

Amphipoda

(Marine & Freshwater Shrimps, Whale-lice,
Terrestrial Shrimps and Sandhoppers)

A. NUMBER OF SPECIES IN UK: 440

Sub-order Gammaridea: 281
Sub-order Corophiidea: 99
Sub-order Hyperiidea: 59
Sub-order Ingolfiellidea: 1

B. NUMBER OF SPECIES IN SCOTLAND: 238 (27 species restricted to Scotland in UK context, 5 introduced species)

Sub-order Gammaridea: 172
Sub-order Corophiidea: 59
Sub-order Hyperiidea: 7
Sub-order Ingolfiellidea: 0

C. EXPERT CONTACTS

Please contact scotland@buglife.org.uk for details.

D. SPECIES OF CONSERVATION CONCERN

Four amphipods are currently noted of conservation concern in the UK and are listed as priority species under the UK Biodiversity Action Plans (UKBAP):

1. Lagoon Sand-shrimp (*Gammarus insensibilis*) - a lagoon specialist restricted to the Fleet (Dorset) and New England Creek (Essex).
2. Cave Shrimp (*Niphargus glenniei*) – found in interstitial ground-water, caves, wells, springs, and river gravels in Devon and Cornwall.
3. Sea Piglet Shrimp (*Arrhis phyllonyx*) – an arctic species reaching its southern limit in Scotland in the Orkneys and also in the Fladen Grounds off N.E. Scotland.

4. *Gitanopsis bispinosa* – previously known only from a single record off Blackwaterfoot, Arran. Moore (1984) examined this specimen and determined it to be *Gitana sarsi*. Hence there are now no confirmed records of *G. bispinosa* ever being in British waters. It should be removed from the UKBAP list.

Several amphipod species are known worldwide only from British waters (eg. *Lysianassa insperata*, *Nannonyx spinimanus*, *Stenothoe setosa*, *Microprotopus longimanus*) but it is likely that they are simply under recorded and their real distributions are more extensive. Similarly, newly recognised species described solely from British or Irish waters (eg. *Stenothoe elachistoides*, *Listriella mollis*, *Iphimedia nexa*, *I. perplexa*, *I. spatula*, *Orchestia aestuarensis*, *O. Roffensis*, *Sophrosyne inverarae*, *S. moorei*) probably have wider distributions, although some, such as the groundwater species *Niphargus wexfordensis* which are more likely to be geographically isolated, could be endemic.

A number of species reach their northern or southern limits in British Seas. Over 40 species are recorded from just one marine census area within the UK, with some of these known only from single records (see Lincoln, 1979). Around twenty species appear to reach their southern limit within Scottish waters and within the UK context are recorded in Scotland only (as shown on the list).

E. LIST OF SPECIES KNOWN FROM SCOTLAND

(* indicates species that are restricted to Scotland in UK context)

GAMMARIDEA

Eusiridae

Apherusa bispinosa
Apherusa cirrus
Apherusa jurinei
Eusirus longipes

Calliopiidae

Calliopus laeviusculus

Gammarellidae

Gammarellus carinatus

Oedicerotidae

*Arrhys phyllonyx**
*Halicreion aequicornis**
*Monoculodes borealis**
Monoculodes carinatus
*Monoculodes gibbosus**
*Monoculodes packard**
Monoculodes subnudus
*Monoculodes tuberculatus**
Perioculodes longimanus

Pontocrates altamarinus
*Pontocrates arcticus**
Pontocrates arenarius
Synchelidium haplocheles
Synchelidium maculatum
Westwoodilla caecula

Pleustidae

Parapleustes assimilis
*Pleusmytes glaber**
Stenopleustes latipes
Stenopleustes nodifera

Amphilochoidea

Amphilochoidea serratipes
Amphilochoidea manudens
Amphilochoidea neapolitanus
*Amphilochoidea tenuimanus**
Gitana sarsi
*Paramphilochoidea intermedius**
Paramphilochoidea odontonyx

Cyproideidae

Peltocoxa brevirostris
Peltocoxa damnionensis

Leucothoidea

Leucothoe incisa
Leucothoe lilljeborgi
Leucothoe procera
Leucothoe spinicarpa

Colomastigidae

Colomastix pusilla

Cressidae

Cressa dubia

Stenothoidea

Hardametopa nasuta
Metopa alderi
Metopa borealis
Metopa bruzelii
Metopa latimana
Metopa norvegica
*Metopa propinqua**
Metopa pusilla
Metopa robusta
*Metopa solsbergi**
*Metopa tenuimana**
Stenothoe marina

Stenothoe monoculoides
Stenula rubrovittata

Hyalidae

Hyale prevostii
Hyale pontica
Hyale stebbingi

Talitridae

Arcitalitrus dorrieni (Terrestrial, Non-native introduced)
Orchestia gammarellus
Orchestia mediterranea
Talitrus saltator
Talorchestia deshayesii

Urothoidae

Urothoe brevicornis
Urothoe elegans
Urothoe marina
Urothoe pulchella

Phoxocephalidae

Harpinia antennaria
Harpinia crenulata
Harpinia pectinata
Metaphoxus pectinatus
Parametaphoxus fultoni
Paraphoxus oculatus
Phoxocephalus holbolii

Lysianassidae

Acidostoma nodiferum
Acidostoma obesum
*Anonyx liljeborgi**
*Anonyx sarsi**
*Aristias neglectus**
Euonyx chelatus
Hippomedon denticulatus
Lepidepecreum longicorne
Lysianassa ceratina
Lysianassa plumosa
Menigrates obtusifrons
Nannonyx goesii
Normanion quadrimanus
Orchomene humilis
Orchomene nanus
Perrierella audouiniana
Scopelocheirus hopei
Socarnes erythrophthalmus
Socarnopsis filicornis
Tmetonyx cicada

Tmetonyx similes
Tryphosella horingi
Tryphosella nanoides
Tryphosella sarsi
Tryphosites longipes

Sophrosynidae

*Sophrosyne robertsoni**
*Sophrosyne inverarae**
*Sophrosyne moorei**

Synopiidae

Austrosyrrhoe fimbriatus
Tiron spiniferum

Argissidae

Argissa hamatipes

Stegocephalidae

Stegocephaloides christianiensis
*Acanthonotozoma serratum**

Epimeridae

Epimeria cornigera
*Epimeria tuberculata**

Iphimediidae

Iphimedia eblanae
Iphimedia minuta
Iphimedia obesa
Iphimedia perplexa
Iphimedia spatula
Odius carinatus

Lafystiidae

Lafystius sturionis (Fish parasite)

Lilljeborgiidae

Lilljeborgia kinahani
Lilljeborgia pallida

Pardaliscidae

*Nicippe tumida**

Dexaminidae

Atylus falcatus
Atylus swammerdami
Atylus vedlomensis
Dexamine spinosa
Dexamine thea
Guernea coalita

Tritaeta gibbosa

Ampeliciidae

Ampelisca aequicornis
Ampelisca brevicornis
Ampelisca diadema
Ampelisca gibba
Ampelisca macrocephala
Ampelisca odontoplax
Ampelisca spinipes
Ampelisca spooneri
Ampelisca tenuicornis
Ampelisca typica
Byblis gaimardii
Haploops setosa
Haploops tubicola

Pontoporeiidae

Bathyporeia elegans
Bathyporeia guilliamsoniana
Bathyporeia nana
Bathyporeia pelagica
Bathyporeia pilosa
Bathyporeia sarsi
Bathyporeia tenuipes

Haustoriidae

Haustorius arenarius

Gammaridae

Echinogammarus marinus
Echinogammarus pirloti
Echinogammarus stoerensis
Gammarus duebeni (Fresh & Brackish water)
Gammarus finmarchicus
Gammarus lacustris (Freshwater only)
Gammarus locusta
Gammarus pulex (Freshwater only)
Gammarus salinus
Gammarus tigrinus (Fresh & Brackish water, Non-native introduced)
Gammarus zaddachi

Crangonyctidae

Crangonyx pseudogracilis (Freshwater only, Non-native introduced)

Melphidippidae

Megaluropus agilis
*Melphidippa goesi**
Melphidippella macra

Melitidae

Abludomelita obtusata
Ceradocus semiserratus
Cheirocratus assimilis
Cheirocratus intermedius
Cheirocratus sundevalii
Elasmopus rapax
Eriopisa elongata
Gammarella fucicola
*Maera loveni**
Maera othonis
Maerella tenuimana

COROPHIIDEA

Ampithoidae

Ampithoe gammaroides
Ampithoe rubricata
Sunamphitoe pelagica

Isaeidae

Isaea elmhirsti

Photidae

Gammaropsis cornuta
Gammaropsis maculata
Gammaropsis nitida
Gammaropsis sophiae
Photis longicaudata
Photis pollex
Photis reinhardi

Microprotopidae

Microprotopus maculatus

Ischyroceridae

Cerapus crassicornis
Erichthonius difformis
Erichthonius punctatus
Erichthonius rubricornis
Ischyrocerus minutus (UK records of *I. anguipes* may refer to this species – see King & Holmes, 2004)
Jassa falcata
Jassa herdmani
Microjassa cumbrensis
Parajassa pelagica

Aoridae

Aora gracilis
Autonoe longipes
Lembos websteri
Leptocheirus hirsutimanus

Leptocheirus pectinatus
Leptocheirus pilosus
Microdeutopus anomalus
Microdeutopus versiculatus

Cheluridae

Chelura terebrans

Corophiidae

Protomedeia fasciata
Corophium volutator
Crassikorophium bonellii
Crassikorophium crassicorne
Medicorophium affine
Monocorophium sextonae (Non-native introduced)
Siphonoecetes kroyeranus
Siphonoecetes striatus

Unciolidae

Unciola planipes

Dulichiiidae

Dulichia falcata
Dulichia tuberculata
Dyopedos monacanthus
Dyopedos porrectus
Paradulichia typica *

Caprellidae

*Aeginina longicornis**
Caprella acanthifera
Caprella equilibra
Caprella linearis
Caprella mutica (Non-native introduced)
*Caprella septentrionalis**
Caprella tuberculata
Pariambus typicus
Parvipalpus capillaceous
Phtisica marina
Pseudoprotella phasma

Cyamidae

Cyamus boopis
Cyamus catodontis
Cyamus ceti
Cyamus erraticus
Cyamus ovalus
Platycyamus thompsoni
Scutocyamus parvus

HYPERIIDEA

Vibiliidae

Vibilia borealis

Hyperiididae

Hyperia galba

Hyperoche medusarum

Themisto abyssorum

Themisto compressa

Phronimidae

Phronima sedentaria

Tryphanidae

Tryphana malmi

F. DISTRIBUTION DATA

- i) Ashton, G.V., Willis, K.J., & Cook, E.J. 2007. Global Distribution of the Japanese Skeleton Shrimp *Caprella mutica* (Crustacea, Amphipoda, Caprellidae) with a detailed account of its distribution in Scotland, U.K. *Hydrobiologia* 590, 31-41.
- ii) Costello, M.J., Holmes, J.M.C., McGrath, D., & Myers, A.A. 1989. A review and Catalogue of the Amphipoda (Crustacea) in Ireland. *Irish Fisheries Investigations, Series B (Marine) No.33*, 1989, 70pp.
- iii) Dunbar, M.J. 1963. Amphipoda, Sub-order: Hyperiidea, Family: Hyperidae. *Conseil International pour l'Exploration de la Mer. Zooplankton Sheet* 103, pp. 1-4.
- iv) Gledhill, T., Sutcliffe, D.W., & Williams, W.D. 1993. British Freshwater Crustacea Malacostraca: A key with ecological notes. *Freshwater Biological Association, Scientific Publication No.52*, 173 pp.
- v) Harrison, R.J. 1944. Caprellidea (Amphipoda, Crustacea). *Synopses of the British Fauna. No.2*, 27 pp.
- vi) Howson, C.M. & Picton, B.E. 1997. The Species Directory of the Marine Fauna and Flora of the British Isles and surrounding seas. Ulster Museum and Marine Conservation Society, 508pp.
- vii) Laverack, M.S., & Blackler, M. (1974). Fauna and Flora of St. Andrew's Bay. Scottish Academic Press, Edinburgh & London, 319 pp.
- viii) Lincoln, R.J. 1979. British Marine Amphipoda: Gammaridea. British Museum (Natural History), London, i-vi, 1-658 pp.
- ix) Lincoln, R.J. & Hurley, D.E. 1974. Catalogue of the Whale-lice (Crustacea: Amphipoda: Cyamidae) in the collections of the British Museum (Natural History).

Bulletin of the British Museum (Natural History) (Zoology) 27(2), 65-72.

- x) Moore, P.G. 1984. The Fauna of the Clyde Sea Area. Crustacea: Amphipoda. Occasional Publication No.2, University Marine Biological Station, Millport, 84 pp.
- xi) Norman, A.M. 1900. British Amphipoda of the Tribe Hyperiidea and the Families Orchestiidae and some Lysianassidae. *Annals and Magazine of Natural History (Ser.7) 5:126-214, pl. VI.*
- xii) O'Reilly, M. 1998. Whale-lice (Amphipoda: Cyamidae) and Sea Lice (Copepoda: Caligidae) from stranded whales in the Firth of Forth. *Glasgow Naturalist 23(3):24-26.*
- xiii) O'Reilly, M., Hamilton, E. & Heaney, L. 2001. New records of Amphipods and Leptostracans from the Forth Sea Area, with notes on their copepod parasites (Siphonostomatoida: Nicothoidae). *Glasgow Naturalist 23(6): 35-42.*
- xiv) O'Reilly, M. 2007. New records of the amphipod *Microjassa cumbrensis* (Family Ischyroceridae) in the Forth Sea Area. *Glasgow Naturalist 24(4): 155-156.* (pub. Apr. 2007)
- xv) O'Reilly, M. 2007. The Japanese Macho Skeleton Shrimp (*Caprella mutica*) in the Clyde Estuary. *Glasgow Naturalist 24(4): 156-157.* (pub. Apr. 2007)
- xvi) Scott, T. 1906. A catalogue of land, fresh-water, and marine Crustacea found in the basin of the River Forth and its estuary. Part II.-The Ostracoda, Copepoda, and Cirripedia. *Proceedings of the Royal Physical Society of Edinburgh 16:267-386.*
- xvii) Shih, C-T., & Dunbar, M.J. 1963. Amphipoda, Sub-order: Hyperiidea, Family: Phronimidae. *Conseil International pour l'Exploration de la Mer. Zooplankton Sheet 104, pp. 1-6.*
- xviii) Toulmond, A. & Truchot, A.P. 1964. Inventaire de la faune marine de Roscoff. Amphipodes - Cumaces. *Travaux de la Station Biologique de Roscoff, Supplément, 42pp.*

G. IDENTIFICATION GUIDES

- i) Bocquet, C. & Peltier, A-M. 1964. Redescription de amphipode *Caprella erithizon* Mayer. *Bulletin la société linéenne de Normandie 10(4), 152-165.*
- ii) Chevreux, E. & Fage, L. 1925. Amphipodes. *Faune de France. 9.* Lechevalier, Paris 488pp.
- iii) Conlan, K.E. 1990. Revision of the crustacean amphipod genus *Jassa* Leach (Corophioidea: Ischyroceridae). *J. Can. Zool. 68: 2031-2075.*
- iv) Dauvin, J.C. & Bellan-Santini, D. 1982. Description de deux nouvelles espèces d'*Ampelisca* des côtes françaises atlantiques (Crustacea-Amphipoda): *Ampelisca toulemoniti* n.sp. et *Ampelisca spooneri* n.sp. *Cahiers de Biologie Marine 23: 253-268.*

- v) Dauvin, J.C. & Bellan-Santini, D. 1988. Illustrated key to *Ampelisca* species of the North-Eastern Atlantic. *J. mar. biol. Ass. U.K.* 68:659-676.
- vi) Dauvin, J.C. & Bellan-Santini, D. 1990. An overview of the amphipod genus *Haploops* (Ampeliscidae). *J. mar. biol. Ass. U.K.* 70:887-903.
- vii) Dunbar, M.J. (1963. Amphipoda, Sub-order: Hyperiidea, Family: Hyperidae.
- viii) *Conseil International pour l'Exploration de la Mer*. Zooplankton Sheet 103, pp. 1-4.
- ix) D'Udelem d'Acoz, C. 2004. The genus *Bathyporeia* Lindström, 1855, in Western Europe (Crustacea: Amphipoda: Pontoporeiidae). *Zool. Verh. Leiden*, 348: 3-162.
- x) Gledhill, T., Sutcliffe, D.W., & Williams, W.D. 1993. British Freshwater Crustacea Malacostraca: A key with ecological notes. *Freshwater Biological Association*, Scientific Publication No.52, 173 pp.
- xi) Guerra-Garcia, J.M. 2002. Re-descriptions of *Caprella linearis* (Linnaeus 1767) and *Caprella septentrionalis* Kröyer, 1838 (Crustacea: Amphipoda: Caprellidea) from Scotland, with an ontogenetic comparison between the species and a study of the clinging behaviour. *Sarsia* 87: 216-235.
- xii) Harrison, R.J. 1944. Caprellidea (Amphipoda, Crustacea). Synopses of the British Fauna. No.2, 27 pp.
- xiii) Hayward, P.J. & Ryland J.S. 1990. Order Amphipoda, pp.405-488 in: Marine Fauna of the British Isles and North-West Europe. Vol.1. Introduction and Protozoans to Arthropods. Oxford Science Publications, Clarendon Press Oxford Science Publications, 686 pp.
- xiv) Karaman, G.S., Gledhill, T. & Holmes, M.C. 1994. A new subterranean amphipod (Crustacea: Gammaridea: Niphargidae) from southern Ireland, with comments on its taxonomic position and the validity of the genus *Niphargellus* Schellenberg. *Zoological Journal of the Linnean Society* 112, 309-320.
- xv) Kilgallen, N.M., Myers, A.A. & McGrath, D. 2006a. A revision of the North Atlantic amphipod genus *Normanion* (Crustacea: Amphipoda: Lysianassoidea). *Zootaxa* 1363, 1-21.
- xvi) Kilgallen, N.M., Myers, A.A. & McGrath, D. 2006b. A review of the genus *Tryphosella* (Crustacea: Amphipoda) from Britain and Ireland with a description of a new species, *Tryphosella lowryi*. *J. mar. biol. Ass. U.K.* 86, 1067-1081.
- xvii) Kilgallen, N.M., Myers, A.A. & McGrath, D. 2006c. Re-establishment of *Orchomenella crenata* (Crustacea: Amphipoda) as a distinct species with the first record of its occurrence in the British Isles. *J. mar. biol. Ass. U.K.* 86, 1389-1399.
- xviii) Kilgallen, N.M., Myers, A.A. & McGrath, D. 2007) The genus *Sophrosyne* (Crustacea: Amphipoda: Lysianassoidea) in the North Atlantic, with a confirmation of

the status of *S. robertsoni*. *J. mar. biol. Ass. U.K.* 87(5), 1243-1246.

- xix) King, R.A. & Holmes, J.M.C. 2004. A new species of *Ischyrocerus* (Crustacea: Amphipoda) from Ireland, with a review of *Ischyrocerus anguipes* and *Ischyrocerus minutus* from the North-East Atlantic. *Journal of Natural History* 38(14), 1757-1772.
- xx) King, R.A., Myers, A.A., & McGrath, D. 2004. A review of shallow-water Irish and British *Harpinia* Boeck (Crustacea: Amphipoda: Phoxocephalidae) species including the first detailed description of the males of *Harpinia laevis* Sars and *Harpinia pectinata* Sars. *Journal of Natural History* 38, 1263-1286.
- xxi) Leung, Y-M. 1967. An illustrated key to the species of Whale-lice (Amphipoda: Cyamidae) ectoparasites of Cetacea, with a guide to the literature. *Crustaceana* 12(3), 279-291.
- xxii) Knight, L.R.F.D. & Gledhill, T. 2010. The discovery of *Microniphargus leruthi* Schellenberg, 1934 (Crustacea: Amphipoda: Niphargidae) in Britain and its distribution in the British Isles. *Zootaxa* 2655, 52-56.
- xxiii) Lincoln, R.J. & Hurley, D.E. 1974a. *Scutocyamus parvus*, a new genus and species of Whale-lice (Amphipoda: Cyamidae) ectoparasitic on the North Atlantic White-beaked Dolphin. *Bulletin of the British Museum (Natural History) (Zoology)* 27(2), 59-64, pl.1.
- xxiv) Lincoln, R.J., 1979. British Marine Amphipoda: Gammaridea. British Museum (Natural History), London, i-vi, 1-658 pp.
- xxv) Lowry, J.K. & Stoddart, H.E. 2010. Sophrosynidae, a new family in the Lysianassoidea (Crustacea: Amphipoda) with a revision of the genus *Sophrosyne*. *Zootaxa* 2370, 1-35.
- xxvi) McCain, J.C. 1968. The Caprellidae (Crustacea: Amphipoda) of the Western North Atlantic. *Bulletin of the U.S. Museum National Museum* 278, i-vi, 1-147 pp.
- xxvii) Moore, P.G. & Beare, D.J. 1993. Taxonomic confusion in the genus *Pontocrates* (Crustacea: Amphipoda) and the presence of *P. arcticus* in Britain. *J. mar. biol. Ass. U.K.* 73:609-615.
- xxviii) Myers, A.A. & Costello, M.J. 1984. The amphipod genus *Aora* in British and Irish waters. *J. mar. biol. Ass. U.K.* 64:279-283.
- xxix) Myers, A.A. & Costello, M.J. 1986. The amphipod sibling pair *Leucothoe lilljeborgi* and *L. incisa* in British and Irish waters. *J. mar. biol. Ass. U.K.* 66:75-82.
- xxx) Myers, A.A. & McGrath, D. 1980. A new species of *Stenothoe* Dana (amphipoda, Gammaridea) from maerl deposits in Kilkieran Bay. *Journal of Life Sciences, Royal Dublin Society* 2(1), 15-18.
- xxxi) Myers, A.A. & McGrath, D. 1981. Taxonomic studies of the British and Irish Amphipoda. The genus *Photis* with the re-establishment of *P. pollex* (= *P. macrocoxa*). *J. mar. biol. Ass. U.K.* 61:759-768.

- xxxii) Myers, A.A. & McGrath, D. 1982a. Taxonomic studies on British and Irish Amphipoda. The Genus *Gammaropsis*. *J. Mar. biol. Ass. U.K.* 62: 93-100.
- xxxiii) Myers, A.A. & McGrath, D. 1982b. Taxonomic studies of British and Irish Amphipoda. Re-establishment of *Leucothoe procera*. *J. mar. biol. Ass. U.K.* 62: 693-698.
- xxxiv) Myers, A.A. & McGrath, D. 1983. The Genus *Listriella* (Crustacea: Amphipoda) in British and Irish Waters, with the description of a new species. *J. mar. biol. Ass. U.K.* 63: 347-353.
- xxxv) Myers, A.A. & McGrath, D. 1984. A revision of the North-East Atlantic species of *Erichthonius* (Crustacea: Amphipoda). *J. mar. biol. Ass. U.K.* 64: 379-400.
- xxxvi) Myers, A.A., McGrath, D. & Costello, M. J. 1987. The Irish species of *Iphimedia* Rathke (Amphipoda: Acanthonotozomatidae). *J. mar. biol. Ass. U.K.* 67:307-321.
- xxxvii) Myers, A.A., McGrath, D. & Cunningham, P. 1989. A presumed male of the parthenogenetic amphipod *Corophium bonnellii* (Milne-Edwards). *J. mar. biol. Ass. U.K.* 69:319-321.
- xxxviii) Myers, A.A., & McGrath, D. 1994. *Ampelisca dalmatina* and *A. provincialis* (Amphipoda: Gammaridea) in Irish waters. *J. mar. biol. Ass. U.K.* 74:403-412.
- xxxix) Myers, A.A., & Lowry, J.K. 2003. A phylogeny and a new classification of the Corophiidea Leach, 1814 (Amphipoda). *Journal of Crustacean Biology* 23(2), 443-485.
- xl) Platvoet, D., de Bruyne, R.H., & Gmelig Meyling, A.W. 1995. Description of a new *Caprella* species from the Netherlands: *Caprella macho* nov. spec. (Crustacea, Amphipoda, Caprellidae). *Bulletin Zoölogisch Museum, Universiteit van Amsterdam*. 15: 1-4.
- xli) Sars, G.O. 1895. An account of the Crustacea of Norway. Volume 1. Amphipoda. Parts 1 and 2, 730 pp., 248 pls. Christiania, Bergen.
- xlii) Shearer, M. & Evans, F. 1974. The taxonomic relationship of *Parathemisto gaudichaudi* (Guerin) and *P. gracilipes* (Norman) with a key to the genus *Parathemisto*. *J. mar. biol. Ass. U.K.* 54, 915-924.
- xliii) Shih, C-T., & Dunbar, M.J. 1963. Amphipoda, Sub-order: Hyperiidea, Family: Phronimidae. *Conseil International pour l'Exploration de la Mer. Zooplankton Sheet* 104, pp. 1-6.
- xliv) Smith, P., Perret, J., Garwood, P., & Moore, G. 1999. Two additions to the UK marine fauna: *Desdemona ornata* Banse, 1957 (Polychaeta, Sabellidae) and *Grandidierella japonica* Stephensen, 1938 (Amphipoda, Gammaridea). *Porcupine Marine Natural History Society Newsletter* No.2, July 1999, 8-11.
- xlvi) Spooner, G.M. 1960. The occurrence of *Ingolfiella* in the Eddystone shell gravel, with description of a new species. *J. mar. biol. Ass. U.K.*, 39, 319-329.

xlvi) Wildish, D.J. 1987. Estuarine species of *Orchestia* (Crustacea: Amphipoda: Talitridae) from Britain. *J. mar. biol. Ass. U.K.* 67:571-583.

H. OTHER INFORMATION

Most British amphipod species occur in marine or estuarine waters or are semi-terrestrial on sea-shores. A smaller number are restricted to freshwater habitats, including subterranean ground-waters. Several non-native species have been inadvertently introduced to marine or fresh water systems. One truly terrestrial species, *Arcitalitrus dorrieni*, has also been introduced, living in leaf litter. A similar species, *Talitroides alluaudi*, has been recorded from greenhouses in Glasgow's Botanic Gardens.

The definition of British (or Scottish) Seas for recording marine fauna varies from one publication to another. Lincoln (1979) utilises the British Marine Census areas, which includes Irish waters and the Channel coast of France extending seawards to the shelf margin at 183m depth. The Species Directory of Marine Fauna & Flora (Howson & Picton, 1997) employs a similar area but extending a little further east into the North Sea and a little further south along the coast of Brittany. Their seaward margin of the shelf is defined as the 200m depth contour. Although strict definitions exist for the marine territorial boundaries between Britain and its neighbours of Ireland, France and other North Sea countries, as well as administrative sea fishery boundaries between Scotland and England, these are often ignored by ecologists compiling marine inventories.

There is no current definitive checklist of Amphipods from British waters. Lincoln (1979) included a list for the sub-order Gammaridea from British and Irish waters but since then nearly 40 additional species have been recorded or described from this area. Howson & Picton (1997) includes marine species lists for all the amphipod sub-orders around the British Isles and surrounding seas (generally to 200m depth). However this incorporates a significant number of species recorded only from the channel coast of France or Brittany and also a number of Hyperidea from deeper waters, beyond 200m depth, off the western approaches or off the west coast of Ireland derived from Chevreux & Fage (1925), Toulmond & Truchot (1964), and Costello *et al.* (1990). While many of these species may well extend into Irish, British or Scottish waters proper there are as yet no confirmed records. Hence although over 400 amphipods species are cited from around the British Isles, probably only around 350 are definitely recorded within the British (and Irish) territorial zone out to the shelf edge at 200m depth. The number of species cited here for Scottish waters includes only confirmed records. The classification of amphipods has changed since Lincoln's monograph with many of the former Gammaridean families and all Caprellidea now included within the sub-order Corophiidea along with the creation of a number of new families (see Myers & Lowry, 2003).

Sars (1895) volume from the Crustacea of Norway series, which is now freely available in the internet, provides excellent figures of many British species but the nomenclature is now hopelessly out of date. The marine fauna guide of Hayward and Ryland (1990) is useful for identification of many of the commoner inshore amphipod species. Lincoln's monograph (1979) is the standard text for identifying British marine Gammarideans but is already out of date. Several families or genera have since been reviewed, most notably in a series of papers by Myers & McGrath (1980 *et seq.*), with the addition of numerous species new to

British or Irish waters. Freshwater amphipods in Britain and Ireland are dealt with by Gledhill *et al.* (1993). More recent information on ground-water species is available from the Hypogean Crustacean Recording Scheme (www.freshwaterlife.org/hcrs).

Harrison's (1944) synopsis on Caprellidea provides detailed keys for most British skeleton shrimps (Caprellidae) but only includes a single species of whale-lice (Cyamidae). Many British skeleton shrimps are well illustrated in McCain's (1968) work on caprellids from the western North Atlantic. Hayward and Ryland's (1990) volume includes keys and figures for most of the British species of Skeleton Shrimp. Detailed re-descriptions are also available for some British species (see Bocquet & Peltier, 1964 and Guerra-Garcia, 2002). The recently introduced Japanese Macho Skeleton Shrimp (*Caprella mutica*) is also described in detail (under its synonym *C. macho*) by Platvoet *et al.* (1995).

The Cyamidae (Whale-lice) are all ectoparasites of Whales and Dolphins. Leung (1967) and Lincoln & Hurley (1974a) provide keys and notes for identification. Their distribution is related to the movements of their hosts with most records being derived from cetacean strandings. Lincoln & Hurley (1974b) present many of the records from British waters with some more recent Scottish findings given by O'Reilly (1998).

The Hyperidea are all planktonic with some species associated with other planktonic organisms such as jellyfish or salps. Dunbar (1963) and Shih & Dunbar (1963) present keys for the commoner species of the families Hyperiididae and Phronomiidae. A large number of additional Hyperidean species are recorded from deeper oceanic waters off western coasts and some of these may also stray into coastal waters (<200m) though confirmed records are scant. Chevreux & Fage (1925) is a good identification guide for these although the nomenclature is outdated.

Only a single member of the Ingolfiellidea lives in UK waters recorded from marine gravel near Plymouth (Spooner, 1960).

This document should be referenced as:

O'Reilly, M.G. 2011. *Scottish Invertebrate Species Knowledge Dossier: Amphipoda (Marine & Freshwater Shrimps, Whale-lice, Terrestrial Shrimps and Sandhoppers)*. Buglife – The Invertebrate Conservation Trust.

This document provides information on species known to occur in Scotland at the time of publication. This document does not provide a definitive list of species occurring in Scotland. The list of species known to occur in Scotland may change as further information is gathered.

The information contained in this document was prepared by Myles O'Reilly (Scottish Environment Protection Agency).

This species knowledge dossier was produced as part of the 'Action for Scottish Invertebrates' project. This project is grant-aided by Scottish Natural Heritage and delivered on behalf of the Initiative for Scottish Invertebrates (ISI) by Buglife – The Invertebrate Conservation Trust.



ISI
Initiative for
Scottish Invertebrates

