Case 2983

Achatinellastrum Pfeiffer, 1854 and Achatinellidae Gulick, 1873 (Mollusca, Gastropoda): proposed conservation

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Abstract. The purpose of this application is to conserve the generic name Achatinellastrum Pfeiffer, 1854 for a terrestrial snail from Oahu, one of the Hawaiian islands, together with the family-group name Achatinellidae Gulick, 1873. These names are threatened by the unused senior subjective synonyms Helicteres Beck, 1837 and Helicterinae Pease, 1870 (based on Helicter Pease, 1862, a junior objective synonym of Helicteres) and it is proposed that Helicteres and Helicter be suppressed. The application is submitted under Article 23.9.3 of the Code.

Keywords. Nomenclature; taxonomy; Gastropoda; Achatinellidae; Achatinella; Achatinellastrum; tree snails; Hawaii.

1. The genera Achatinella Swainson, 1828 and Achatinellastrum Pfeiffer, 1854 and the family Achatinellidae Gulick, 1873 are widely known, particularly because of the publicity that conservation of Pacific island tree snail species has received. The senior synonym Helicteres Beck, 1837 has remained unused since 1847, and Helicterinae Pease, 1870 has not appeared since publication, but the conditions of Article 23.9.1.2 are not met for conservation of the names Achatinellastrum and Achatinellidae under the Code. The application is submitted under Article 23.9.3.

2. The name ‘Helicteres’ was first proposed by Férussac (1821, p. 56 quarto/p. 60 folio) for a division of his subgenus Cochlogena of the genus Helix, based on nine taxonomic species of Hawaiian land snails, only two of which had available names by reference to illustrations in vol. 11 of Chernnitz’s (1795) Systematisches Conchylien-Cabinet. As is evident from Férussac’s formation of names of similar levels of infrageneric groupings in his 1821 work, ‘Helicteres’ was written in the nominative plural and is therefore not an available name. Menke (1830, p. 25), essentially copying Férussac’s (1821) classification and names, also used the name ‘Helicteres’ in the nominative plural. The first author to make available the name Helicteres was Beck (1837, p. 51) who used it for a subgenus of Bulinus and included a number of species of Hawaiian land snails, among them Helix vulpina Férussac, 1824 (pl. 68, figs. 13 and 14; text, p. 477, 1825). All the nominal taxa that Beck listed in Helicteres are currently included in the families Achatinellidae Gulick, 1873 (p. 89) and Amastridae Pilsbry, 1910 (see Cowie. Evenhuis & Christensen, 1995). Herrmannsen (1847, p. 515) designated Helix vulpina as the type species of Helicteres Beck.
3. Swainson (1828, p. 83) introduced the name *Achatinella* for *Monodontia seminigra* Lamarck. 1822 (p. 37), six new nominal species and one variety. These are all land snails from the Hawaiian island of Oahu. Swainson (1828, p. 83) designated *M. seminigra* as the type species of the genus. Subsequently Lamarck’s name has been treated as a junior synonym of *Helix apexfulva* Dixon, 1789 (p. 354, plate opposite p. 355, fig. 1. two views), described from the Hawaiian Islands (see, for example, Pilsbry & Cooke, 1914, pp. 318, 320; Welch, 1942, p. 176; and Cowie et al., 1995, pp. 37, 46).

4. Pfeiffer (1854, p. 133) proposed *Achatinellastrum* as a subgenus of *Achatinella*, with 44 included nominal species, among them *Achatinella producta* Reeve, 1850 (*Achatinella*. pl. 2, species 13). Pilsbry & Cooke (1914, p. 181) designated *A. producta* as the type species of *Achatinellastrum*.

5. *Helix vulpina* Ferussac, 1824, the type species of *Helicerites* Beck, 1837, is currently placed in the subgenus *Achatinellastrum* Pfeiffer, 1854 in the family *Achatinellidae* (see Cowie et al., 1995), rendering the name *Achatinellastrum* a junior subjective synonym of *Helicerites*.

6. The name *Helicer* was introduced by Pease (1862, p. 6) for Ferussac’s ‘Helicerites’. It was treated as an incorrect subsequent spelling of ‘Helicerites’ by Cowie et al. (1995, p. 48) but, since Pease (1862) noted the change in spelling, it should correctly be considered an unjustified emendation, and thus a junior objective synonym, of *Helicerites* Beck, 1837. ‘Helicerella’ Gulick (1873b, p. 497) is a nomen nudum. The names *Helicerites* Beck, 1837 and *Helicer* Pease, 1862 have usually been treated as synonyms of *Achatinella* (see, for example, Pilsbry in Gwatkin, Suter & Pilsbry, 1895, pp. 237, 238; Pilsbry & Cooke, 1913, p. 117; 1914, p. 274; Thiele, 1931, p. 499; Zilch, 1959, p. 134; Vaught, 1989, p. 79), but if *Achatinella* is considered to be distinct from *Achatinellastrum*, which is the case in all these works, then the names *Helicerites* and *Helicer* are synonyms of *Achatinellastrum*.

7. Acceptance of the priority of the name *Helicerites* Beck, 1837 over *Achatinellastrum* Pfeiffer, 1854 would overturn accustomed usage. Pease (1862, p. 6; 1870, p. 644) advocated priority of ‘Helicerites Ferussac, 1821’ over *Achatinella* Swainson, 1828, considering Ferussac’s name to be available and the two names to be synonyms. In his (1862) publication Pease changed *Helicerites* to *Helicer* (para. 6 above). Herrmannsen (1847, p. 515) and Gray (1847, p. 178) also considered *Helicerites* to be available from Ferussac (1821), with *Achatinella* Swainson as a junior synonym, although Gray acknowledged that the different type species, *Achatinellastrum vulpina* (Ferussac, 1824) and *Achatinella seminigra* (Lamarck, 1822), at some future time might be shown to belong to distinct genera (or subgenera) (see Gray, 1847, p. 130). No other authors have used *Helicerites* as a valid name. All subsequent authors have used *Achatinella* and/or *Achatinellastrum*, in some cases giving explicit reasons for doing so. For example, Gulick (1873a, p. 90) noted that *Helicerites* was ‘preoccupied as the name of a genus in the vegetable kingdom. We might hesitate to reject it if it had been in general use for many years; but no good reason exists for reviving an objectionable name which has long been rejected’, and Pilsbry in Gwatkin, Suter & Pilsbry, 1895 (pp. 237–238) recorded *Helicer* Pease as a synonym of *Achatinella* and that ‘there is no reasonable excuse for reviving Ferussac’s term *Heliceriteres*, for it was not intended as a generic or sub-generic name by Ferussac, and is improper in form. Its use would open the door to an endless series of vagaries in nomenclature, as any one who examines Ferussac’s original publication may see’.
The *Manual of Conchology* (Pilsbry & Cooke, 1912–1914) was the last work to revise the genus *Achatinellastrum* and remains the standard publication that has been followed until the present. In it (p. 117), *Heliceteres* Beck and *Helicter Pease* are listed as synonyms of *Achatinella* and (p. 180) no synonyms are listed under *Achatinellastrum*. In addition to the publications cited in this application, a list of recent representative works in which the name *Achatinellastrum* has been used includes Welch (1958), Zilch (1962), Christensen (1985), Thiele (1992) and the U.S. Fish and Wildlife Service (1993).

8. The family-group name *helicterinae* Pease, 1870 (p. 645), based on *Helicter Pease*, 1862, predates *achatinellinae* Gulick, 1873 (ref. 1873a, p. 89), based on *Achatinella* Swainson, 1828 (see also Baker, 1956, p. 132). However, no works subsequent to its original proposal have used *helicterinae*. In addition to the above list of works relating to the usage of generic names, all of which use Gulick’s family-group name, publications that have used the name *achatinellidae* include popular works, text books, endangered species lists and scientific papers not only in systematics but in ecology, conservation, evolutionary biology and archaeology (see, for example, the recent works of Boss, 1982; Christensen & Kirch, 1986; Hadfield, 1986; Abbot, 1989 and Cowie, 1996, 2001). A representative list of a further 21 publications that have used *achatinellidae* in the last 20 years is held by the Commission Secretariat). The family *achatinellidae* is endemic to islands of the Pacific, where it has radiated spectacularly (see Cooke & Kondo, 1960). The sub-family *achatinellinae*, composed entirely of tree snails, is endemic to the Hawaiian Islands. The genus *Achatinella*, with *Achatinellastrum* as one of three subgenera, is endemic to the island of Oahu. On this island it has speciated dramatically and developed immense variation in shell colour and banding patterns that have long attracted the attention of evolutionary biologists (see, for example, Gulick, 1905 and Wright, 1978). Members of the *achatinellinae* are under severe threat of extinction through the impact of human activities (see Hadfield, 1986). Twenty-four species of *Achatinella* (those considered possibly still extant) and 23 other species of *achatinellidae* are listed as threatened in the 1996 *IUCN Red List of Threatened Animals* (Baillie & Groombridge, 1996, pp. 120–121); together with a further 52 achatinellid species and two subspecies at risk or extinct (pp. 188, 213, 238), and the entire genus *Achatinella* is included in the *U.S. List of Endangered and Threatened Wildlife and Plants*. Considerable confusion would ensue if the names *Heliceteres* Beck, 1837 and *helicteridae* Pease, 1870 were resurrected. By rejecting *Helicteres* in favour of *Achatinellastrum* Pfeiffer, 1854 and suppressing the name *Helicter Pease*, 1862 not only would stability in the generic name be ensured but the usage of *achatinellidae* would be fixed, ensuring stability also in the family-group name.

9. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to suppress the following names for the purposes of the Principle of Priority but not for those of the Principle of Homonymy:

(a) *Heliceteres* Beck, 1837;
(b) *Helicter Pease*, 1862;

(2) to place on the Official List of Generic Names in Zoology the name *Achatinellastrum* Pfeiffer, 1854 (gender: neuter), type species by subsequent designation by Pilsbry & Cooke (1914) *Achatinella producta* Reeve, 1850;
(3) to place on the Official List of Specific Names in Zoology the name *producta* Reeve, 1850, as published in the binomen *Achatinella producta* (specific name of the type species of *Achatinellastrum* Pfeiffer, 1854);

(4) to place on the Official List of Family-Group Names in Zoology the name *achatinellidae* (type genus *Achatinella* Swainson, 1828);

(5) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the following names: (a) *Helieteres* Beck, 1837, as suppressed in (1)(a) above; (b) *Helieter Pease, 1862, as suppressed in (1)(b) above;

(6) to place on the Official Index of Rejected and Invalid Family-Group Names in Zoology the name *helicterinae* Pease, 1870 (invalid because the name of the type genus has been suppressed in (1)(b) above).

References


Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).