THE

JOURNAL

OF

ZOOLOGICAL RESEARCH.

THE JOURNAL

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OF

ZOOLOGICAL RESEARCH.

EDITED BY

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A REVISED CHECK LIST OF THE BRITISH TERRESTRIAL ISOPODA (WOODLICE), WITH NOTES.

By WALTER E. COLLINGE, D.Sc., F.L.S.,

Carnegie Fellow, and Research Fellow of the University of St. Andrews.

In the early part of 1917 a check-list of the British Terrestrial Isopoda was published, the first, of its kind, for this country. This almost immediately led to an increased interest in the study of these crustacea, which has added very largely to our knowledge of the variation and distribution.

At the request of many interested, a revised check-list has been prepared. Its scope has been somewhat widened, and in addition to the features contained in its predecessor, the following have been added:—i. The original descriptions of all the known British varieties. ii. A list of the introduced species, and iii. A series of notes. In all, thirty-five species and fifty-nine varieties are listed. *Trichoniscus linearis*, Patience, has been transferred to the list of introduced species. Of the varieties, six are new and are here described for the first time.²

The species are numbered consecutively and the varieties are lettered. Synonyms are without numbers or letters. Doubtful species and varieties are printed in italics.

The capital letters following the abbreviation "Dist." after each species and variety represent:—E. = England; S. = Scotland; I. = Ireland; W. = Wales; and Ch. I. = Channel Islands.

¹Scot. Nat., 1917, pp. 111-116.

³I regret that I have been unable to complete the examination and description of a most interesting collection from Dorset, made by Mr. Richard S. Bagnall, which contains new varieties of *Philoscia muscorum* (Scopoli), and *Armadillidium vulgare* (Latreille); also a large collection from Dunoon, made by Miss Æ. J. Jardine.

[[]JOURN. ZOOL. RESEARCH, June, 1918, vol. iii, No. 1].

ORDER ISOPODA, LATREILLE.

Sub-order ONISCOIDEA, G. O. Sars.

Section I.—LIGIINAE, Bate and Westwood.

Family Ligiidae, Kinahan.

Genus LIGIA, Fabr., 1798.

- 1. L. OCEANICA (Linn.). Syst. Nat., 1767, ii, p. 1061. Dist.—E., S., W., I., Ch. I.
 - (a) granulata, Leuckart. Verzeichn. Helgolands, 1847, p. 163.

 Similar to type, but granulations more pronounced.

 Dist.—S., W.
 - (b) flavescens, Collinge. Journ. Zool. Res., 1916, i, p. 122.
 "Whole of body deep yellow."
 Dist.—E., S.

Genus LIGIDIUM, Brandt, 1833. ZIA, Koch, 1841.

2. L. HYPNORUM (Cuvier). Journ. d'hist. nat., 1792, ii, p. 19, pl. xxvi, f. 3-5.

Dist.—E.

Family Trichoniscidae, G. O. Sars. Genus TRICHONISCUS, Brandt, 1833. ITEA, Koch, 1838. PHILOUGRIA, Kinahan, 1857.

- 3. T. PUSILLUS, Brandt. Bull. Soc. Nat. Moscow, 1833, vi, p, 174. Dist.—E., S., W., I.
 - (a) violaceus, Schöbl. Ziva, 1861, p. 310.
 "Whole of body a pale violet colour."
 Dist.—E., S.
 - (b) intermedius, Bagnall. Trans. N. H. Soc., Northumb., 1909, iii, p. 44.
 - "Telson identical with that of pusillus, to which it bears the strongest resemblance, but the antennae are like those of vividus (Koch); the flagellum 5-7 jointed, and the peduncle very smooth, without the spines which characterize the peduncle of pusillus."

Dist.-E.

4. T. PYGMAEUS, G. O. Sars. Crust. Norw., 1898, ii, p. 162, pl. lxxii, f. 2.

Dist.—E., S., W., I.

- 5. T. SPINOSUS, Patience. Ann. Scot. Nat. Hist., 1907, p. 85, pl. iii. Dist.—S.
- 6. T. STEBBINGI, Patience. Journ. Linn. Soc. (Lond.), 1907, xxx, p. 42, pl. vii. Dist.—E., S., I.
- 7. T. VIVIDUS (Koch). Deutsch. Crust, etc., 1840. Dist.— E., I.
- 8. T. ROSEUS (Koch). Ibid. Dist.—E., S., W., I., Ch. I.
 - (a) flavus, Collinge. Journ. Zool. Res., 1916, i, p. 122.
 "Whole of animal deep orange-yellow."
 Dist.—E.

Genus TRICHONISCOIDES, G. O. Sars, 1898.

- 9. T. ALBIDUS (Budde-Lund), (non T. albidus, G. O. Sars = T. sarsi,
 Patience). Pros. Crust. Isop. Terr., 1879, p. 9.
 Dist.—E. S., I.
- 10. T. SARSI, Patience. Ann. Mag. Nat. Hist., 1908, ii, p. 85, pl. vi. Dist.—E., S.
- 11. T. SCABROUS, Collinge. Journ. Zool. Res., 1917, ii, p. 95. Dist.— E.

Genus HAPLOPHTHALMUS, Schöbl, 1850.

- 12. H. MENGII (Zaddach). Synops. Crust. Pruss. Prod., 1844, p. 16. Dist.—E., S., W., I.
 - (a) flavovirescens, Collinge. Journ. Zool. Res., 1917, ii, p. 123.
 "Whole of body light yellowish-green, with a tinge of grey."

Dist.—S.

- 13. H. DANICUS, Budde-Lund. Nat. Tidssk., 1870, vii, p. 228. Dist.---E., S., I.
 - (a) virescens, nov.1
 - "Whole of body olive-green with extremely faint, ill-defined darker markings."

Dist.—S.

- (b) armenius, nov.1
 - "Whole of dorsum an apricot-yellow colour."

Dist.—S.

¹The two interesting varieties were found by Miss Æ. J. Jardine in a greenhouse at Hunter's Quay, Argyllshire, Jan. 1918.

Section II.—ONISCINAE, Bate and Westwood.

Family Oniscidae, Latreille.

Genus ONISCUS, Linn., 1746.

- 14. O. ASELLUS, Linn. Fauna Suecica, 1746, p. 500. Dist.—E., S., W., I., Ch. I.
 - (a) albidus, Collinge. Journ. Zool. Res., 1916, i, p. 122.
 "Whole of animal dirty white and without any markings."
 Dist.—S.
 - (b) bicolor, Collinge. Lanc. and Ches. Nat., 1917, p. 266. "Ground colour yellow with a series of almost black median and lateral blotches forming three longitudinal bands, with a similar series on the pleural plates of the mesosomatic segments, forming less complete bands."
 Dist.—E.
 - (c) flavescens, Collinge. Journ. Zool. Res., 1917, ii, p. 123.
 "Whole of body a uniform butterscotch yellow colour."
 Dist.—E., Ch. I.
 - (d) flavobrunneus, Collinge. Journ. Zool. Res., 1917, ii, p. 123.
 "Ground colour yellowish-brown, with yellowish lateral markings above the pleural plates, which latter are a lighter colour than the dorsum."

Dist.—E.

(e) rufoflavescens, nov.

Cephalon, antennae, and median portion of dorsum golden salmon-pink colour; pleural plates golden-yellow with here and there a faint splash of pink.

Dist.—E.

Genus PHILOSCIA, Latreille, 1804.

- 15. P. MUSCORUM (Scopoli). Entomol. Carnio., 1763, p. 415. Dist.—E., S., W., I., Ch. I.
 - (a) obscura, Scopoli. Ibid., p. 415.

 "Robust, very dark and almost unicolorous."

 Dist.—E.
 - (b) flava, Bagnall. Trans. Derwent Nat. Hist. Soc., 1913, p. 12.
 "Robust, bright yellow, markings dark."

Dist.—E., S.

- (c) rosea, Bagnall. Ibid., p. 12.
 - "Moderately robust. Of a beautiful minimum or deep rosepink colour."

Dist.-E., S., W.

(d) nacrum, Collinge. Journ. Zool. Res., 1916, i, p. 122.

"Pearly-white with a few fine, faint, irregular brownish markings."

Dist.—E.

(e) violaceum, Collinge. Ibid., p. 122.

"Ground colour of dorsal surface violet, with darker coloured median longitudinal band."

Dist.—E., Ch. I.

(f) standeni, Collinge. Lanc. and Ches. Nat., 1917, p. 266.
"Ground colour light yellowish-brown, with fine irregular dark brownish-coloured markings; no median longitudinal band."

Dist.-E., W.

(g) virescens, Collinge. Journ. Zool. Res., 1917, ii, p. 123.
"Ground colour dorsally, and median longitudinal band, deep olive green, rather lighter ventrally, markings as in type, only greenish-yellow colour."

Dist.—E.

16. P. COUCHII, Kinahan. Nat. Hist. Rev., 1857, iv, p. 195, pl. xxiii, f. 4.
Dist.—E., S., I.

17. P. PATIENCEI, Bagnall. Ann. Mag. Nat. Hist., 1908, i, p. 428, pl. xviii.
Dist.—E.

Genus CYLISTICUS, Schnitzler, 1853.

18. C. CONVEXUS (De Geer). Mem. a l'hist. Insectes, 1778, vii, p. 553, pl. xxxv, f. 11.

Dist.-E., S., I.

(a) patiencei, Collinge. Journ. Zool. Res., 1916, 1, p. 123.

"Whole of body almost pure white, with an irregular, narrow, dark brown, longitudinal median band, extending from the cephalon to the tip of the telson. Lateral portions of the mesosome with a few small dark brown patches."

Dist.—S.

(b) brunneus, Collinge. Journ. Zool. Res., 1917, ii, p. 124.
"Dorsum deep brown colour, with lighter brown lateral wavy stripes, Uropoda brown, other appendages and sterna yellowish-brown."

Dist.—E.

Genus PORCELLIO, Latreille, 1804.

- 19. P. SCABER, Latr. Hist. Nat. Crust., 1804, p. 45. Dist.—E., S., W., I., Ch. 1.
 - (a) marmorata, Brandt. Medizin. Zool., 1833, ii, p. 78.

 "Body blackish-grey, with bright yellow or brownish-yellow mottling."

Dist.—E., S., W., I., Ch. I.

(b) marginata, Brandt. Ibid., p. 78.

"Body blackish-grey, with greyish-yellow or lighter coloured pleural plates."

Dist.—E., S., W., I., Ch. I.

'(c) unicolor, Brandt. Ibid., p. 78.
'' Body blackish-grey.''

Dist.—S.

'(d) rufa, Scott. Proc. Roy. Phys. Soc. Edinb., 1893, p. 78.

"Rufous or brownish-coloured, smaller than the typical form."

Dist.—S.

(e) rufescens, Collinge. Journ. Zool. Res., 1916, i, p. 122.

"Deep yellowish-brown dorsally, ventrally pale-yellow; sparsely tuberculate, tubercles small."

Dist.-E., S., W.

(f) darwiniana, Bagnall. Trans. N. H. Soc. Northumb., 1909, iii, p. 47.

"Much smaller than the type, the dorsal surface not so scabrous, cephalic lobes less pointed, and distal joint of the flagellum longer in relation to basal joint."

Dist.-E.

(g) aubini, Collinge. Ann. Mag. Nat. Hist., 1914, xiii, p. 71.

"Colour creamy white, with a few small sepia or slaty-coloured dashes. First segment of the mesosome strongly convex, giving the head a somewhat tucked-in appearance. The backward curve of the pleural plates less acute. Tubercles fewer, less prominent, and more irregular in arrangement. Distinct transverse ridge on the tergum of the last mesosomatic segment. Lateral lobes of cephalon smaller and of a different contour to type; median lobe less prominent. Basal joint of antennae smaller. Uropoda: exopodite more contracted proximally, giving the appendage a more conical shape."

Dist.—Ch. I.

(h) lateritius, Collinge (= rufa, Bagnall). Journ. Zool. Res., 1916, i., p. 123.

Dist.—E.

(i) albida, Rhodes. Naturalist, 1916, p. 122.
"Pure white (not newly moulted)."

Dist.—E.

(j) flavobrunneus, Collinge. Journ. Zool. Res., 1917, ii, p. 124.

"Body somewhat narrow, colour a uniform, dirty, light brownish-yellow."

Dist.—E.

(k) flavomaculata, nov.

Whole of body a light lemon-yellow, with a few irregular chocolate-coloured markings.

Dist.--E., S.

- 20. P. Pictus, Brandt. Medizin, Zool., 1833, ii, p. 78, pl. xii, f. 5. Dist.—E., S., W., I., Ch. 1.
 - (a) tessellatus, Brandt. Ibid., p. 79.

"The black patches of the seven yellow margined thoracic segments are four-cornered and form on the back three to six rows."

Dist.-W.

- (b) flavomaculatus, Brandt. Ibid., p. 79.
 - "Back with black as ground colour, on which are two yellow, generally gamboge yellow, rows of patches."

Dist.—E., S., Ch. I.

- (c) marmoratus, Brandt. Ibid., p. 79.
 - "Back with black as ground colour, which also develops as marbling on the bright lateral margins."

Dist.-E.

- (d) flavotessellatus, Lereb. Mém. Soc. Mus. d'Hist. Nat. Strasb., 1853, iv, p. 52, pl. i, f. 9.
 - "Tawny ground colour predominating, yellow spots clear, tending to disappear or existing as two rows."

Dist.-E., S.

- (e) fuscomaculatus, Lereb. Ibid., p. 53, pl. i, f. 11.
 - "Ground colour tawny, more uniform than in var. flavotessellatus, yellow spots hardly visible."

Dist.-E., S.

(f) aureomaculatus, Collinge. Journ. Zool. Res., 1916, i, p. 123.

"Colour, with a broken brown band in the mid-dorsal

"Colour, with a broken brown band in the mid-dorsal line with brown and golden yellow mottling laterally; pleural

plates light yellow with few irregular brown markings. Cephalon deep uniform brown, excepting the tips of the lateral lobes which are faint yellow. Antennae with the first joints mottled."

Dist.-E., S., W.

- 21. P. DILATATUS, Brandt. Medizin. Zool., 1833, ii, p. 78, pl. xii, f. 6. Dist.—E., S., I., Ch. I.
 - (a) flavus, Collinge. Lanc. and Ches. Nat., 1917, p. 266. "Whole of animal light yellow."

Dist.—E.

- 22. P. RATHKII, Brandt. Bull. Soc. Nat. Moscou, 1833, vi, p. 177. Dist.—E., S., W., I., Ch. I.
 - (a) striatus, Schnitzler. Onis. Bonnensis, 1853, p. 24.
 - (b). fulvus, Lereb. Mém. Soc. Mus. d'Hist. Nat. Strasb., 1853, iv, p. 57, pl. i, f. 13.

 "More or less fawn coloured."

Dist.—E.

- 23. P. RATZEBURGII, Brandt. Ibid., p. 175. Dist.—E., S.
- 24. P. LAEVIS, Latreille. Hist. Nat. Crust., 1804, vii, p. 40. Dist.—E., S., I., Ch. I.
 - (a) flavovirescens, Collinge. Journ. Zool. Res., 1917, ii, p. 124. "Whole of body light yellowish-green."

 Dist.—E.
 - (b) maculatus, Collinge. Ibid., p. 124.
 - "Ground colour leaden-grey, with irregular light yellowish blotches, which occasionally replace the typical wavy stripes." Dist.—E.

Genus PORCELLIONIDES, Miers, 1876. METOPONORTHUS, Budde-Lund, 1879.

- 25. P. PRUINOSUS (Brandt). Bull. Soc. Nat. Moscou, 1833, vi, p. 181. Dist.—E., S., W., I., Ch. I.
 - (a) flavobrunneus, Collinge. Journ. Zool., Res., 1917, ii, p. 124.

 "Whole of body light yellowish-brown, last three segments of the mesosome and the whole of the metasome a slightly darker brown."

Dist.—S.

26. P. CINGENDUS (Kinahan). Nat. Hist. Rev., 1857, iv, p. 279, pl. xix, f. 1.
Dist.—E., I.

27. P. MELANURUS (Budde-Lund). Crust. Isop. Terr., 1855, p. 181.

Genus PLATYARTHRUS, Brandt, 1833 TYPHLONISCUS, Schöbl, 1860.

28. P. HOFFMANNSEGGII, Brandt. Bull. Soc. Nat. Moscou, 1833, vi, p. 174, pl. iv, f. 10.

Dist.-E., S., W., I.

(a) flavobrunneus, Collinge. Journ. Zool. Res., 1917, ii, p. 124.
"Whole of body light yellowish-brown."
Dist.—E.

Family Armadillidiidae, Brandt.

Genus ARMADILLIDIUM, Brandt, 1833.

- 29. A. VULGARE (Latr.). Hist. Nat. Crust., 1804, vii, p. 48. Dist.—E., S., W., I., Ch. I.
 - (a) plumbeus, Lereb. Mém. Soc. Mus. d'Hist. Nat. Strasb., 1853, iv, p. 73.

"Uniform leaden-grey, with the posterior border of the seg-

Dist.-E., Ch. I.

(b) variegatus, Lereb. Ibid., p. 73.

"Grey-black with sulphur yellow spots irregularly distributed and variable in number. May be arranged in two longitudinal series or have the ground colour lighter and marbled with grey and yellow."

Dist.-E., S., W.

- (c) brunneoflavescens, Collinge. Journ. Zool. Res., 1916, i, p. 124.
 "Whole of dorsum light brownish-yellow."

 Dist.—E.
- (d) aureolineatus, Collinge. Journ. Zool. Res., 1917, ii, p. 125.

 "Segments of mesosome with a conspicuous golden-yellow blotch in the mid-dorsal line, forming a broken line; posterior margin of the segments yellow, also the pleural plates, and a more or less ill-defined golden-yellow line on each side of the median one."

Dist.-E., S.

(e) virescens, Collinge. Ibid., p. 124.

"Dorsum deep olive green, with the 1st and 2nd mesosomatic segments a lighter green."

Dist.—E.

- (f) cooperi, Collinge. Ibid., p. 125.
- "Cephalon blackish-brown, finely speckled with yellow... Pleural plates of mesosome pale yellowish-white, also the posterior border of the segments. On each side of the median line is a somewhat oval-shaped purplish-brown patch with yellowish wavy stripes, the two patches generally meeting anteriorly on the first three or four segments. Metasome yellowish-brown." Dist.—E.
- (g) bicolor, Collinge. Ibid., p. 125.
 "Whole of body a rich creamy-white, with a few irregular patches of golden-yellow and black."
 Dist.—E.
- (h) tessellatus, Collinge. Ibid., p. 125.
 "Ground colour of dorsum light yellow, with numerous small, irregular bluish-grey markings."

 Dist.—S.
- (i) marginatus, Collinge. Ibid., p. 125.

 "Ground colour of dorsum dark grey, with lighter lateral patches and broken median line; pleural plates light yellow."

 Dist.—S.
- 30. A. DEPRESSUM, Brandt. Medizin. Zool., 1833, ii, p. 82, pl. xiii, f. 4-6, C and D. Dist.—E., Ch. I.
 - (a) maculatum, Collinge. Scot. Nat., 1917, p. 115.
 - "Ground colour yellow with middle portions of mesosomatic segments mottled with brownish-coloured patches on the anterior half, posterior half and pleural plates yellow, also whole of metasome."

Dist.-E.

- 31. A. PULCHELLUM, Brandt. Medizin. Zool., 1833, ii, p. 188. Dist.—E., I.
 - (a) flavus, Collinge. Journ. Zool. Res., 1917, ii, p. 125.
 "Whole of body light straw-yellow colour."
 Dist.—E.
- 32. A. ALBUM, Dollfus. Bull. Soc. d'Etudes Sci. Paris, 1887, p. 4. Dist.—E.
- 33. A. NASATUM, Budde-Lund. Crust. Isop. Terr., 1885, p. 51. Dist.—E., I.

HE PAT STATE

THE BRITISH TERRESTRIAL ISOPODA.

(a) flava, nov.'

Dist.—E.

(b) nigrescens, nov.

Excepting the pleural plates, which are brownish-yellow, the whole of the dorsum is almost black.

Dist.—E.

34. A. PICTUM, Brandt. Bull. Soc. Nat. Moscou, 1833, vi, p. 186. Dist.—E., S.

Genus ELUMA, Budde-Lund.

35. E. CAELATUM (Miers). Proc. Zool. Soc. Lond., 1877, p. 665, pl. lxvii, f. 3. purpurascens, Budde-Lund.

Dist.—I.

INTRODUCED SPECIES.

Genus TRICHONISCUS. Brandt, 8833.

1. T. LINEARIS, Patience. Ann. Mag. Nat. Hist., 1908, i, p. 280, pl. xi, Dist.—Three specimens collected in a greenhouse in Kew Gardens (Bagnall).

Probably a South American species.

Genus TRICHORINA, Budde-Lund.

2. T. TOMENTOSA (Budde-Lund).

Dist.—Found in greenhouses, in Kew Gardens, London (Bagnall), the Botanic Gardens, Belfast (Nevin H. Foster), and Glasgow (Patience).

A South American species.

Genus NAGARA, Budde-Lund.

3. N. NANA, Budde-Lund.

Dist.—Botanic Gardens, Belfast (Nevin H. Foster).

Apart from this record, only known from Madagascar.

4. N. CRISTATA, Budde-Lund.

Dist.—One example recorded from greenhouse at Wylam-on-Tyne, Northumberland (Bagnall).

Genus ANGARA, Budde-Lund.

5. A. LENTA, Budde-Lund.

Dist.-

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¹I am indebted to the kindness of Mr. R. S. Bagnall for these two striking varieties, who collected them near Bath, Dec. 1917.



NOTES.

- Ligidium hypnorum. Mr. R. S. Bagnall has recently sent me a series of specimens belonging to this species from the neighbourhood of Bath.
 - (b) intermedius. We have elsewhere pointed out (Journ. Zool. Res., 1916, i, p. 122) that it is doubtful whether this is a variety or merely a malformation.
 - T. roseus. It has generally been thought that those specimens found in greenhouses were of a deeper coral-pink than those found in the open country, recently, however, we have seen numerous examples taken out of doors, quite as brightly coloured, if not more so, than any from under glass.
 - Haplophthalmus. The possibility of the occurrence of a new indigenous species of this genus is not without some evidence, although, personally, we have examined some hundreds of specimens of both of the known species and have only found a minor variation in the form of the tubercles and the pleural plates of the 1st mesosomatic segment in H. danicus.
 - 14. O. asellus. Many authors have adopted Cuvier's name of murarius for this species. The O. fossor, Koch, is an immature example of O. asellus (Cf. Scot. Nat., 1916, p. 143).
 - 16. P. couchii. Verhoeff has made this the type of a new genus (Halophiloscia).
 - The P. montanus of Budde-Lund, may probably be found Porcellio. to occur in the South of England.
 - 19. P. scaber. Placed by Verhoeff in the genus Euporcellio, with pictus, rathkii, and dilatatus.
 - 19. d. rufa. We have not seen examples of this variety.
 - 22. P. rathkii. This species, hitherto regarded as rare, is now known to be fairly common and widely distributed over the British We have recently received it from Ireland.
 - 24. P. laevis. Placed by Verhoeff in the genus Mesoporcellio.
 - 28. Pl. hoffmannseggii. Kinahan wrongly insisted that the flagellum of the antenna was 2-jointed. This species has been recorded by certain Irish naturalists as "confined to the south and Midlands of England and southern Ireland, and to a few isolated localities in Scotland, "whereas it is generally distributed throughout the whole of England and Wales, and it seems likely to be so in Scotland also.

Armadillidium. Further investigation will probably show that the A. opacum of Koch, also occurs in the British Isles. The form of the cephalon at once separates it from young, light-coloured examples of A. vulgare (Latr.), which it somewhat resembles.

Specimens of any species of this genus are greatly desired from any Scotch localities.

- 35. E. caelatum. In a paper to be published shortly, we have set forth in detail the reasons for restoring Miers' name of caelatum and placing that of purpurascens, Budde-Lund, as a synonym.
- Nagara. Bagnall wrongly gives the generic name as Nagarus and Nagarus, and also places the N. nana under the genus Angara.