

Half of species found by 'great plant hunters'

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John Wood collecting plants in Bolivia. Credit: courtesy of Darwin Initiative.

(PhysOrg.com) -- With an estimated 15-30% of the world's flowering plants yet to be discovered, finding and recording new plant species is vital to our understanding of global biodiversity.

The age of great botanical explorers, such as Sir Joseph Banks and Alexander von Humboldt, might appear to have passed. But the study, led by Oxford University scientists, found that modern botany has its own 'great plant hunters' – individuals whose experience and skills enable them to make a disproportionate contribution to the discovery of new plant species.

A report of the research is published in this week's *Proceedings of the Royal Society B*.

"It seems that, even in the 21st Century, we need 'great' plant hunters who have the skills and experience to make the most efficient use of their time in the field," said Dr. Robert Scotland of Oxford University's Department of [Plant Sciences](#), who led the work.



John Wood holding a specimen of a possible new species of sweet potato. He has collected more than 28,000 plant specimens from Somalia, Yemen, Bhutan, Colombia and Bolivia, resulting in excess of 100 new species. Credit: courtesy of Darwin Initiative.

"Whilst local specialists, citizen scientists, and students all have an invaluable contribution to make to botany, our research suggests that years of experience helps great hunters collect, not necessarily more specimens, but more of the important ones that go on to change our understanding of plant species," Dr. Scotland adds.

The study assembled four datasets totalling 100,000 specimens from four institutions; The Natural History Museum, Royal [Botanic Garden](#)

Edinburgh, Missouri Botanical Garden, and Royal Botanic Garden Melbourne.

The researchers found that the most productive collectors are distinguished by five attributes: they collect over many years, they collect more types per year, they collect from several different countries (although specialising in one particular country), they collect from a wide range of plant families (although again, often specialising in a particular family), and they collect more types towards the end of their careers.

The study suggests that greater efforts should be made to identify, train, and support plant hunters throughout their careers as they can make a substantial contribution to the discovery of new species.

Oxford University's Department of Plant Sciences has a strong history of producing 'big hitting' plant hunters from an 18th Century Professor of Botany, John Sibthorp (1758-96) who collected some of the first plants from Greece and many from Cyprus, to Sir Ghilleen Prance, a recent Director of Kew Gardens and Graduate student at Oxford University who collected extensively in Brazil. Currently John Wood, a research associate at the Department of Plant Sciences, has collected 30,000 specimens from South America and Asia, many of which are new species.

The research was carried out by scientists from Oxford University, Earthwatch Institute, Natural History Museum, Royal Botanic Garden Edinburgh, and Missouri Botanical Garden.

More information: A report of the research, entitled 'Big hitting collectors make massive and disproportionate contribution to the discovery of plant species', is published in this week's *Proceedings of the Royal Society B*.

Provided by Oxford University

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