A NEW LEAF GALL-NEMATODE ON *NOTHOPHAGUS OBLIQUA* IN CHILE

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RESUMEN

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Se reporta por primera vez en Chile, la presencia de un nuevo nematodo agallador de la hoja en el árbol *Nothophagus obliqua* (Mirb) Oerst. var obliqua. Las hojas infestadas estaban deformadas por agallas de diferente tamaño y forma, localizadas en la parte superior de la hoja. Todos los estadios de vida del nematodo (huevos, juveniles y adultos) fueron encontrados en los tejidos mesofílicos hipertrópicos e hiperplásticos de las hojas infestadas. El nematodo ha sido identificado como una nueva especie perteneciente al genero *Afrina* en la familia Anguinidae.

Palabras claves: Afrina, agallamiento de la hoja, Anguinidae, *Nothophagus obliqua.*

The rubble tree (*Nothophagus obliqua* (Mirt) Oest. var. obliqua), belonging to the family Fagaceae, is widespread in natural forests of central and southern Chile. The tree produces wood of excellent quality and is of great economic value to the timber industry in Chile. During a routine nematode survey in southern Chile in 1998, severely galled leaves were collected by the senior author from rubble trees in native forests (Fig. 1A). Subsequent surveys and microscopic examination of symptomatic material indicated that these leaf symptoms are induced by an anguinid nematode species which is widespread on rubble trees in many forests.

Nematode galls on *N. obliqua* protrude from the upper surface of leaf blades. Noticeable depressions are evident at corresponding sites on the undersides of leaves. As a consequence of nematode infection and gall formation, leaves are slightly deformed or twisted. Galls vary in size (2-7 mm in diam.) and shape, and are randomly located in areas proximal to midrids or secondary leaf veins. Gall formation results from marked hypertrophy and hyperplasia of mesophyllic tissues. Dissection of mature galls (n = 50) revealed the presence of a cavity containing all nematode life-stages (Fig. 1B, C). The numbers of nematode specimens (n = 50) ranged from 8-22 adults, 80-200 juveniles, and 20-200 eggs per gall. The sex ratio was 6 females:1 male. Preliminary morphological studies conducted at the Agricultural Nematology Institute of C.N.R. in Bari, Italy, indicate that this leaf-gall nematode is a new species belonging to the genus *Afrina* Brzeski 1981, in the Anguinidae Family.

This is the only *Afrina* species inducing galls in leaves of a tree. Leaf symptoms are similar to those induced on herbaceous hosts by *Pterotylenchus cecidogenus* Siddiqi and Lenne, 1984, on *Desmodium ovalifolium* in Colombia (Stanton, 1986) and *Mesoanguina moxae* Choi and Loof, 1973 on *Artemisia asiatica* in Korea (Vovlas and Choi 1995).

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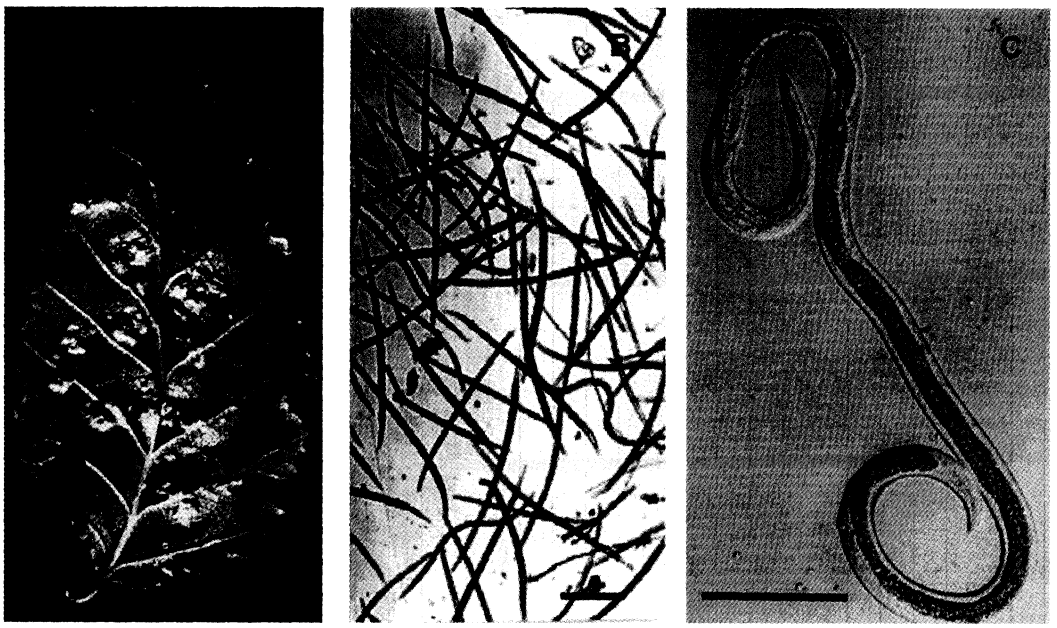

Fig 1. A) *Nothophagus obliqua* leaf with numerous galls induced by a new anguinid nematode species. B) Large population of the nematode extracted from a single gall, containing all life stages. C) Female of the nematode. (Scale bars in μm: 25 in A; 250 in B; and 100 in C).

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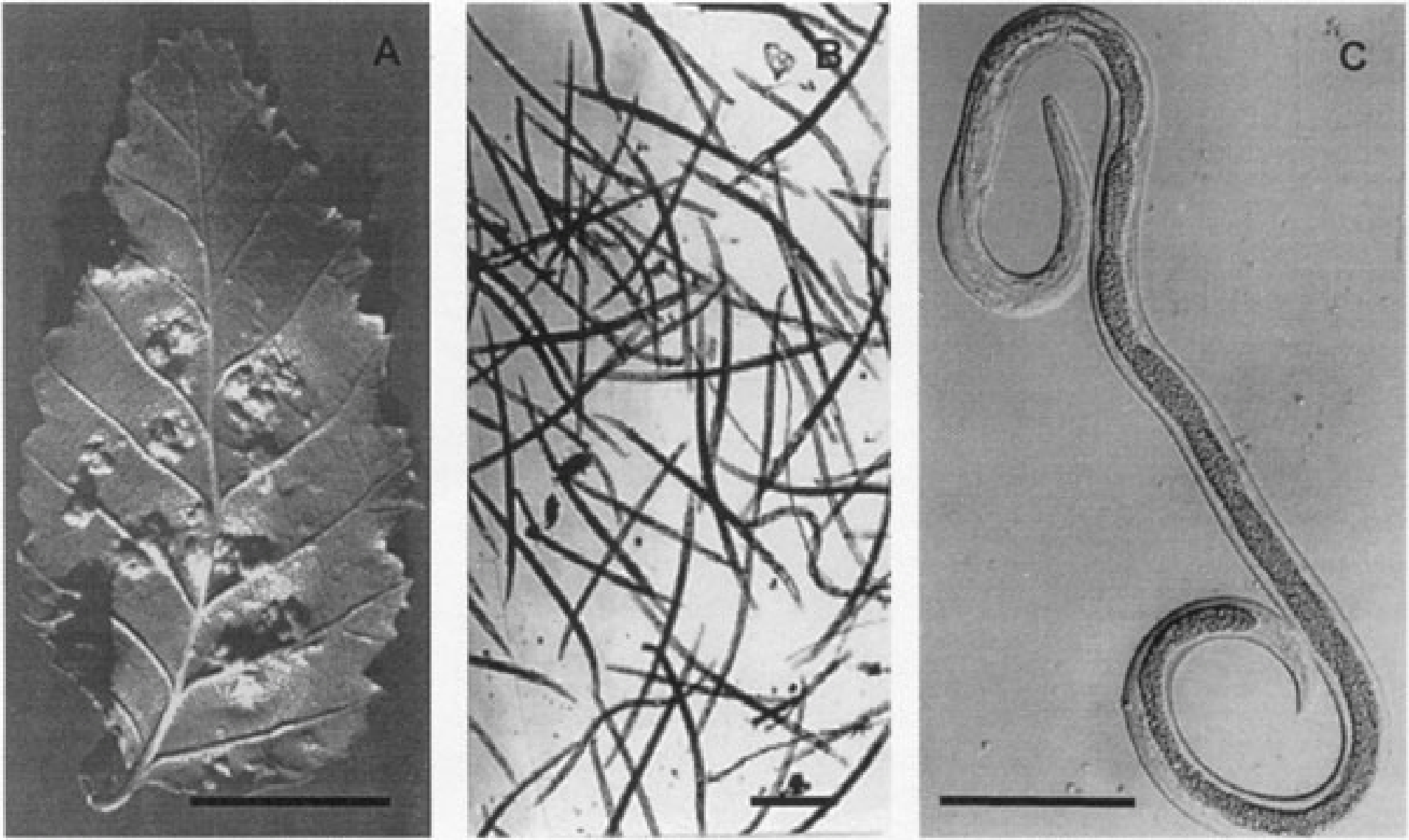

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