We, members of the Committee on Names of Fishes, a joint committee of the American Fisheries Society and the American Society of Ichthyologists and Herpetologists, support the proposal by Collette & Parin that the Commission use its plenary power and reinstate the specific name of *Sphyraena acus* Lacepède, 1803. We believe that the petitioners make an excellent case for this action. In our various editions of *Common and scientific names of fishes...*, our committee used the specific name as *Strongylura acus* in 1960 and as *Tylosurus acus* in 1970, 1980, 1991 and 2004. During the preparation of the 2004 edition (Nelson et al., 2004), we were prepared to follow Opinion 900 and accept the suppression of the name *Tylosurus acus* (Lacepède, 1803) and use *Tylosurus imperialis* (Rafinesque, 1810). However, given analyses that almost all authors, both in systematic and non-systematic literature, continue to use the specific name *acus*, as earlier advocated by Collette & Berry, 1965 (p. 391) and with which we agree, we continued to use *acus*. Present usage is compatible with the fact that the type locality for the oldest available name, *T. acus*, is the West Indies, while that for *T. imperialis* is the Mediterranean Sea. Amending the ruling in Opinion 900 (1) and placing the name *acus*, as published in the binomen *Sphyraena acus* Lacepède, 1803, on the Official List of Specific Names in Zoology as proposed in BZN 62: 234 will have the greatest stabilizing effect.

**Comment on the proposed conservation of *Palamopus* E. Hitchcock, 1845 (Ichnotaxa, Reptilia?)**

(Case 3348; see BZN 62: 237–239)

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I support Emma Rainforth’s (BZN 62: 237–239) application to conserve *Palamopus* Hitchcock, 1845 and suppress its senior objective synonym *Sauroidichnites* Hitchcock, 1837. I base my support of her application on the following...
considerations: *Sauroidichnites* Hitchcock, 1837 is the senior objective synonym of *Palamopus* Hitchcock, 1845 but has not been used as a valid name after 1899, so it is a nomen oblitum; *Palamopus* Hitchcock, 1845 has been used since 1899, though not in a sufficient number of works by enough authors during the last 50 years to satisfy the conditions of Article 23.9.1.2. Nevertheless, all of the usage since 1845 has been of the name *Palamopus*. Furthermore, most workers have considered Lull (1953) to be the standard work on Connecticut Valley tracks, and Lull used *Palamopus*. Haubold (1971), in another standard compendium, also used *Palamopus*.

Rainforth (2005, pp. 356–361) reviewed in detail the tortured ichnotaxonomic history of *Palamopus* and also reviewed (pp. 436–439) the even more tortured history of *Sauroidichnites*. These reviews demonstrate that *Sauroidichnites* is the more problematical name. Thus, for example, *Ornithichnites palmatus* is the type species of *Sauroidichnites*, but most authors have erroneously considered its type species to be *S. barrattii*, which is a nomen nudum. The name *Sauroidichnites* reflects Hitchcock’s early philosophy in naming the Connecticut Valley footprints he studied. He thought that these footprints represented three classes of vertebrates (amphibians, reptiles and birds) and coined an ichnogenic name for each class: *Batrachoidichnites*, *Sauroidichnites* and *Ornithoidichnites*, respectively. Each broadly construed ichnogenus encompassed many ichnospecies. In 1845, Hitchcock abandoned that philosophy and coined new ichnogenic names more similar to the kinds of ichnogenic names coined since. *Palamopus* Hitchcock, 1845, with one ichnosppecies, is such a name. Most significantly, in 1845 Hitchcock abandoned his own name *Sauroidichnites* and did not use it again.

In summary, the confused ichnotaxonomic name *Sauroidichnites* was based on an antiquated and long abandoned philosophy of ichnotaxonomy. The original author of *Sauroidichnites* abandoned it in 1845 and it has not been used since. *Palamopus* is a less confused ichnotaxonomic name and all 20th century usage has been of *Palamopus*. Therefore, it makes sense to suppress *Sauroidichnites* and conserve the name *Palamopus*. 
2. In his comments to support the acceptance of the name *Turbo bidens* Linnaeus, 1758 for the species in question, Welter-Schultes (BZN 63: 46–47) makes a number of assumptions which are either poorly supported by facts, or are purely speculative:
(a) Müller’s diagnosis (in contrast to Giusti & Manganelli’s initial statement) was not clear enough – Müller’s description and the figures cited by him leave no doubt as to the species intended; the use of the name *papillaris* in subsequent literature is unequivocal. The purpose of Giusti & Manganelli’s proposal of a neotype is not to remove doubt as to the identification of *Helix papillaris* Müller, but to fix that name to a particular strain in the species complex.
(b) Rossmaüssler’s (1835) dictionary of Latin descriptive terms cannot be applied to the earlier text of Linnaeus, 1758 – Possibly true, but this does not support the assertion that Linnaeus, 1758 described the same species as Müller. The latter clearly described in Latin the conspicuous colour pattern which is missing in Linnaeus’s diagnosis.
(c) Linnaeus may have had ‘good reasons’ not to mention this colour pattern – It is inconceivable that the founder of systematics of the entire Plant and Animal Kingdoms would have suppressed mentioning a conspicuous character in his diagnoses, which is alluded to by later authors in both the genus and species name of the taxon here discussed.
(d) Linnaeus may have had only dead shells at his disposal – Unproven speculation. His words: ‘testa . . . pellucida’ (shell transparent) is unlikely to apply to dead (and hence bleached and opaque) shells. I would speculate that a scientist of Linnaeus’s experience would have refrained from basing a new species on weathered shells.
(e) Linnaeus may have had several species in the family *Clausiliidae* in mind, of which only one (viz. *Papillifera papillaris*) showed the aforementioned colour pattern, which was therefore not considered diagnostic for the composite nominal taxon *Turbo bidens* – It is quite possible that Linnaeus united several species under that name, but this cannot be proven. I would expect that Linnaeus would not have regarded a clausiliid with a conspicuous colour pattern as conspecific with other clausiliids which lacked this feature.

Comment on the proposed conservation of *Palamopus* E. Hitchcock, 1845
(Ichnotaxa, Reptilia?)

Markus Moser

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1. The term ‘Sauroidichnites’ was coined by Edward Hitchcock in 1837 as a subdivision of the general term ‘Ichnites’, and immediately afterwards used as a suborder of the order ‘Dipodichnites’ in the class ‘Ichnolithes’ (Hitchcock, 1841, 1844), thus in the first place ‘Sauroidichnites’ must be regarded as a suprafamilial taxon. Haubold (1971, 1974) pointed out that only in 1845 did Hitchcock begin to use generic names (i.e. different from higher level terms). Indeed, Hitchcock (1848,
p. 130) stated that he had introduced the term ‘Sauroidichnites’ intending, by the term, merely to convey an intimation that they might prove to be reptilian. It is therefore argued that ‘Sauroidichnites’ (and likewise ‘Ornithichnites’ and ‘Tetrapodichnites’) was not used as a generic name in the sense of binominal nomenclature, but as a general term denoting an object class, in which case ‘Sauroidichnites’ is unavailable as a generic name and does not need to be suppressed.

2. However, as Hitchcock (1837) subdivided the ‘Ornithichnites’ into ‘Pachydactili’ and ‘Leptodactyli’ and used ‘Ornithichnites’ to include several ichnospecies, it could be argued that Sauroidichnites, Ornithichnites and Tetrapodichnites were used as generic appellations and general terms at the same time and could be acceptable as available generic names, possibly in the sense of a ‘collective group’.

3. The question of the type species can be summarized as follows: Hitchcock (1837) used Sauroidichnites to include five species-group names. The type ichnospecies of the ichnogenus Sauroidichnites Hitchcock, 1837 – if considered available – is Sauroidichnites palmatus (Hitchcock, 1836) by original monotypy, as the four other species names coined by Hitchcock in 1837 without description are unavailable. However, although it is the older name and an objective synonym, Palamopus palmatus is not the type species of Palamopus, as implied by Rainforth (para. 2). The type species (by monotypy) is Palamopus anomalus Hitchcock, 1845, as correctly stated by Hay (1902). If Sauroidichnites and Ornithichnites are considered unavailable generic names, that does not affect the availability of ‘Ornithichnites’ palmatus, the valid specific name of the type species of Palamopus (Article 11.9.3.1 of the Code). Should the name palmatus prove to be nomenclaturally unavailable, P. anomalus may be reinstated as the valid name of the type species.

4. Rainforth stated that Palamopus has been used as the name for an ichnotaxon in four published works (Kuhn, 1963; Haubold, 1971, 1984; Olsen & Radian, 1986). Kuhn (1963) accepted only Palamopus Hitchcock, 1845 with P. palmatus (Hitchcock, 1841, note date, with Sauroidichnites palmatus in synonymy) as the valid name of the type species (‘Genotypus’), thus apparently ignoring the older references. However, Kuhn (1963) cited the works of Hitchcock older than 1841, and there is no doubt that Kuhn had actually seen them, as the first series of volumes of the American Journal of Science and Arts is available, with early 19th century possession stamps, in the Bayerische Staatsbibliothek in Munich, which was Kuhn’s main literature source (Kuhn, 1963, p. 3). It is therefore concluded that Kuhn, possibly following Hay (1902) and others, consistently did not accept species names in these older works as available, and generic names only beginning with Hitchcock, 1845. Haubold (1971 and follow-up publications of 1974 and 1984 in the second, enlarged edition) explicitly considered Sauroidichnites as not available as a generic name, following Kuhn (1963, and the references cited therein); hence, he used Palamopus (Haubold, 1971), with Sauroidichnites in synonymy. Finally, Olsen & Padian (1986, p. 261) listed Palamopus only in the synonymy of Batrachopus, and more specifically three species of Palamopus, including ‘P. palmatus’ Hitchcock, 1841’, in tentative subjective synonymy with Batrachopus deweyi (Hitchcock, 1843) (Olsen & Padian, 1986, p. 262), so this reference cannot be counted as usage of Palamopus as the valid name of a taxon.

5. To summarize: Of the limited record of only four works cited by Rainforth to support a universal usage of the younger name Palamopus, instead of the older
Sauroidichnites during the past 50 years, one work did not use Palamopus as a valid name, two used Palamopus with Sauroidichnites in explicit synonymy, and three did not consider Sauroidichnites an available generic name in zoological nomenclature. An accurate record by Lockley & Meyer (2004, p. 174) for Palamopus as a (presumably) valid taxon name was published probably too late to be employed by Rainforth. However, four references, at the most, cannot be considered as establishing prevailing usage. The nomenclature would hardly be upset, if the older name Sauroidichnites was be used and strict priority would be reinstated. It is my contention, therefore, that the proposed suppression of Sauroidichnites is not supported by the reasoning of Rainforth. However, I strongly recommend following previous authors in considering Sauroidichnites Hitchcock, 1837 as not available as a generic name for reasons stated in para. 1 above.

6. Therefore, amending the application by Rainforth, the International Commission on Zoological Nomenclature is accordingly asked:

(1) to place on the Official List of Generic Names in Zoology the name Palamopus E. Hitchcock, 1845 (gender: masculine), type species by monotypy Palamopus anomalus E. Hitchcock, 1845;

(2) to place on the Official List of Specific Names in Zoology the name palmatus E. Hitchcock, 1836, as published in the binomen Ornithichnites palmatus (senior objective synonym of the type ichnospecies of Palamopus E. Hitchcock, 1845);

(3) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name Palamopus E. Hitchcock, 1848 (a junior synonym of Palamopus E. Hitchcock, 1845);

(4) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name anomalus E. Hitchcock, 1845, as published in the binomen Palmopus anomalus (junior objective synonym of Ornithichnites palmatus E. Hitchcock, 1836).

Additional references


The authors have made a strong case which I fully endorse. In many cases identification is not easy among Asian Celaenorrhinus species. With ca. 100 names available it is important that nomenclatural matters do not hamper identification and access to literature. The authors have made a thorough search of the relevant literature, and we can be confident that the name proposed to be suppressed has not ever been used since its introduction in 1907, except for the record mentioned. To further support their claim I like to add that the most complete worldwide catalogue of names in HESPERIIDAE to date, Bridges (1994), a considerably enlarged version of Bridges (1988), incorrectly listed as Bridges (1993, 1998), does not mention Matsumura’s name either. The correct references are:


Comment on the proposed conservation of Palamopus E. Hitchcock, 1845
(Ichnofaxa, Reptilia?)
(Case 3348; see BZN 62: 237–239; 63: 49–50, 131–133)

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1. Moser (see BZN 63: 131–133, para. 1) suggests that Sauroidichnites does not need to be suppressed because it is not a valid ichnogeneric name. However, when Sauroidichnites was named (Hitchcock, 1837) it was used only at the ichnogeneric level (being used only in binominal combinations with ichnospecies), and not as a supra-ichnogeneric taxon; it was only later used (homonymously) as a supra-ichnogeneric taxon (Hitchcock, 1841). Thus, from its first usage, Sauroidichnites is a valid and available ichnogeneric name, and requires either suppression or conservation. If we were to follow Moser’s arguments in para. 1, and instead argue that Sauroidichnites and the other pre-1845 ichnogenera were not (or not intended to be) ichnogeneric names (valid and/or available or otherwise), but only supra-ichnogeneric names, then the pre-1845 ichnospecies names would not be valid (validity requiring that the ichnospecific name is associated with an ichnogeneric name, whether that be valid or available or not; Article 11.9.3). In turn, the next valid and available names would be those published (for the most part) in 1845 – which include many objective synonyms of the earlier names. We have then completely destabilized Early Jurassic tetrapod ichnological nomenclature – because, since 1915, all workers in the field have used the older (pre-1845) names. Fortunately, all of the pre-1845 ichnogeneric names (Ornithichnites, Sauroidichnites, Batrachoidichnites, Tetrapodichnites) can be shown to have been used in binominal nomenclature (and thus used as ichnogeneric names), and so the species associated with them are valid and available (unless other reasons are present).
2. Ornithichnites palmatus Hitchcock, 1836 (currently Palamopus palmatus) is the type species of Sauroidichnites Hitchcock, 1837 by explicit bibliographic reference; Ornithichnites palmatus is both valid and available from its original publication (Hitchcock, 1836). When Hitchcock (1845) renamed and reclassified all of his ichnites, he stated the type species of Palamopus to be Palamopus anomalus; but P. anomalus is the same species as O. palmatus, having the same description and being based on the same material (including having the same type specimen); Palamopus anomalus is merely an unjustified replacement name for Ornithichnites palmatus. Therefore, P. anomalus was never a valid name, although it is an available name. Thus, the type ichnospecies of Palamopus is Ornithichnites palmatus.

3. Moser (para. 4) suggests that I was incorrect in stating that four works had used Palamopus as the ichnotaxon name. He speculates that Kuhn (1963) did not consider pre-1845 names to be valid; however, the simple fact that Kuhn gave an 1841 date for palmatus indicates he did consider pre-1845 names valid and available. Moser (para. 4) also suggests that Kuhn (1963) and others (e.g. Haubold, 1971) followed Hay (1902) in not accepting the pre-1845 names; however Lull (1915, revised in 1953) and Hay (1930) used and accepted the availability and validity of the pre-1845 ichnospecific names (but only the availability, and not the validity, of the pre-1845 ichnogeneric names); Hay (1930) also explicitly stated that he did not consider his 1902 work to be nomenclaturally binding. Lull’s 1953 tome is considered the key modern reference for Early Jurassic ichnology (and Hitchcock’s material in particular), and its nomenclatural system (i.e. Hitchcock’s pre-1845 species names) is followed by modern workers and is infused throughout the literature. Finally, Olsen & Padian (1986) only tentatively subjectively synonymized Palamopus palmatus and Batrachopus deweyi – using Palamopus rather than Sauroidichnites as the valid ichnogenic ‘home’ for the ichnospecies palmatus. Of the few workers (other than Hitchcock) that have even mentioned this ichnotaxon since 1844 (see Rainforth, 2005 and Moser, 2006), it is critical to note that none has considered Sauroidichnites to be the valid ichnogeneric name; they have all treated Palamopus or one of its subjective or objective synonyms as the valid name.

4. Moser (para. 5) suggests that my previous (Rainforth, 2005) reasoning does not support the suppression of Sauroidichnites. I stress, however, that 100% of the usage – (whether ‘prevailing’ or not by the current Code’s standards) since 1844 has been of an ichnogenic name other than Sauroidichnites (whether that be Palamopus or an objective or subjective synonym), and usage of palmatus rather than anomalus as the valid (and available) name. Due to the inherent problems with retention of Sauroidichnites (alluded to by Lucas, 2006), which is both valid and available as an ichnogenic name from its original publication (in which it was only used as an ichnogenus, not as a supra-ichnogeneric taxon), it is important that it be suppressed. Contra to Moser (para. 6), we cannot simply argue the name away as an unavailable name (on the basis of homonymy with a supra-ichnogeneric taxon) to get rid of the problem, because, in the original publication (Hitchcock, 1837), the name is only used in binominal combination, i.e. as an ichnogenus; it was not used as a supra-ichnogeneric name until 1841.

5. A final philosophical note. Edward Hitchcock’s concept of ichnogenera changed in 1845, when the ichnospecies previously referred to Sauroidichnites were transferred to seven ichnogenera including Palamopus (the destination for the type ichnospecies
of *Sauroidichnites*). It is desirable to retain *Palamopus*, because Hitchcock’s three pre-1845 ichnogenera were named as the footprints made by three different classes of tetrapods, whereas the 1845 and later ichnogenera were named under a new philosophy in which ichnogenera were distinguished with much higher morphological resolution, representing individual animal species or genera. As a result, *Palamopus* and *Sauroidichnites* are philosophically different, and have different diagnoses, descriptions, and species compositions. Retaining *Sauroidichnites* (in place of *Palamopus*) for *Ornithichnites palmatus* would thus essentially be mixing ichnotaxonomic apples (the 1836–1844 ichnogenera) and oranges (the 1845 and later ichnogenera).

**Additional reference**