Pteris vittata

[Synonyms : *Pteris costata*, *Pteris diversifolia*, *Pteris ensifolia*, *Pteris inaequilateralis*, *Pteris longifolia*, *Pteris microdonata*, *Pteris vittata* var. *cristata*, *Pycnodoria vittata*]

LADDER BRAKE is an evergreen fern. Native to tropical and warm regions of Africa, Asia and southern Europe, it has wispy arching fronds.

It is also known as Chinese brake, *Khawsat mā* (Arabic), and Mediterranean fern.

The sterile fronds are shorter than the erect fertile fronds.

For some parts of the Pacific Islands ladder brake is tending to be viewed as an invasive species. It has also been declared an invasive plant in Florida in the south-eastern United States.

This is a parent of many ornamental varieties.

Vittata is derived from Latin *vittata* (striped, bound with a fillet) meaning 'longitudinally (or lengthwise) striped'.

Ladder brake is a common pot plant in the West.

At the turn of the 20th and 21st Centuries scientists in California in the United States discovered that this fern readily absorbs arsenic in concentrations far higher than any found in the few known plants also capable of this. Apparently arsenic-contaminated soil and water is becoming an increasing problem worldwide (not least because the food chain is vulnerable to this adulterant). Not only does arsenic occur in the soil naturally but it is also present in effluent from mining and from some manufacturing processes, as well as from agricultural chemicals, wood preservatives and other products. This find has led to investigations to assess how this arsenic-absorbing property could be harnessed, as well as the viability of burning the subsequently contaminated fern safely and recovering the arsenic absorbed for use in a gaseous state – and the prospects of introducing the fern's relevant genes into appropriate plants that thrive in other climates or that grow more quickly than ladder brake so that they could be harnessed similarly.