

PROPOSED USE OF THE PLENARY POWERS FOR THE
SUPPRESSION OF THE NAMES PROPOSED BETWEEN 1814 AND
1820 BY C. S. RAFINESQUE FOR TWO GENERA AND FOUR
SPECIES BELONGING TO THE ORDER AMPHIPODA (CLASS
CRUSTACEA), AND MATTERS CONNECTED THEREWITH.
Z.N.(S.) 1879

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In Opinion 522 (1958, *Opin. Decl. Int. Comm. zool. Nomencl.* **19**(9) : 209–248) the majority of the names proposed by C. S. Rafinesque for new genera and species of Decapod and Stomatopod Crustacea have been suppressed, since the adoption of these names would have caused a great confusion in carcinological nomenclature. In the present application a similar action regarding Rafinesque's Amphipod names is requested.

2. The references to the names of the genera dealt with in the present paper are the following:

Crangonyx Bate, 1859, *Nat. Hist. Rev. Dublin* **6** (Proc. Dublin zool. bot. Ass., Feb. 18, 1859) : 165 (masculine). Type-species, by monotypy: *Crangonyx subterraneus* Bate, 1859, *Nat. Hist. Rev. Dublin* **6** (Proc. Dublin zool. bot. Ass., Feb. 18, 1859) : 165.

Dactylocera Latreille, 1829, Cuvier's *Règne Anim.* (ed. 2) **4** : 117 (feminine). Type-species, by monotypy: *Phrosina semilunata* Risso, 1822, *Journ. Phys. Chim. Hist. nat. Arts* **95** : 245.

Lepleurus Rafinesque, 1820, *Annals of Nature* **1** : 7 (masculine). Type-species, by monotypy: *Lepleurus rivularis* Rafinesque, 1820, *Annals of Nature* **1** : 7.

Orchestia Leach, 1814, Brewster's *Edinb. Encycl.* **7** : 402, 432 (feminine). Type-species, by monotypy: *Cancer (Gammarus) littoreus* Montagu, 1808, *Trans. Linn. Soc. Lond.* **9** : 96 (= *Oniscus gammarellus* Pallas, 1766, *Misc. Zool.* : 191).

Pephredo Rafinesque, 1817, *Amer. monthly Mag. crit. Rev.* **2** : 41 (masculine). Type-species, by monotypy: *Pephredo potamogeti* Rafinesque, 1817, *Amer. monthly Mag. crit. Rev.* **2** : 41.

Phronima Latreille, [1802–1803], *Hist. nat. Crust. Ins.* **3** : 38 (feminine). Type-species, by monotypy: *Cancer sedentarius* Forskål, 1775, *Descr. Anim.* : 95.

Phrosina Risso, 1822, *Journ. Phys. Chim. Hist. nat. Arts* **95** : 244 (feminine). Type-species, by selection by Stebbing, 1888, *Rep. Voy. Challenger Zool.* **29**(1) : 118: *Phrosina semilunata* Risso, 1822, *Journ. Phys. Chim. Hist. nat. Arts* **95** : 245.

Pisitoe Rafinesque, 1814, *Précis Découv. somiol.* : 25 (feminine). Type-species, by present selection: *Pisitoe levifrons* Rafinesque, 1814, *Précis Découv. somiol.* : 26.

Psammylla Rafinesque, 1817, *Amer. monthly Mag. crit. Rev.* **2** : 41 (feminine). Type-species, by monotypy: *Psammylla littoralis* Rafinesque, 1817, *Amer. monthly Mag. crit. Rev.* **2** : 41.

Sperchius Rafinesque, 1820, *Annals of Nature* **1** : 6 (masculine). Type-species, by monotypy: *Sperchius lucidus* Rafinesque, 1820, *Annals of Nature* **1** : 7.

Synurella Wrzesniowski, 1877, in Hoyer, *Zeitschr. wiss. Zool.* **28** : 403 (feminine). Type-species, by monotypy: *Synurella polonica* Wrzesniowski, 1877, in Hoyer, *Zeitschr. wiss. Zool.* **28** : 403.

Talitrus Bosc [1801–1802], *Hist. nat. Crust.* **2** : 148 (masculine). Type-species, selected by Milne Edwards (H.), 1837, Cuvier's *Règne Anim.* (ed. 4; Discip. ed.) **18** : pl. 59: *Cancer locusta* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 634.

Talorchestia Dana, 1852, *Amer. Journ. Sci. Arts* (2) **14** : 310 (feminine), (a genus originally described without included nominal species). Type-species, being the first species referred to the genus, namely by Dana, 1853, *U.S. Explor. Exped.* **13** (2) : 861: *Talitrus gracilis* Dana, 1852, *Proc. Amer. Acad. Sci.* **2** : 201.

Apart from the type species of his new genera mentioned above, Rafinesque described one new species of Amphipod:

Pisitoe bispinosa Rafinesque, 1814, *Précis Découv. somiol.* : 25.

3. The systematic status of Rafinesque's species is the following:

a. *Lepleurus rivularis* Rafinesque, 1820, is based on a damaged specimen, while Rafinesque in his description has confused the order of the gnathopods and perhaps did not have the complete limbs before him (viz., "cylindrical and truncate fingers"). The ecology of the animal, i.e., "brooks of the mountains of Pennsylvania and at Shannon run, near Bedford Springs [Virginia]. Length about half an inch; it crawls on the stones rather than swims or jumps", is strongly suggestive of *Gammarus minus* Say, 1818, *Gammarus pseudolimnaeus* Bousfield, 1958, or even a *Crangonyx*. As Shoemaker (1940, *Journ. Wash. Acad. Sci.* **30** (9) : 388–394) has indicated, *Lepleurus rivularis* is probably the same species as *Gammarus minus* Say. In order definitely to settle the identity of Rafinesque's species, we now indicate as the neotype of *Lepleurus rivularis* one of the existing two type-specimens of *Gammarus minus* Say (1818, *Journ. Acad. nat. Sci. Philad.* **1** : 376) which we select at the same time to be the lectotype of Say's species. The specimen, though fragmentary, shows enough details to make the identity of the species beyond doubt. It is one of two specimens which were collected at Philadelphia, Pennsylvania, probably circa 1817. They were preserved and dry-mounted in the collection of the Academy of Natural Sciences of Philadelphia, U.S.A., under the catalogue number 2743. The fragments were removed from the card to which they had been glued, softened in tri-sodium phosphate, and mounted on a glass slide in CMC-10 mounting medium. The slide is now provided with labels giving the correct name, locality, and catalogue number (2743), and at the same time one of the specimens is marked as the lectotype of *Gammarus minus* Say and as the neotype of *Lepleurus rivularis* Rafinesque. By this action *Lepleurus rivularis* Rafinesque, 1820, becomes a junior objective synonym of *Gammarus minus* Say, 1818, and thus disappears into the synonymy of the latter species. The generic name *Lepleurus*, 1820, at the same time falls as a junior subjective synonym of *Gammarus*

Fabricius, 1775, a generic name which has been placed on the Official List of Generic Names in Zoology in Opinion 104.

b. *Pepphredo potamogeti* Rafinesque, 1817, may have been based on an immature specimen of *Gammarus fasciatus* Say, 1818 (*Journ. Acad. nat. Sci. Philad.* 1 : 374), as Rafinesque's description of the animal's habitat and locality are mainly consistent with the known facts about Say's species. The specific name *potamogeti* Rafinesque, 1817, would therefore antedate the name *fasciatus* Say, 1818, by one year and would have priority. The generic name *Pepphredo* Rafinesque, 1817, falls as a junior subjective synonym of *Gammarus* Fabricius, 1775. Since the specific name *fasciatus* has been consistently used for the present species by practically all authors dealing with it, and as the name *potamogeti* has been ignored from the beginning, it seems in the interest of nomenclatural stability to have Rafinesque's name *potamogeti* suppressed under the plenary powers.

c. *Pisitoe levifrons* Rafinesque, 1814, according to Costa (1853, *Fauna Regno Napoli* (Crost. Arach.) (Fronima) : 3) is a junior synonym of *Phronima sedentaria* (Forskål, 1775). As Rafinesque's type-material is no longer extant and as his description is not such to make the identity of his species fully certain, we propose definitely to settle the question of the identity of *Pisitoe levifrons* and for that reason indicate as its neotype the type-specimen of *Cancer sedentarius* Forskål (1775), which served both as the base of Forskål's (1775, *Descript. Anim.* : 95) description and of the figure which was published one year later (Forskål, 1776, *Icones Rer. Nat. Itin. Orient.* : pl. 41, fig. d). This neotype selection makes the specific name *levifrons* Rafinesque, 1814, an objective junior synonym of *sedentarius* Forskål, 1775. As far as we are aware no type-species has thus far been selected for the genus *Pisitoe* Rafinesque, 1814. Therefore we take this opportunity to indicate as the type-species of that genus *Pisitoe levifrons* Rafinesque, 1814. Hereby the generic name *Pisitoe* Rafinesque, 1814, becomes an objective junior synonym of *Phronima* Latreille [1802-1803].

d. *Pisitoe bispinosa* Rafinesque, 1814, is generally regarded by authors as synonymous with *Phrosina semilunata* Risso, 1822. Notwithstanding the fact that Rafinesque's name has distinct priority over that proposed by Risso, it is the latter and not the former name that has been generally used. Therefore it would be in the interest of nomenclatural stability to have Rafinesque's name *bispinosa* suppressed.

e. *Psammylla littoralis* Rafinesque, 1817, is based on a description that is very incomplete but which does indicate the species to be a member of the family TALITRIDAE. Rafinesque stated "Longer antens doubly than the head, short antens not longer than their first segment" and that the animals were found in "great numbers on the shores . . . jumping about like fleas, whence its vulgar name Sandflea". The geographical locality "Long-Island and New-York, and on the Hudson river" and the description "body rufous above, white beneath" "Length about half an inch, often less" almost certainly identifies the species with *Orchestia platensis* Krøyer, 1844. However, the fact that much of Rafinesque's material was found on sandy beaches (he derived the name *Psammylla* from *Psammo* + *psylla* meaning sand flea) and his statement "eyes large and round" "body . . . white beneath" is equally applicable to one of the

sandhoppers, especially *Talorchestia longicornis* (Say, 1818), common in the region. Since the possibility exists that the generic name *Psammylla* Rafinesque, 1817, though probably a junior synonym of *Orchestia* Leach, 1814, finally may prove to be a senior synonym of *Talorchestia* Dana, 1852, and as the latter name is a widely used and well established one, the suppression of *Psammylla* is requested here in order to avoid the possibility of any future nomenclatural confusion. The specific name *littoralis* Rafinesque, 1817, is a senior synonym of either *platensis* Krøyer, 1844, or *longicornis* Say, 1818, both of which are currently used by all Amphipod specialists. In order to make the validation of the latter two names possible, the suppression of the name *littoralis* Rafinesque is proposed.

f. *Sperchius lucidus* Rafinesque, 1820. Rafinesque's figure of this species, which was published by Holthuis (1954, *Zool. Verhand. Leiden* 25 : 17, fig. 3), quite clearly shows that Rafinesque described badly damaged specimens without cognizance of the fact. The figure namely shows the antennae broken off in the peduncular segments and the last three pairs of pereopods missing. This fact renders his statement "Antenna double than the head, four nearly equal, with two long truncate articles, the upper pair rather broader and longer" virtually meaningless as of generic or specific importance. However, the fact that the eyes were "nearly round; the appendages of the tail shorter than the last article", "Rump with four large segments", that the peduncular segments of antenna 1 were subequal and stouter than those of antenna 2, and that the material was discovered in the springs and brooks near Lexington, Kentucky, is strongly indicative of *Synurella* or *Crangonyx*, and not *Gammarus* nor *Hyaella*. According to Cole (1957, *Trans. Kentucky Acad. Sci.* 18 (2-3) : 29-39), *Synurella dentata* Hubricht, 1943, was the most frequently encountered amphipod in Kentucky streams, but a species of *Crangonyx* (probably *C. shoemakeri* (Hubricht & Mackin, 1940)) usually outnumbered it in Kentucky springs, grassy ditches and most of the spring brooks, whereas neither *Hyaella* nor *Gammarus* were found with the other amphipods (including other species of *Crangonyx*) and were collected infrequently. *Sperchius* could, therefore, be the oldest available name for either *Synurella* Wrzesniowski, 1877, or for *Crangonyx* Bate, 1859, with a stronger probability for the former. As the identity of *Sperchius lucidus* cannot be made out with certainty and as the introduction of the name *Sperchius* to replace either *Synurella* or *Crangonyx* would cause an enormous confusion in the nomenclature of the group, the suppression of both the names *Sperchius* and *lucidus* is requested here. Both *Synurella* and *Crangonyx* contain a considerable number of species (about 18 and about 24 respectively) which are found practically all over the holarctic region. The use of the name *Sperchius* for either of these genera would necessitate the change of a considerable number of often well known names.

4. None of the generic Amphipod names proposed by Rafinesque has been taken as the base for a name of a taxon in the family-group. However, from three of the other generic names treated here, family-group names have been derived. These genera are *Orchestia* Leach, 1814, *Phronima* Latreille [1802-1803], and *Phrosina* Risso, 1822. The family names ORCHESTIIDAE Leach, 1814, PHRONIMIDAE Rafinesque, 1815, and PHROSINIDAE Dana, 1852, are the oldest

names for the families concerned. The names PHRONIMIDAE and PHROSINIDAE are currently used and their insertion in the Official List of Family-Group Names in Zoology is therefore requested. The family name ORCHESTIIDAE, though formerly used quite extensively, has been abandoned by most modern authors in favour of the family name TALITRIDAE, which is its junior synonym by one year. It is now proposed to place both family names on the Official List of Family-Group Names in Zoology, with the annotation that the name TALITRIDAE is to be treated as a senior synonym of ORCHESTIIDAE.

5. Since the family name TALITRIDAE is to be placed on the Official List of Family-Group Names in Zoology, the generic name *Talitrus* should be inserted in the Official List of Generic Names in Zoology. A difficulty occurs in the determination of the type-species of this genus. In the original description of *Talitrus*, Bosc ([1801–1802], *Hist. nat. Crust.* 2 : 152) listed two species: *Talitrus locusta* and *T. grillus*. The first type-selection for the genus *Talitrus* is that by Latreille (1810, *Consid. gén. Crust. Arachn. Ins.*: 103, 423); this selection, however, is invalid, since the type-species indicated by Latreille, *Oniscus gammarellus* Pallas, is a species not mentioned by Bosc. The second, and first valid, selection known to us is by H. Milne Edwards (1837) in the Disciples' edition of Cuvier's *Règne Animal*, in the title of which it is stated that the plates represent "les types de tous les genres". On pl. 59 fig. 2 of vol. 18 H. Milne Edwards showed a species which he named *Talitrus saltator* and in the synonymy of which he mentioned "*Talitrus locusta* Latr." *Talitrus locusta* thus must be considered the type of the genus *Talitrus*. In dealing with *Talitrus locusta* Bosc referred to *Oniscus locusta* of Pallas (1772, *Spicil. Zool.* (9) : 55, pl. 4, fig. 7), which name proved to be a new combination of *Cancer locusta* Linnaeus (1758, *Syst. Nat.* (ed. 10) 1 : 634). So the valid type-species of the genus *Talitrus* Bosc [1801–1802], is *Cancer locusta* L., 1758. However, though Pallas (1772) identified his *Oniscus locusta* with *Cancer locusta* L., his description and figure show that he had an entirely different species before him, namely the species named by modern authors *Talitrus saltator* (Montagu, 1808) and not the one which at present is indicated with the name *Gammarus locusta* (L., 1758). Bosc, by referring to Pallas and not to Linnaeus, made it clear that he used the name *Talitrus locusta* for the species which at present is called *Talitrus saltator* and not for *Gammarus locusta*. It is evident therefore that Bosc misidentified the type-species of his genus *Talitrus* and in accordance with the International Rules of Zoological Nomenclature, the Commission is now asked to use its plenary powers to correct Bosc's error by indicating *Cancer (Gammarellus) saltator* Montagu (1808, *Trans. Linn. Soc. Lond.* 9 : 94) to be the type of the genus *Talitrus* Bosc. In this way the name *Talitrus* may be used in the sense in which it is employed and has been employed by practically all carcinologists.

6. The concrete proposals which we now submit for consideration are that the International Commission on Zoological Nomenclature should:

(1) use its plenary powers:

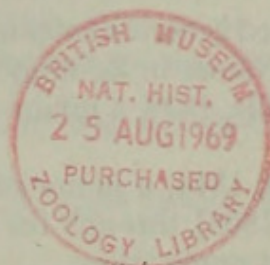
(a) to suppress for the purposes of the Law of Priority but not for those of the Law of Homonymy the under-mentioned generic names:

- (i) *Psammylla* Rafinesque, 1817, and
- (ii) *Sperchius* Rafinesque, 1820;

- (b) to suppress for the purposes of the Law of Priority but not for those of the Law of Homonymy the under-mentioned specific names:
 - (i) *bispinosa* Rafinesque, 1814, as published in the combination *Pisitoe bispinosa*;
 - (ii) *littoralis* Rafinesque, 1817, as published in the combination *Psammylla littoralis*;
 - (iii) *lucidus* Rafinesque, 1820, as published in the combination *Sperchius lucidus*;
 - (iv) *potamogeti* Rafinesque, 1817, as published in the combination *Pephredo potamogeti*;
- (c) to set aside all designations or selections of type-species for the genus *Talitrus* made prior to the proposed decision, and having done so,
- (d) to designate *Cancer (Gammarellus) saltator* Montagu, 1808 (*Trans. Linn. Soc. Lond.* 9 : 94), to be the type-species of the foregoing genus;
- (e) to direct that the family-group name TALITRIDAE Rafinesque, 1815, be protected from its senior subjective synonym ORCHESTIIDAE Leach, 1814, in the manner specified in par. 4 of the present application;
- (f) to direct that the following nominal species are to be interpreted by reference to the specimens designated in the paragraphs 3a and 3c above, as their respective neotypes:
 - (i) *Lepleurus rivularis* Rafinesque, 1820;
 - (ii) *Pisitoe levifrons* Rafinesque, 1814;
- (2) place the undermentioned generic names on the Official List of Generic Names in Zoology:
 - (a) *Crangonyx* Bate, 1859, (type-species: *Crangonyx subterraneus* Bate, 1859);
 - (b) *Orchestia* Leach, 1814, (type-species: *Cancer (Gammarus) littoreus* Montagu, 1808);
 - (c) *Phronima* Latreille [1802–1803], (type-species: *Cancer sedentarius* Forskål, 1775);
 - (d) *Phrosina* Risso, 1822 (type-species: *Phrosina semilunata* Risso, 1822);
 - (e) *Synurella* Wrzesniowski, 1877, (type-species: *Synurella polonica* Wrzesniowski, 1877);
 - (f) *Talitrus* Bosc [1801–1802], (type-species, designated under the plenary powers in (1)(d) above: *Cancer (Gammarellus) saltator* Montagu, 1808);
 - (g) *Talorchestia* Dana, 1852, (type-species: *Talitrus gracilis* Dana, 1852);
- (3) place the under-mentioned specific names on the Official List of Specific Names in Zoology:
 - (a) *fasciatus* Say, 1818 (*Journ. Acad. nat. Sci. Philad.* 1 : 374), as published in the combination *Gammarus fasciatus*;

- (b) *gammarellus* Pallas, 1766 (*Misc. Zool.* : 191), as published in the combination *Oniscus gammarellus*;
 - (c) *gracilis* Dana, 1852 (*Proc. Amer. Acad. Sci.* 2 : 201), as published in the combination *Talitrus gracilis*;
 - (d) *locusta* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) 1 : 634), as published in the combination *Cancer locusta*;
 - (e) *longicornis* Say, 1818 (*Journ. Acad. nat. Sci. Philad.* 1 : 384), as published in the combination *Talitrus longicornis*;
 - (f) *minus* Say, 1818 (*Journ. Acad. nat. Sci. Philad.* 1 : 376), as published in the combination *Gammarus minus*;
 - (g) *platensis* Krøyer, 1844 (*Naturhist. Tidsskr.* (2) 1 (3) : 304), as published in the combination *Orchestia platensis*;
 - (h) *polonica* Wrzesniowski, 1877 (*in* Hoyer, *Zeitschr. wiss. Zool.* 28 : 403), as published in the combination *Synurella polonica*;
 - (i) *saltator* Montagu, 1808 (*Trans. Linn. Soc. Lond.* 9 : 94), as published in the combination *Cancer (Gammarellus) saltator*;
 - (j) *sedentarius* Forskål, 1775 (*Descr. Anim.* : 95), as published in the combination *Cancer sedentarius*;
 - (k) *semilunata* Risso, 1822 (*Journ. Phys. Chim. Hist. nat. Arts* 95 : 244), as published in the combination *Phrosina semilunata*;
 - (l) *subterraneus* Bate, 1859 (*Nat. Hist. Rev. Dublin* 6 (Proc. Dublin Zool. bot. Ass., Feb. 18, 1859) : 165), as published in the combination *Crangonyx subterraneus*;
- (4) place the under-mentioned generic names on the Official Index of Rejected and Invalid Generic Names in Zoology:
- (a) *Dactylocera* Latreille, 1829, a junior objective synonym of *Phrosina* Risso, 1822;
 - (b) *Pisitoe* Rafinesque, 1814, a junior objective synonym of *Phronima* Latreille [1802–1803], through the neotype selection made in par. 3c of the present application;
 - (c) *Psammylla* Rafinesque, 1814, as suppressed under (1)(a)(i) above;
 - (d) *Sperchius* Rafinesque, 1820, as suppressed under (1)(a)(ii) above;
- (5) place the under-mentioned specific names on the Official Index of Rejected and Invalid Specific Names in Zoology:
- (a) the four specific names suppressed under (1)(b)(i) to (1)(b)(iv) inclusive above;
 - (b) *levifrons* Rafinesque, 1814, as published in the combination *Pisitoe levifrons*, an objective junior synonym of the name *sedentarius* Forskål, 1775, as published in the combination *Cancer sedentarius*, through the neotype selection made in paragraph 3c above;
 - (c) *rivularis* Rafinesque, 1820, as published in the combination *Lepleurus rivularis*, an objective junior synonym of the name *minus* Say, 1818, as published in the combination *Gammarus minus*, through the neotype selection made in paragraph 3a above;
- (6) place the under-mentioned names on the Official List of Family-Group Names in Zoology:

- (a) ORCHESTIIDAE (correction by G. O. Sars, 1890, *Crust. Norway* 1 : 21 of ORCHESTIDAE) Leach, 1814, Brewster's *Edinb. Encycl.* 7 : 432 (type genus *Orchestia* Leach, 1814) (a family group name to be used only by those authors who consider the genera *Orchestia* Leach, and *Talitrus* Bosc to belong to different family groups);
- (b) PHRONIMIDAE (correction by Dana, 1853, *U.S. Explor. Exped.* 13 (2) : 999, of PHRONIMIA) Rafinesque, 1815, *Anal. Nature*: 100 (type genus *Phronima* Latreille [1802-1803]);
- (c) PHROSININAE Dana, 1853, *U.S. Explor. Exped.* 13 (2) : 1000, 1001 (type genus *Phrosina* Risso, 1822);
- (d) TALITRIDAE (correction by Stebbing, 1906, *Das Tierreich* 21 : 523 of TALITRIDIA) Rafinesque, 1815, *Anal. Nature*: 101 (type genus *Talitrus* Bosc, [1801-1802]) (a family group name to be given preference under the plenary powers under (1)(e) above over the family-group name ORCHESTIIDAE Leach, 1814, by any author who may consider the genera *Talitrus* and *Orchestia* as belonging to the same family-group taxon).





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