

SUPPLEMENTARY DATA

TABLE S1. List of taxonomically diverse rhizobial strains used to inoculate *Listia angolensis*, *Listia bainesii* and *Listia heterophylla*.

Strain	Identification	Original host	Geographical origin	Reference/source
ORS 571 ^T	<i>Azorhizobium caulinodans</i>	<i>Sesbania rostrata</i>	Senegal	Dreyfus <i>et al.</i> (1988)
USDA 76 ^T	<i>Bradyrhizobium elkanii</i>	<i>Glycine max</i>	USA	Kuykendall <i>et al.</i> (1992)
USDA 6 ^T	<i>Bradyrhizobium japonicum</i>	<i>Glycine max</i>	USA	Jordan (1982)
2281 ^T	<i>Bradyrhizobium liaongense</i>	<i>Glycine max</i>	China	Xu <i>et al.</i> (1995)
WSM3937	<i>Burkholderia</i> sp.	<i>Rhynchosia ferulifolia</i>	South Africa	Garau <i>et al.</i> (2009)
WSM5005	<i>Burkholderia</i> sp.	<i>Lebeckia ambigua</i>	South Africa	J. Howieson (unpublished data)
TTR 38 ^T	<i>Ensifer arboris</i>	<i>Prosopis chilensis</i>	Sudan	Nick <i>et al.</i> (1999)
NGR234	<i>Ensifer fredii</i>	<i>Lablab purpureus</i>	New Guinea	Trinick (1980)
WSM419	<i>Ensifer medicae</i>	<i>Medicago murex</i>	Sardinia	Howieson and Ewing (1986)
Sm1021	<i>Ensifer meliloti</i>	<i>Medicago sativa</i>	Australia	Meade <i>et al.</i> (1982)
ORS 609 ^T	<i>Ensifer saheli</i>	<i>Sesbania cannabina</i>	Senegal	De Lajudie <i>et al.</i> (1994)
ORS 1009 ^T	<i>Ensifer teranga</i>	<i>Acacia laeta</i>	Senegal	De Lajudie <i>et al.</i> (1994)
ORS 2060 ^T	<i>Methylobacterium nodulans</i>	<i>Crotalaria podocarpa</i>	Senegal	Sy <i>et al.</i> (2001)
Lut6 ^T	<i>Microvirga lupini</i>	<i>Lupinus texensis</i>	USA	Andam and Parker (2007)
ORS 992 ^T	<i>Rhizobium (Allorhizobium) undicola</i>	<i>Neptunia natans</i>	Senegal	De Lajudie <i>et al.</i> (1998)
Control strains				
WSM2598	<i>Methylobacterium</i> sp.	<i>Listia bainesii</i>	South Africa	Yates <i>et al.</i> (2007)
WSM3557 ^T	<i>Microvirga lotononidis</i>	<i>Listia angolensis</i>	Zambia	Ardley <i>et al.</i> (2012)

^T = Type strain

TABLE S2 Ability of rhizobial strains isolated from *Leobordea* and *Lotononis s.s.* species to nodulate a range of *Lotononis s.l.* hosts. Nodulation is highlighted in bold.

Isolate	Original host	Nodulation of <i>Lotononis s.l.</i> (section) host				
		<i>Leobordea mollis</i> (Leptis)	<i>Leobordea polycephala</i> (Synclistus)	<i>Leobordea pungens</i> (Cleistogama)	<i>Lotononis delicata</i> (Oxydium)	<i>Lotononis laxa</i> (Oxydium)
<i>Bradyrhizobium</i> spp.						
WSM2596	<i>Leobordea foliosa</i> (Lipozygis)	N–	N+F+	N–	N+F–	N–
WSM2632	<i>Lotononis s. l.</i> sp.	ND	N+F+	N+F–	N+F–	ND
WSM2783	<i>Lotononis s. l.</i> sp.	N–	N+F+	N+F–	N+F+	N–
<i>Ensifer meliloti</i>						
WSM2653	<i>Lotononis s. l.</i> sp.	N+F–	N–	N+F+	N–	N+F–
WSM3040	<i>Lotononis laxa</i> (Oxydium)	N+F–	N–	N+F+	N–	N–
<i>Mesorhizobium tianshanense</i>						
WSM2624	<i>Lotononis s. l.</i> sp.	N+F–	N–	N–	N–	N–
<i>Methylobacterium nodulans</i>						
WSM2667	<i>Leobordea calycina</i> (Leptis)	N+F+	N–	N–	N+F–	N–

N+F+ = nodulation and nitrogen fixation; N+F– = nodulation, but no nitrogen fixation; N– = no nodulation, ND = not determined.

FIG. S1a–h. Symbiotic ability of rhizobia associated with *Lotononis s.l.* on taxonomically diverse *Lotononis s.l.* hosts, assessed by nodule number (■) and dry weight of shoots (■) of plants harvested after 10 weeks growth.

a) *Listia angolensis*

b) *Listia bainesii*

c) *Leobordea bolusii*

d) *Leobordea longiflora*

e) *Leobordea platycarpa* (i) and (ii). The graph has been rescaled in (ii) by removing the N+ treatment to reveal the rhizobial inoculant response. Non-nodulated plants were removed from the WSM3557^T treatment data.

f) *Leobordea stipulosa* (i) and (ii). There is no uninoculated control, due to seedling death. The graph has been rescaled in (ii) by removing the N+ treatment to reveal the rhizobial inoculant response.

g) *Lotononis crumanina* (i) and (ii). The graph has been rescaled in (ii) by removing the N+ treatment to reveal the rhizobial inoculant response.

h) *Lotononis falcata* (i) and (ii). The graph has been rescaled in (ii) by removing the N+ treatment to reveal the rhizobial inoculant response.

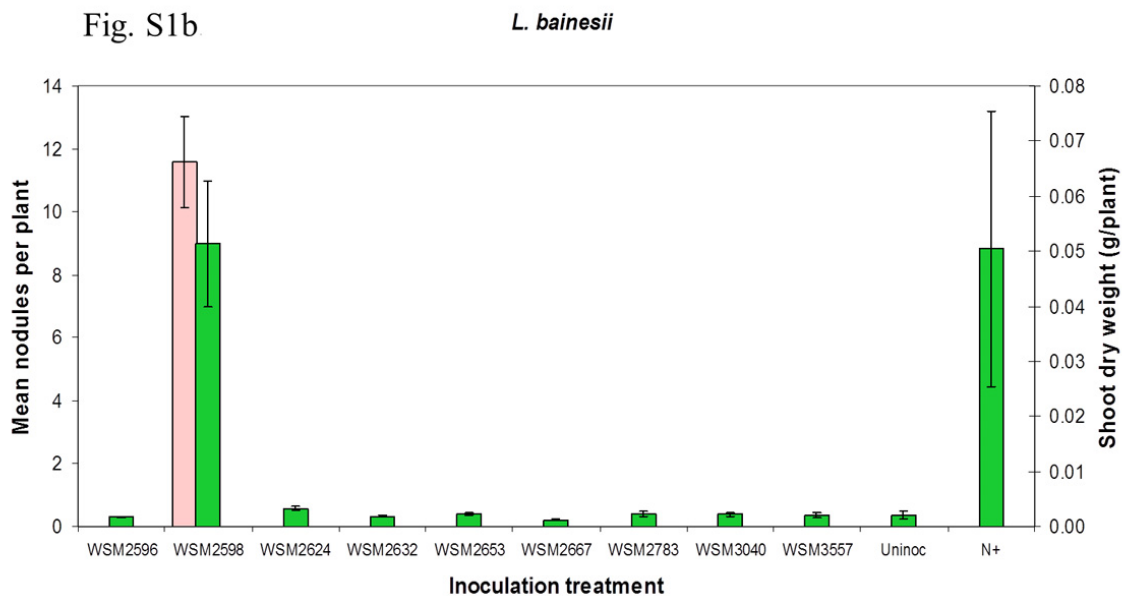
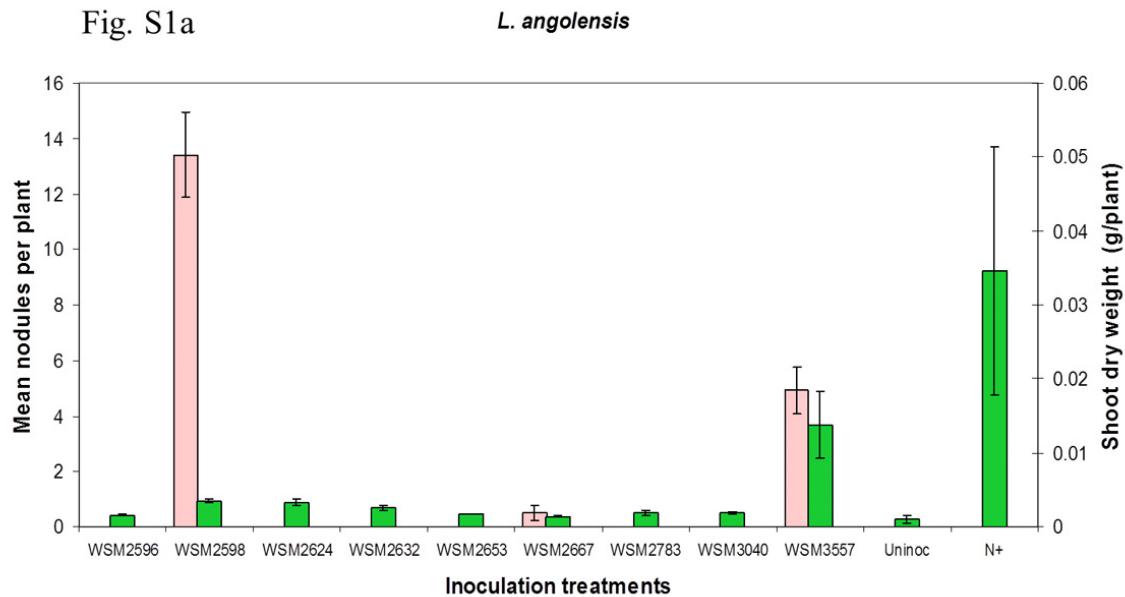


Fig. S1c

L. bolusii

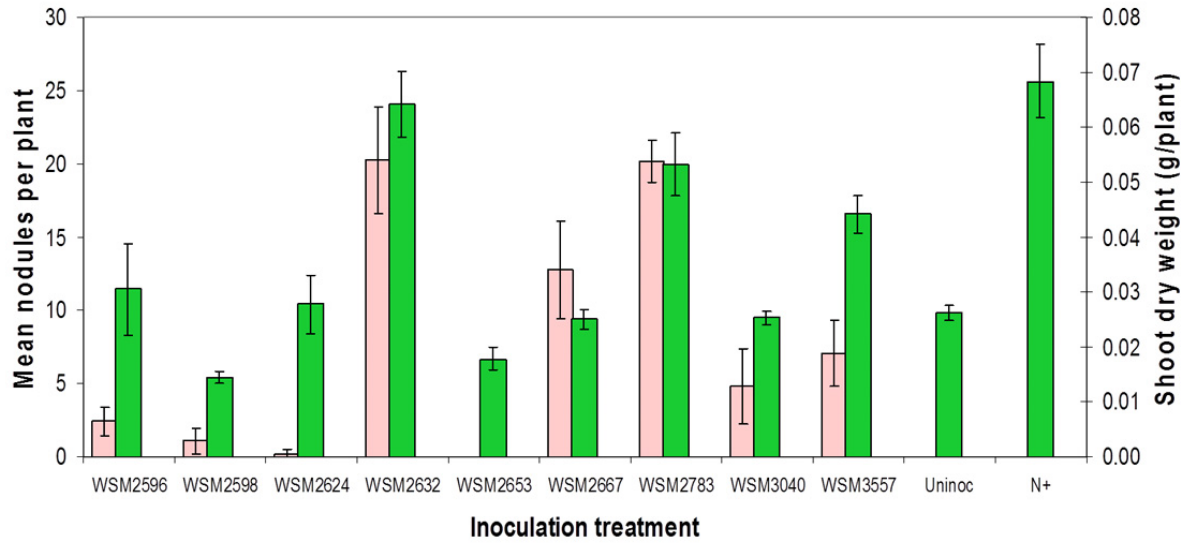


Fig. S1d

L. longiflora

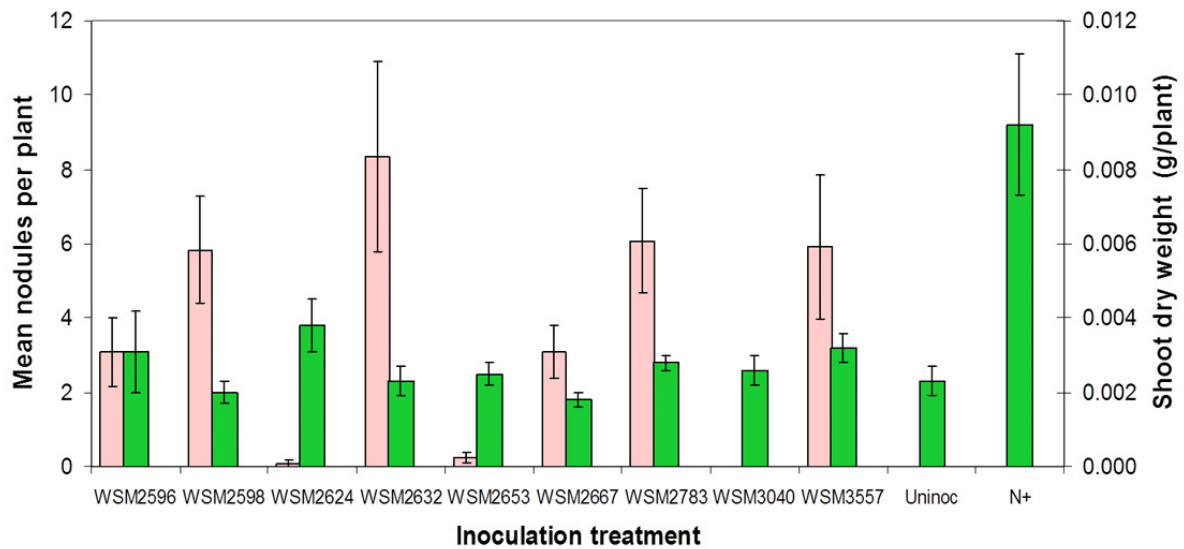


Fig. S1e (i)

L. platycarpa

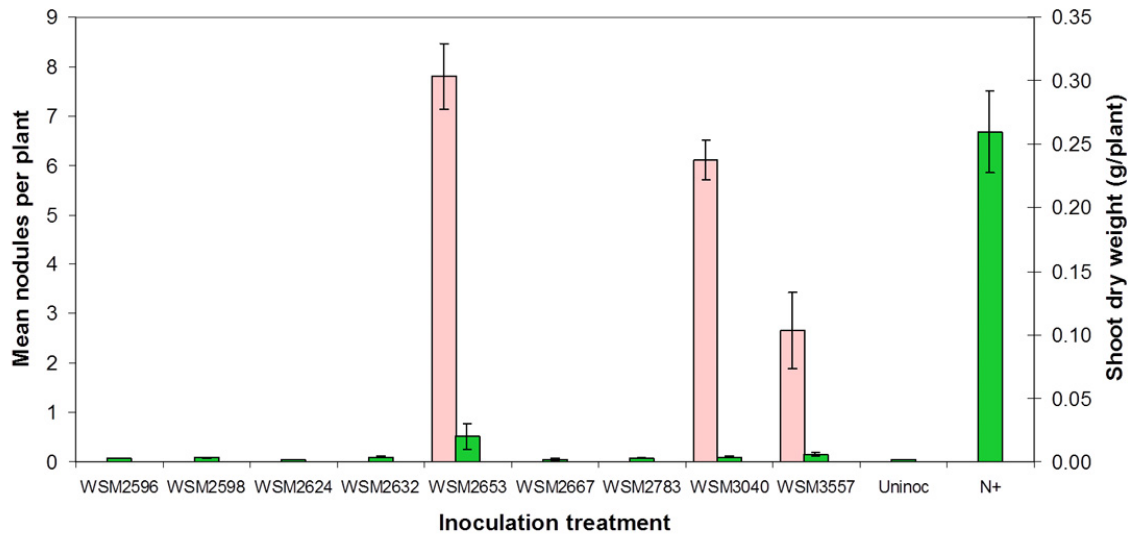


Fig. S1e (ii)

L. platycarpa nodulated WSM3557 minus N+

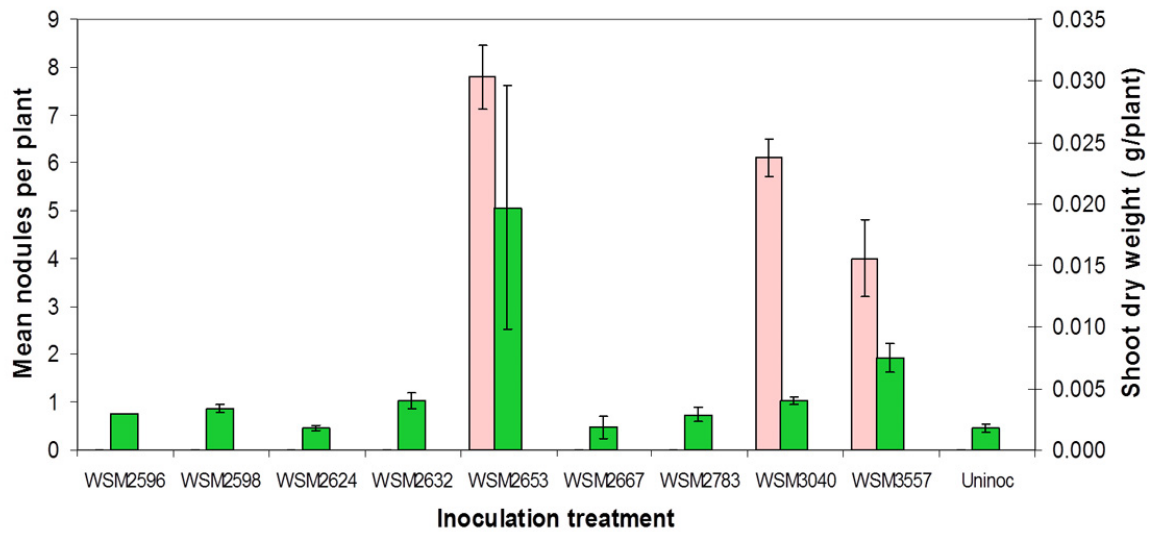


Fig. S1f (i)

L. stipulosa

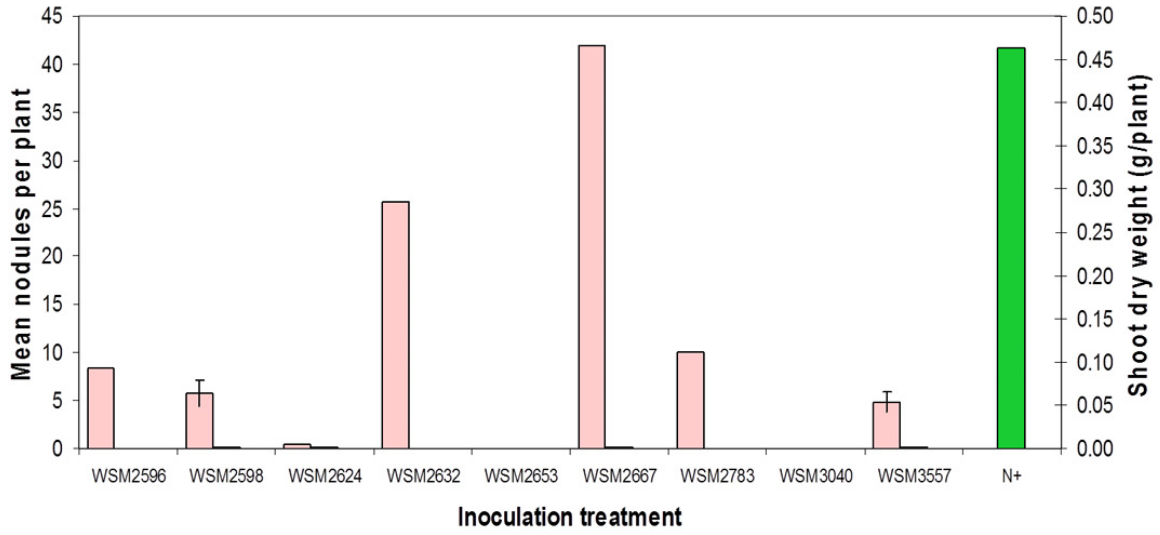


Fig. S1f (ii)

L. stipulosa minus N+

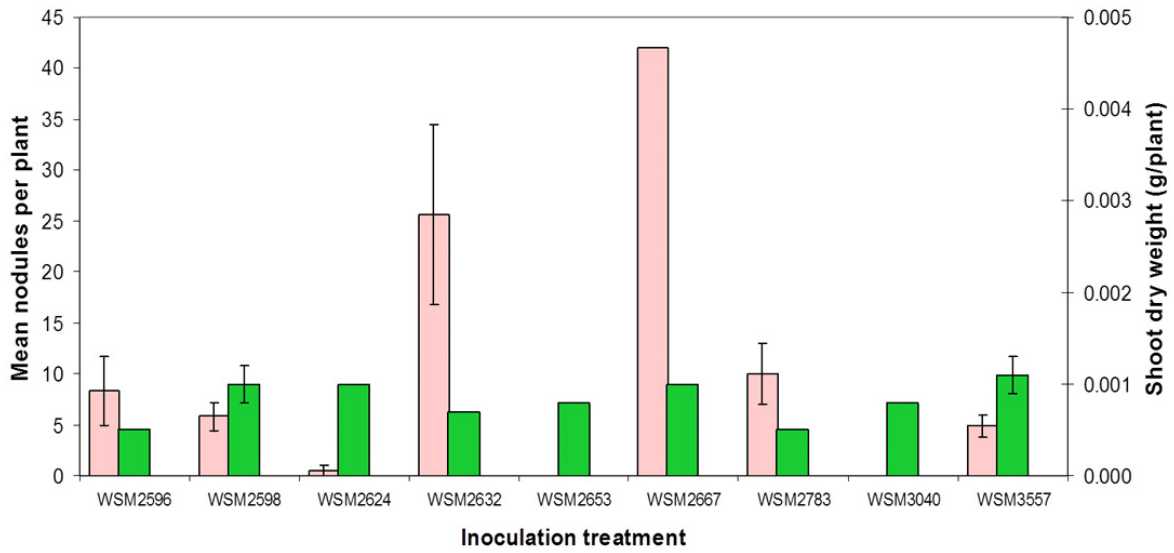


Fig. S1g (i)

L. crumanina

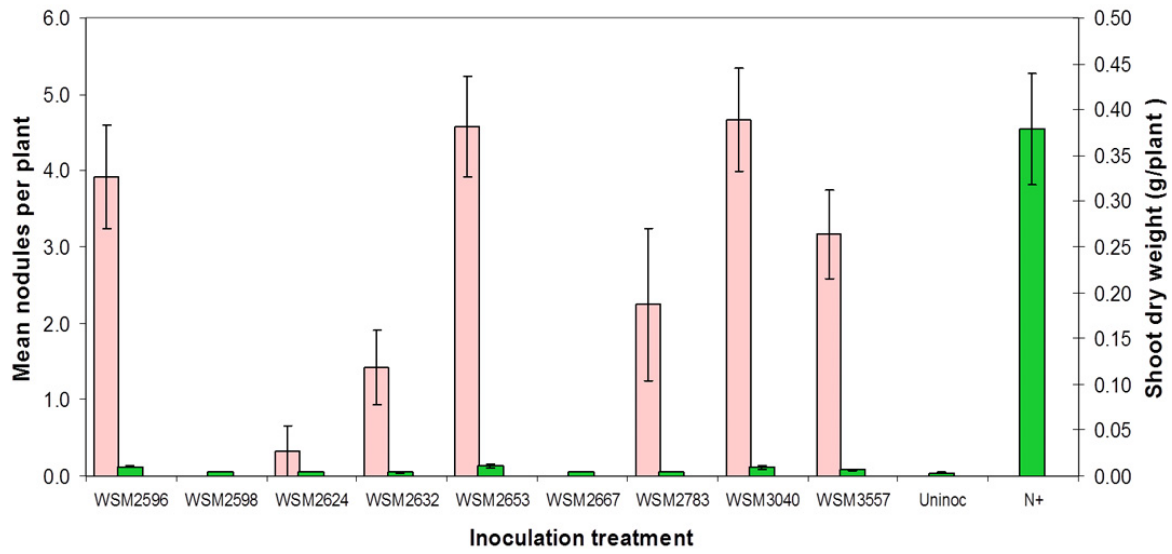


Fig. S1g (ii)

L. crumanina minus N+ control

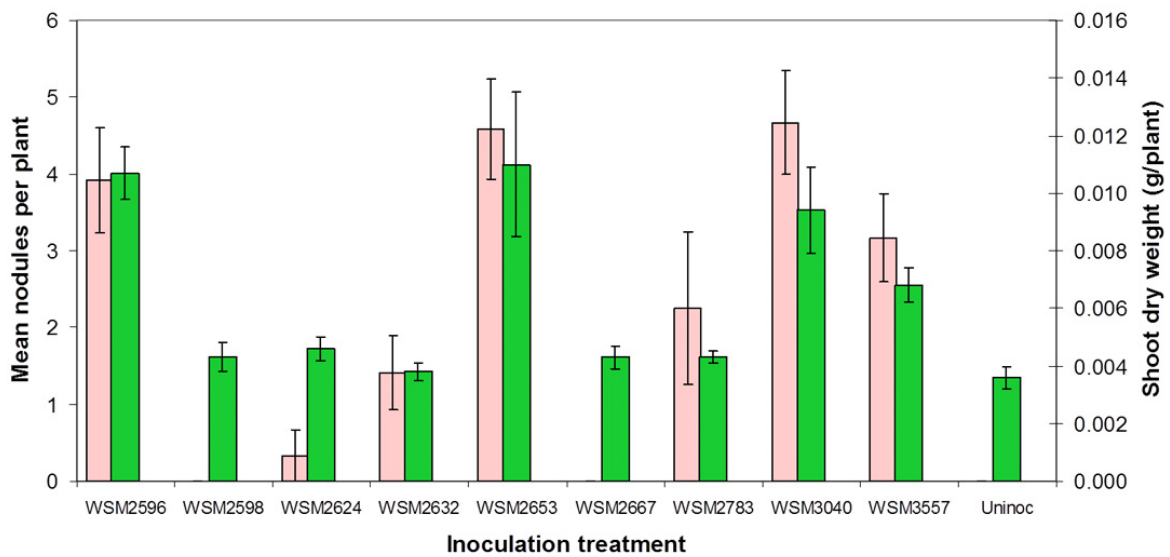


Fig. S1h (i)

L. falcata

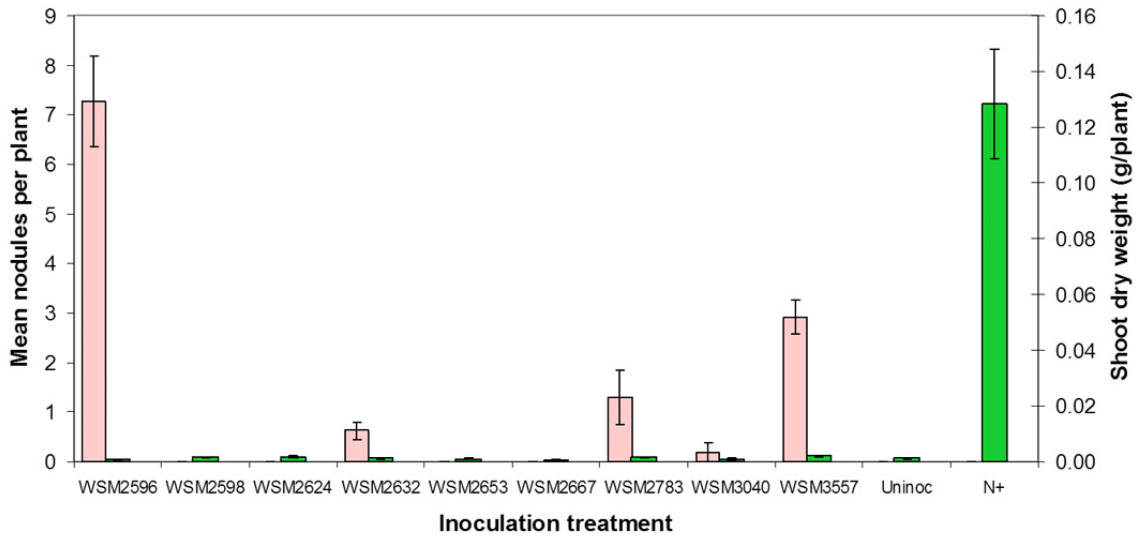


Fig. S1h (ii)

L. falcata minus N+

