Case 3554

Anaphes Haliday, 1833 (Insecta, Hymenoptera): proposed designation of *A. fuscipennis* Haliday, 1833 as the type species

John T. Huber

Natural Resources Canada, Canadian Forest Service, K.W. Neatby Building, Ottawa, Ontario, Canada, K1A 0C6 (e-mail: john.huber@agr.gc.ca)

John S. Noyes

Department of Entomology, The Natural History Museum, London, SW7 5BD, U.K.

Andrew Polaszek

Department of Entomology, The Natural History Museum, London, SW7 5BD, U.K.

Serguei Triapitsyn

Department of Entomology, University of California, Riverside, CA, 92521, U.S.A.

Abstract. The purpose of this application, under Articles 80.9 and 81.1 of the Code, is to designate *Anaphes fuscipennis* Haliday, 1833 (family MYMARIDAE) as the type species of *Anaphes* Haliday, 1833. The nominal species *A. punctum* Shaw, 1798 is currently the type species by subsequent designation and is placed on the Official List of Specific Names in Zoology, but no type specimen of *A. punctum* existed until Huber (2011) showed conclusively that *punctum* belongs to the genus *Camptoptera* Foerster, 1856 and designated a neotype. It is clearly unacceptable that the type species of a genus does not belong to that genus so a request to the Commission to change the type species to the only other originally included species of *Anaphes*, *A. fuscipennis*, is presented, to maintain the current usage.

Keywords. Nomenclature; taxonomy; Insecta; Hymenoptera; MYMARIDAE; *Anaphes*; *Anaphes fuscipennis*; *Anaphes punctum*; biological control.

---

1. The genus *Anaphes* Haliday, 1833 (Insecta, Hymenoptera) currently includes about 230 nominal species of MYMARIDAE, several of which are used for biological control of other insects. As a result there is considerable basic and applied literature on the genus, much of it listed in Huber (1992, 2006).

2. Haliday (1833, p. 269) first defined *Anaphes* in a key but without included species. In a second part of the same paper, Haliday (1833, p. 346) established the generic name *Anaphes* and included two species: *Anaphes fuscipennis* Haliday, 1833 and *A. punctum* (Shaw, 1798), transferred (implicitly) from *Ichneumon*.

3. Westwood (1840, p. 78) listed *A. punctum* as a 'typical' (as explained on p. 1, footnote) species of *Anaphes*. Undoubtedly, Westwood was influenced by Haliday's referral of *A. punctum* to *Anaphes*, but he chose *punctum* instead of *fuscipennis* as 'typical' probably because it was described earlier than *fuscipennis*, not because it represented an ordinary looking species of the genus. Westwood's choice was accepted by many subsequent workers as a type species designation. The original material of *punctum* was apparently not seen by either Haliday or Westwood (Graham, 1982, p. 205) so its placement in *Anaphes* must have been based on the short, inadequate original description and, in particular, on Shaw's illustration. No other worker had seen Shaw's specimen either, except possibly A.H. Haworth (1767–1833), a contemporary of Shaw. Graham (1982, p. 206) mentioned having found a specimen labelled as *punctum* by Haworth and stated that it belonged to the genus *Camptoptera*. That specimen is lost (Huber, 2011).

4. Ashmead (1904, p. 363) selected *A. fuscipennis* Haliday as the type of *Anaphes* – this is the first unambiguous citation of a type species for *Anaphes*. If Ashmead was aware of Westwood's choice of *punctum* as 'typical' of *Anaphes* he ignored it, justifiably so because neither Westwood nor Haliday provided any reason for assigning *punctum* to *Anaphes*.

5. Gahan & Fagan (1923, p. 12) noted both type species designations for *Anaphes* but did not select one in preference to the other.

6. Debauche (1948, p. 155) treated *A. fuscipennis* as the type species of *Anaphes*, with a footnote explaining why he chose this species, and then (Debauche, 1949, p. 6) argued forcefully for a change of type species but did not submit a petition to the Commission.

7. The choice of type species of *Anaphes* seemed to have been resolved when *punctum* was formally placed on the Official List of Specific Names in Zoology as the type species of *Anaphes* (Opinion 729, BZN **22**(2): 82–83, May 1965), based on a petition by Doutt & Annecke (1963) that incorrectly stated (p. 134, 2c) that *punctum* was the type species of *Anaphes* by original designation. In fact, *punctum* was not cited as the type (or a typical) species until later (Westwood, 1840). Westwood's referral to *punctum* being typical was almost certainly meant to be adjectival, i.e. a good representative of the genus, rather than nomenclatural, i.e. fixing a type species, a concept that was probably not thought of in 1840.

8. Hellén (1974, p. 23) continued to treat *A. fuscipennis* as type species and Huber (1992, p. 26) supported previous workers to have the type species of *Anaphes* changed to *A. fuscipennis*.

9. Although Graham (1982, p. 205) argued that *punctum* was a species of *Anaphes* he nevertheless intended to petition the Commission for a change of type species to *A. fuscipennis* because *punctum* could not be identified and no type material could be found. In his words (p. 206) 'it is unsatisfactory to have as type-species of the genus a species that cannot be recognized'. Graham died in 1995 and never submitted a petition.

10. Huber (2011, pp. 50–55) presented conclusive evidence that *punctum* is a species of *Camptoptera* Foerster, 1856 not a species of *Anaphes*. He designated (p. 56) and illustrated (p. 52) a neotype for *Ichneumon punctum*, and transferred that species to *Camptoptera*, thus leaving only one originally included species, *A. fuscipennis*, in *Anaphes*. The type locality of the neotype is England, Hampshire, Romsey, Awbridge

(collected in September 1981 by C. Vardy). The neotype is on a card mount and is deposited in the Natural History Museum, London.

11. *Anaphes* is one of the most cited genera of MYMARIDAE because of the important use of some of its member species in biological control of weevils (CURCULIONIDAE) and leaf beetles (CHRYSOMELIDAE). Though most nominal species of *Anaphes* are difficult to recognise, even with recourse to type specimens, the proposed type species, *A. fuscipennis*, is one of the few that is readily identifiable. Graham (1982) designated a lectotype for it.

12. Westwood's type species designation of *A. punctum* for *Anaphes*, as confirmed by ICZN Opinion 729, has not been generally accepted by entomologists. Strict adherence to this designation would have important ramifications. *Anaphes* would become the senior synonym of *Camptoptera* and the over 80 nominal species of *Camptoptera* would have to be transferred to *Anaphes,* as new combinations. *Camptoptera* species are known to be egg parasitoids mainly of beetles, e.g. SCOLYTIDAE (Huber & Lin 2000). While there is almost no applied literature on species of *Camptoptera* the genus is the largest in a group of genera distantly related to *Anaphes* in the family group classification of MYMARIDAE proposed by Anneke and Doutt (1960). Under their classification, *Camptoptera* is in the tribe OOCTONINI, subfamily ALAPTINAE, whereas *Anaphes* is in the tribe ANAPHINI, subfamily MYMARINAE. If the latter suddenly included *Camptoptera* species, renamed *Anaphes* if Opinion 729 is not overturned, this would cause considerable confusion for taxonomists. Concurrently, all the species currently included in *Anaphes* would have to be transferred to the next available, reliable synonym, i.e. *Patasson* Walker, 1846. *Patasson* was used as a subgenus of *Anaphes* from 1948 until the early 1990s (Huber 1992) and prior to that as a genus that was well known to biological control workers. It represents a distinct subgroup of species within *Anaphes*, treated informally for the past 20 years as the *crassicornis* group of species. If *Patasson* were now to be used for all species of *Anaphes* it would be very confusing for biological control workers who have successfully used certain species, either as *Patasson* or as *Anaphes* (*Patasson*), for biological control. *Panthus* Walker, 1846, discussed briefly by Kryger (1950, p. 81) and in detail by Graham (1982, p. 203), would not be suitable; the name has not been used by taxonomists for over 60 years. Considering the importance of some species of *Anaphes* in biological control, not only would nomenclatural stability be disrupted but the use of the new combinations in the applied literature would be disruptive to biological control workers.

13. To resolve the problem of having a type species that belongs to a different genus from *Anaphes* it is recommended that the type species of *Anaphes* [gender masculine, not neuter, as explained in Huber (1992, p. 33; 2006, p. 168)] be changed to *A. fuscipennis* Haliday, 1833, following the lead of Ashmead (1904). Use of the Commission's plenary power under Article 81.1 to effect this change would promote nomenclatural stability and universality in the names discussed above (and, importantly, their taxonomic concepts as well).

14. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to set aside its previous designation (in Opinion 729) of type species for the nominal genus *Anaphes* Haliday, 1833 and to designate *Anaphes fuscipennis* Haliday, 1833 as the type species of the genus;

(2) to place on the Official List of Specific Names in Zoology the name *fuscipennis* Haliday, 1833, as published in the binomen *Anaphes fuscipennis* (specific name of the type species of *Anaphes* Haliday, 1833 as designated in (1) above);

(3) to amend the entry on the Official List of Generic Names in Zoology for the name *Anaphes* Haliday, 1833, to record that its gender is masculine and not feminine, and its type species is *Anaphes fuscipennis* Haliday, 1833, and not *Ichneumon punctum* Shaw, 1798 as designated in (1) above;

(4) to amend the entry on the Official List of Specific Names in Zoology for the name *punctum* Shaw, 1798, as published in the binomen *Ichneumon punctum*, to record that it is not the name of the type species of *Anaphes* Haliday, 1833.

References

Annecke, D.P. & Doutt, R.L. 1961. The genera of the Mymaridae. Hymenoptera: Chalcidoidea. *Entomology Memoirs. Department of Agricultural Technical Services, Republic of South Africa*, **5**: 1–71.

Ashmead, W.H. 1904. Classification of the chalcid flies of the superfamily Chalcidoidea, with descriptions of new species in the Carnegie Museum, collected in South America by Herbert H.H. Smith. *Memoirs of the Carnegie Museum*, **1**(4): 225–555.

Debauche, H.R. 1948. Étude sur les Mymarommidae et les Mymaridae de la Belgique (Hymenoptera Chalcidoidea). *Mémoires du Musée Royal d'Histoire Naturelle de Belgique*, **108**: 1–248, pls. 1–24.

Debauche, H.R. 1949. Mymaridae (Hymenoptera Chalcidoidea). *Exploration du Parc National Albert, Mission G.F. de Witte (1933–35)*, **49**: 1105, pls. 1–13.

Doutt, R.L. & Annecke, D.P. 1963. *Mymar* Curtis, 1829 (Insecta, Hymenoptera): proposed designation of a type-species under the plenary powers. Z.N.(S.) 479. *Bulletin of Zoological Nomenclature*, **20**: 134–136.

Haliday, A.H. 1833. Essay on the classification of the parasitic Hymenoptera of Britain, which correspond with the Ichneumones minuti of Linnaeus. *Entomologist Magazine*, **1**: 259–276, 333–350.

Gahan, A.B. & Fagan, M.M. 1923. The type species of the genera of Chalcidoidea or chalcid-flies. *Bulletin of the United States National Museum*, **124**: 1–173.

Graham, M.W.R. de V. 1982. The Haliday collection of Mymaridae (Insecta, Hymenoptera, Chalcidoidea) with taxonomic notes on some material in other collections. *Proceedings of the Royal Irish Academy B*, **82**: 189–243.

Hellén, W. 1974. Die Mymariden Finnlands (Hymenoptera: Chalcidoidea). *Fauna Fennica*, **25**: 1–31.

Huber, J.T. 1992. The subgenera, species groups, and synonyms of *Anaphes* (Hymenoptera: Mymaridae) with a review of the described Nearctic species of the *fuscipennis* group of *Anaphes s.s.* and the described species of *Anaphes* (*Yungaburra*). *Proceedings of the Entomological Society of Ontario*, **123**: 23–110.

Huber, J.T. 2005. The gender and derivation of genus-group names in Mymaridae and Mymarommatidae. *Acta Societatis Zoologicae Bohemicae*, **69**: 167–183.

Huber, J.T. 2006 [2004]. Review of the described Nearctic species of the *crassicornis* group of *Anaphes s.s.* (Hymenoptera: Mymaridae). *Journal of the Entomological Society of Ontario*, **135**: 3–8.

Huber, J.T. 2011. The identity and generic placement of *Ichneumon punctum* Shaw (Hymenoptera: Mymaridae), and designation of a neotype. *Journal of Hymenoptera Research*, **29**: 47–63.

Huber, J.T. & Lin, N.-Q. 2000 (1999). World review of the *Camptoptera* group of genera (Hymenoptera: Mymaridae). *Proceedings of the Entomological Society of Ontario*, **130**: 21–65.

Kryger, J.P. 1950. The European Mymaridae comprising the genera known up to c. 1930. *Entomologiske Meddelelser*, **26**: 1–97.

Shaw, G. 1798. Account, accompanied by a figure, of a minute *Ichneumon*. *Transactions of the Linnaean Society of London*, **4**: 189, pl.18, fig. 1.

Westwood, J.O. 1840. *An introduction to the modern classification of insects; founded on the natural habits and corresponding organisation of the different families*, vol. II, i–xi, 1–587, followed by *Synopsis of the genera of British insects*, pp. 1154, followed by *Addenda to the generic synopsis of British insects*, pp. 155–158. Longman, Orme, Brown, Green & Longmans, London.

Acknowledgement of receipt of this application was published in BZN **68**: 2

Comments on this case are invited for publication (subject to editing) in the Bulletin; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).