

ON SYNONYMIZATIONS WITHIN
THE GENUS *XIPHINEMA* COBB, 1913 (NEMATODA: DORYLAIMIDA)

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Following the publication of the first report on the transmission by *X. index* of fanleaf virus to the vine (Hewitt, Raski & Goheen, 1958) interest in representative specimens of the genus grew rapidly. In the next decade, 64 new species were identified and listed, 6 of which were subsequently relegated to the status of synonyms of previously described species: *X. itanhaense* Carvalho, 1962 = *X. brasiliense* Lordello, 1951; *X. indicum* Siddiqi, 1959 = *X. insigne* Loos, 1949; *X. arenarium* Luc & Dalmasso, 1963, *X. bulgariense* Stoyanov, 1964, *X. conurum* Siddiqi, 1964 = *X. italiae* Meyl, 1953; *X. amarantum* Macara, 1970 = *X. sahelense* Dalmasso, 1969.

A series of experiments currently being conducted on the quality of those valid species that outwardly are so similar, has revealed that the number of variations of individual morphological characteristics (shape of the labial area, body and stylet length, length and shape of the tail, sometimes structure of the female reproductive system) within the genus and group of related species is so great that it is often difficult if not impossible to distinguish one species from another. A fact that cannot be overlooked is that the additional data arising from new and ever more frequent discoveries of specimens similar to already established species have expanded the original concepts about their morphology. Thus *X. italiae*, having been discovered and described for the first time from Italy in 1953, was later found in other areas of the Palearctic, in India and in South Africa. Consequently the range of variation of tail and labial shape characteristic of this species increased from the original specimens. This range of variation also applies to *X. elongatum*, *X. diversicaudatum*, and other species. In the group *X. americanum*, where these variations are already noted, morphological differences between species are minimal, apart from those pertaining to the five parent species (*X. opisthohystrum* Siddiqi, 1961; *X. brevicolle* Lordello & da Costa, 1961; *X. mediterraneum* Martelli & Lamberti, 1967; *X. rivesi* Dalmasso, 1969; *X. neoamericanum* Saxena et al., 1973). Only two species in this group can be clearly distinguished from the rest by one characteristic feature (*X. brevicolle* by stylet length, 156-168.3 μm ; *X. neoamericanum* by the presence of five oesophageal glands, which is unique in the genus, and by the shortest and bluntest tail in the group). *X. mediterraneum* and *X. opisthohystrum* are distinguishable from the other species of the group by the presence of finger-shaped tail ends and by the button-like labial areas. In anatomical and morphometric characteristics these two species hardly differ, apart from insignificant differences in the length of tail (1.2-1.9 as compared with 2.25 anal body diameters in *X. opisthohystrum*), which might suggest a sufficient basis for their synonymy. This also applies to *X. americanum* and *X. rivesi* that differ only in the dimensions of their stylets (119-140 as compared with 140-151 μm respectively); to *X. australiae* and *X. radicolica* (minimal differences in the length of the tail: 194-210 as compared with 150-179 μm respectively);

to *X. neovuittenezi* Dalmaso, 1969 and *X. vuittenezi* Luc et al., 1964. Morphological differences between the last two species seem small, and characteristics overlap (V = 45-48% as against 46-56.6%; tail = 0.7-0.9 as against 0.7-1.2 times the anal body diameter respectively, and the first named species lacking the finger-shaped end that is, however, to be found in some specimens of *X. vuittenezi*. From the juvenile IV age, the tail of *X. neovuittenezi* can have a finger-shaped end, as with JIV of *X. vuittenezi*. In our opinion, an insignificant difference in the shape of the posterior end of the body and in the width of the labial area hardly constitute sufficient basis for a division of these types into two separate species. *X. vuittenezi* is generally described as a parthenogenetic species, whereas in *X. neovuittenezi* the males predominate. However, Loof and Maas (1970) identified two isolates of *X. filicaudatum*, one with a sufficient number of males, whereas in the other there was a lack of males (for such a number of females). It is possible, depending on variations in conditions, that the same species can reproduce both parthenogenetically and simply by sexual methods, in which case the presence or absence of males cannot, to all intents and purposes, provide a sufficiently reliable diagnostic criterion applicable to all species.