758. This is considered erroneous etymologically, but there is no clear evidence that it was a typographical error, and under the Rules [of Zoological Nomenclature] this spelling should stand. The transliteration *Didelphys* was first used by Schreber, 1777 [*sic.*, 1778]. The family of which this genus is typical was first named Didelphidae Gray, 1821. Subsequent emendations include Didelphydae Baird, 1857, Didelphididae Gill, 1872, Didelphyidae Forbes, 1881, and Didelphiidae Miller & Rehn, 1901. . . . I see no reason why Gray's spelling may not be adopted; it is as correct as any other, is shorter and easier to pronounce and has priority" (Simpson, 1935b, p. 134).

Linnaeus (1758) applied the name *Didelphis* in recognition of the fact that the opossum had a true uterus, in addition to an external "womb" or "pouch." The name *Didelphis* being derived from the Greek *di*, two or double, and *-delphys*, womb. De Blainville's (1816) term "les Didelphes," although etymologically the same, was given in reference to the possession of two distinct, true uteri (Gregory, 1910, p. 199n).

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