



PpPIF-1*: first isolated full-length *PIF*-like element from the bamboo *Phyllostachys pubescens

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ABSTRACT. *PIF*-like elements are the first-described members of a recently discovered and widespread superfamily of DNA transposons, named *PIF*/Harbinger. Complete and partial *PIF*-like elements have been isolated from hundreds of plant species. Previously, we identified 139 partial *PIF*-like transposases in the Bambusoideae, of which three were from the bamboo species *Phyllostachys pubescens*. Here we report identification and isolation of the first full-length *PIF*-like element (*PpPIF-1*) from *P. pubescens*; identification was made by chromosome walking, based on a modified magnetic enrichment procedure that allows efficient cloning of flanking sequences up to 3 kb in length. *PpPIF-1* is 5953 bp in length, with 20-bp imperfect inverted terminal repeats and 3-bp target site duplications. This element contains two open reading frames, one encoding a putative transposase, including the complete DDE-domain typical of *PIF*/Harbinger elements from plants, and the other encoding a DNA-binding protein. There are seven termination codons and two frameshift mutations in the open reading frames, probably due to vertical inactivation.

Key words: *Phyllostachys pubescens*; Full-length *PIF*-like elements; Chromosome walking