A speckled *Trichoniscus pusillus* Brandt, 1833 (Isopoda: Trichoniscidae) from the Green Lane by Asham Meadow, Birlingham, Worcestershire

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Introduction

The author has studied the biota of the superficial deposits of the lower valley of the Warwickshire River Avon for several decades (Whitehead, 1988; 1992; 2006). Knowledge of its isopod fauna is reasonable and its composition and structure is generally predictable. *Trichoniscus pusillus* Brandt, 1833 is especially abundant at the back of the modern flood plain where it may be assembled by periodic flood events; thousands of examples have been seen over the years. Wherever individuals have been closely examined they have been identified as *T. pusillus* and this name is ascribed with fair confidence to all individuals of this valley population thus eliminating the need for mass dissection in order to rule out the key confusion species *Trichoniscus provisorius* Racovitza, 1908, which had for long been ranked as a subspecies of *T. pusillus* (Gregory, 2006) and which I know only from single individuals on chalk and limestone. *Trichoniscus provisorius* has never been found by me amongst *T. pusillus* either in the River Avon valley or elsewhere.

Dystrophic pigmentation in *T. pusillus*

On 16 April 2020 during a visit to the Green Lane flanking the back of the floodplain of the River Avon at Birlingham, Worcestershire (VC37, SO94, 7m a.s.l.) I turned flood-rafted timber and observed about 20 *T. pusillus* under it, of which one example was unusually pigmented (Fig. 1A-C). It appeared speckled due to pigment dispersion and was also slower-moving than any of the other normal examples of *T. pusillus* with it. The specimen was retained and placed in 70% alcohol for further study; the author had absolutely no idea what its appearance implied; of the specialists consulted at the time Steve Gregory stated that he too had no idea about the implications of the find. He persisted and on 6 May 2020 forwarded to me on the recommendation of Thomas D. Hughes a paper by Amato, Amato & de Quadros (2003) describing dystrophic pigmentation in the terrestrial isopod *Atlantoscia floridana* (van Name, 1940) (Oniscidea: Philosciidae) resulting from colonisation by an acanthocephalan or Thorn-headed Worm *Centrorhynchus* sp. Lühe 1911 (Centrorhynchidae), a member of a group known to cause pigment dystrophy in isopods. These authors include coloured images which confirm the high degree of similarity between the appearance of the infected Brazilian isopod and the Birlingham *T. pusillus.*

Amato, Amato & de Quadros (2003) confirm the rarity of this anomaly which represented 0.0375% of all instances in isopods examined by them. *Centrorhynchus* spp. have a distinctive bionomic. According to Nickol (1985) the larval stages colonise terrestrial invertebrates, in particular isopods, whereas the adult stages occur primarily in carnivorous birds. It was initially felt likely that the *T. pusillus* described here was infected with an acanthocephalan. However, on 20 March 2021 the specimen was subjected to an intensive ventral skeletal and gut dissection at x160; no evidence whatsoever existed for any life stages of an acanthocephalan worm.

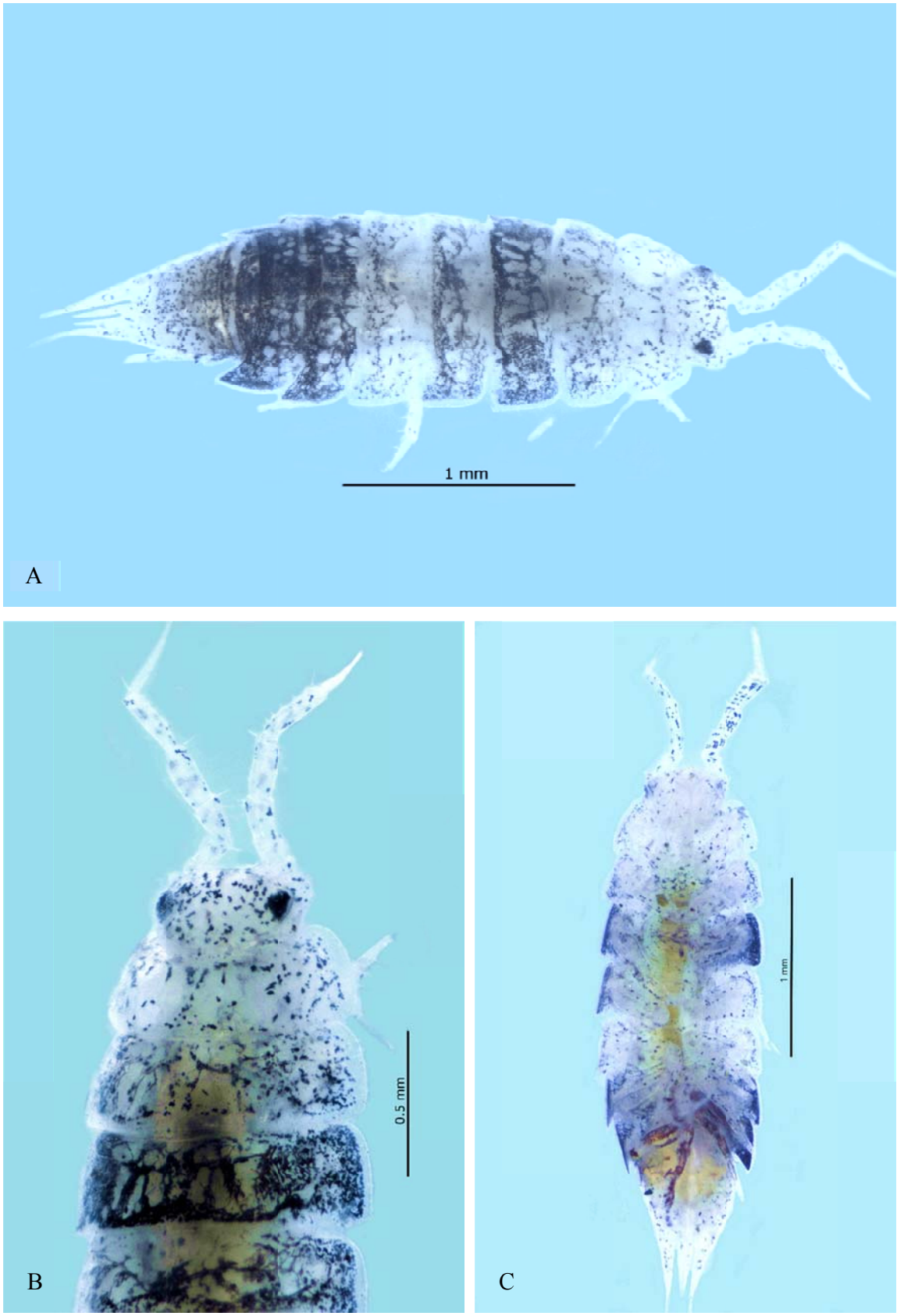

Figure 1. *Trichoniscus pusillus* Brandt, 1833, Birlingham, Worcestershire, 16 April 2020
A) Showing dystrophic pigmentation of dorsal skeleton; B). Enlarged view of dystrophic pigmentation of dorsal skeleton; C) showing dystrophic pigmentation of ventral and appendicular skeleton.

Conclusion

An example of *T. pusillus* collected from Birlingham, Worcestershire on 16 April 2020 exhibited dystrophic pigmentation. Previously unrecorded in terrestrial isopods in Britain this was thought, on the basis of available literature, to result from the presence of a parasitic acanthocephalan or Thorn-headed Worm. Subsequent dissection of the specimen revealed no evidence of such an organism and in this instance the aberration may result from another presently unknown cause. Hopefully further examples may be found and the causative agency explained.

Acknowledgements

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