

A close-up photograph of a branch of an Acacia (Wattle) tree, showing clusters of bright yellow, spherical flowers and green, lance-shaped leaves. The background is a soft-focus natural setting.

# NGO Industrial Environment Forum

## Acacia (Wattle) Research Supported

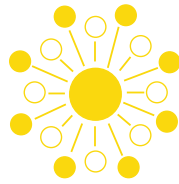
4 December 2008



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# Wattle Projects Supported



## New Mid West Wattles

- Sponsors: Gindalbie Metals Pty Ltd
- Authors: Bruce Maslin
- Commenced: 2006; Completed: 2008

## Understanding Mulga

- Sponsors: BHP Billiton Iron Ore, Rio Tinto Iron Ore, Fortescue Metals Group
- Authors: Bruce Maslin, Joe Miller, Margaret Byrne, *et al.*
- Commenced: 2006; Completed 2010 (?)

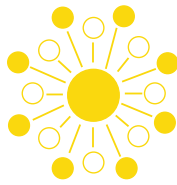
## Wattles of the Pilbara

- Sponsors: Robe River Iron Associates
- Authors: Bruce Maslin and Stephen van Leeuwen
- Commenced: 2004; Completed: 2009



# New Mid West Wattles

(Gindalbie Metals Pty Ltd)



**New Acacia species from  
Gindalbie Metals Pty Ltd iron ore  
leases on Karara Station and  
nearby areas, Western Australia**

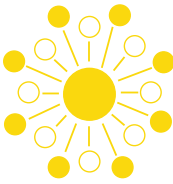


A Report Produced For  
**Gindalbie Metals Pty Ltd**  
By Bruce R. Maslin  
November 2008



# New Mid West Wattles

## (Gindalbie Metals Pty Ltd)



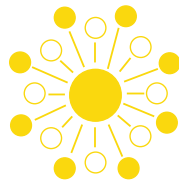
### Project Aims:

- Clarify the **taxonomic status** of nominated Acacia species on Gindalbie Metals' project area on Karara Station and nearby.
- **Describe** new species resulting from this study.
- Deliver **relevant information** in a user-friendly format for the new species.
- Assess the **conservation status** of the species



# New Mid West Wattles

## (Gindalbie Metals Pty Ltd)



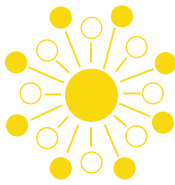
### Project Outcomes:

- Eight new *Acacia* species described
- Four scientific publications published (*Nuytsia* 2008)
- Four conservation taxa recognized:
  - *Acacia woodmaniorum* (DRF)
  - *Acacia sulcatacaulis* (Priority 1)
  - *Acacia karina* (Priority 2)
  - *Acacia diallaga* (Priority 2)
- Revision of *Acacia coolgardiensis* group completed
- Report prepared for Gindalbie Metals Pty Ltd



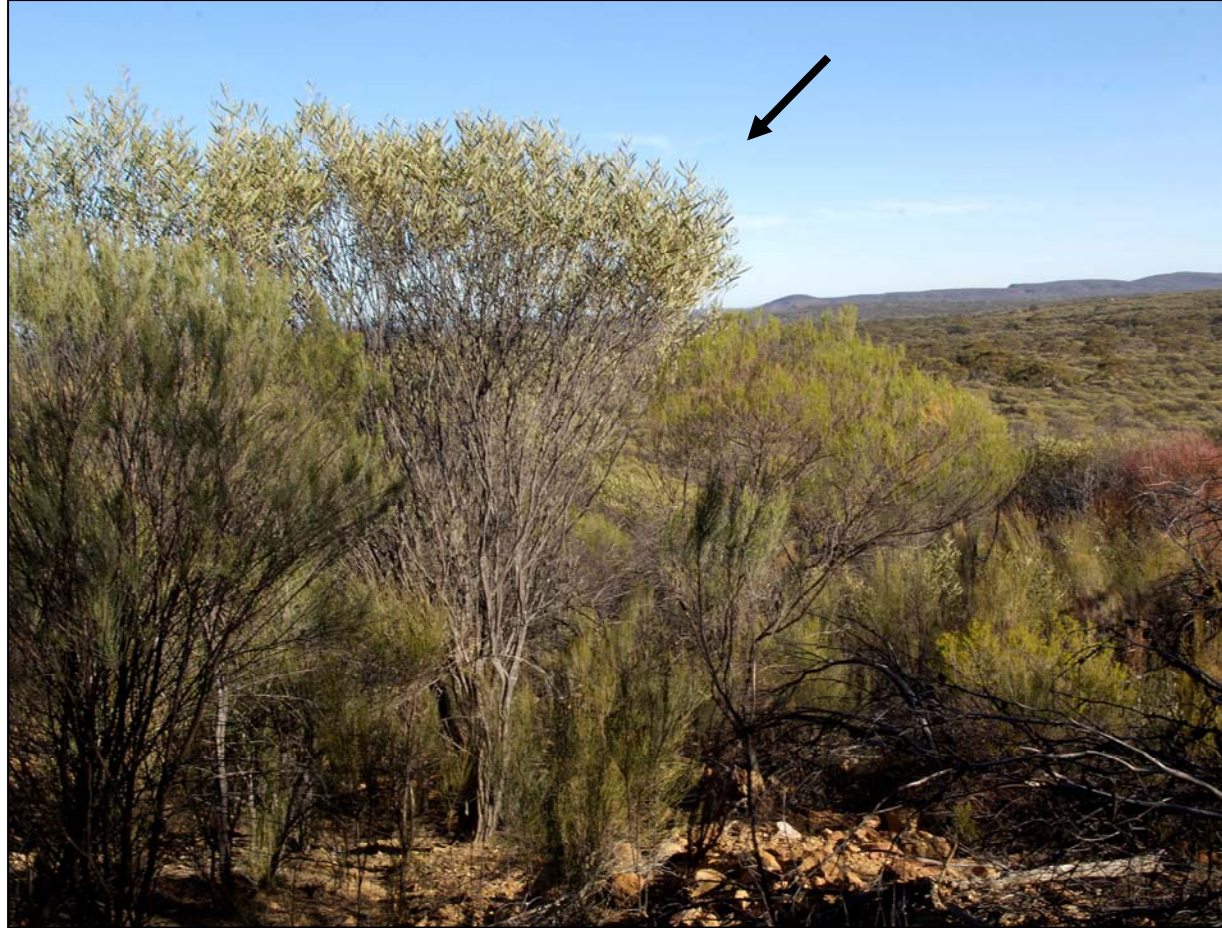
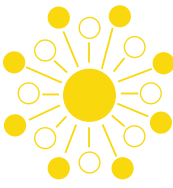
# New Mid West Wattles

*Acacia woodmaniorum*



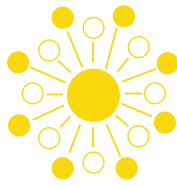
# New Mid West Wattles

*Acacia sulcata*

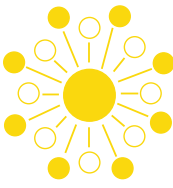


# New Mid West Wattles

*Acacia diallaga*







# Understanding Mulga

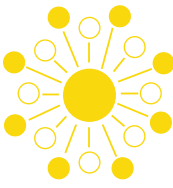
(BHP Billiton, Rio Tinto & Fortescue Metals Group)



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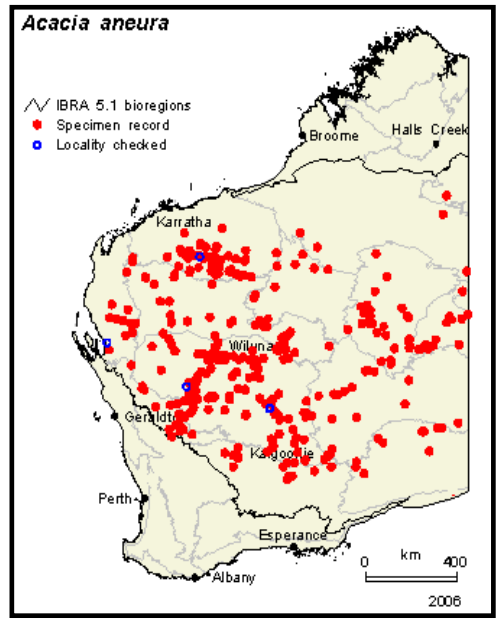
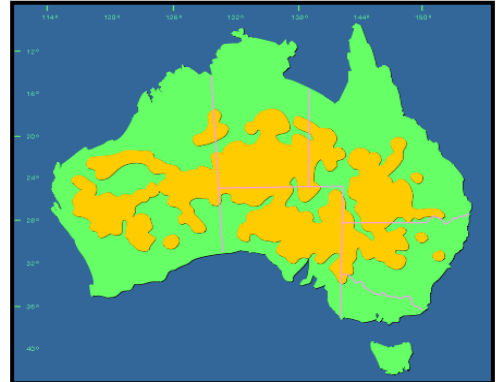


# Understanding Mulga

(BHP Billiton, Rio Tinto & Fortescue Metals Group)

Some characteristics of the Mulga group:

- Occupies 20 % of Arid Australia
- Highly variable complex (about 20-30 different morphotypes)
- Taxonomically the most difficult group of Acacias in Australia
- Taxonomy largely unresolved (despite Randell 1992; Pedley 2001)
- Variation occurs both within and between populations (intra-population variant is especially conspicuous)
- Populations form a complex mosaic across the landscape



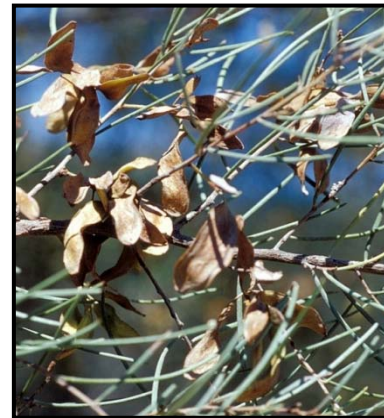
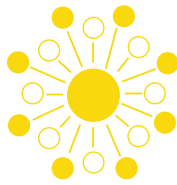
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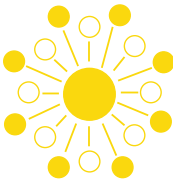
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# Understanding Mulga

## Intra-population variation





# Understanding Mulga

(BHP Billiton, Rio Tinto & Fortescue Metals Group)

## Project Aims:

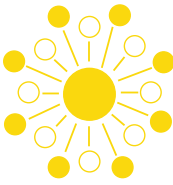
- Undertake **taxonomic revision** of Mulga in W.A. (define all taxa and describe new species)
- Determine **genetic factors** responsible for creating and maintaining the variation in W.A. Mulga
- Produce user-friendly, reliable electronic **identification key** to W.A. Mulga
- Produce *Mulga Manual* (both technical and simplified versions) that **describes, illustrates and maps** W.A. Mulga taxa and delivers **relevant information** (ecological, biological & utilization) concerning them
- Assess **conservation status** of W.A. Mulga



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# Understanding Mulga

(BHP Billiton, Rio Tinto & Fortescue Metals Group)

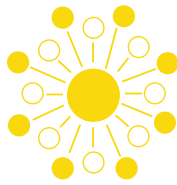
## Outcomes to date:

- Population studies of Mulga undertaken over much of its geographical range in W.A.
- Significant numbers of herbarium specimens (c. 900) and genetic samples (c. 1500) have been collected and processed
- Taxonomic scrutiny of specimens and analysis of genetic samples undertaken (work in progress)
- Broad conceptual framework for understanding Mulga has been established (3 main alliances)
- More than 20 Mulga taxa currently recognized within W.A.; descriptions commenced
- Collaborative partnerships established (resin, pod anatomy and ecology)
- Sponsors workshop held
- Websites (2) established and maintained



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# Understanding Mulga

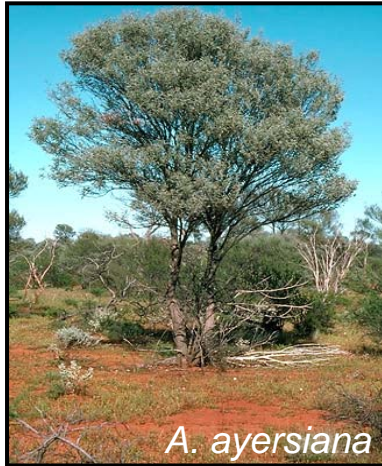
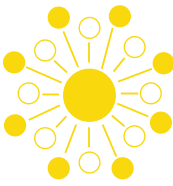


Mulga core group species: *A. aneura* (some varieties)



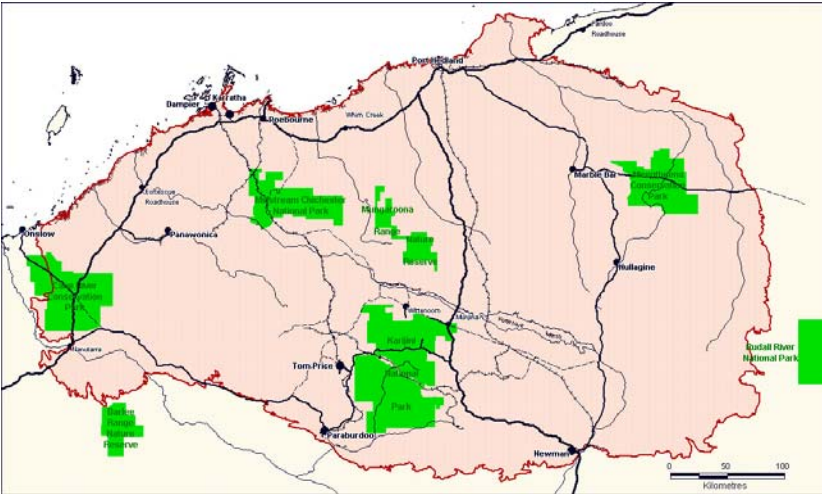
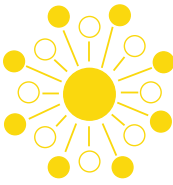
# Understanding Mulga

## Mulga core group species



# Wattles of the Pilbara

(Robe River Iron Associates)



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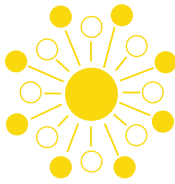
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# Wattles of the Pilbara

## (Robe River Iron Associates)



### Project Aims:

- Clarify the **taxonomic status** of all Pilbara Acacias
- Enable quick, easy and reliable **identification** of all Pilbara Acacias (electronic identification via CD)
- Enable **selection of appropriate species** for mine site rehabilitation and other revegetative plantings in diverse and degraded sites, i.e. what species to grow where
- Deliver **relevant information** (descriptive, ecological, biological, silvicultural, geographic and utilization) concerning Pilbara Acacias.
- Assess the **conservation status** and **weed potential** of Pilbara Acacias

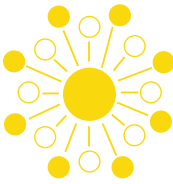


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# Wattles of the Pilbara

## (Robe River Iron Associates)



### Project Outcomes:

- Taxonomy of all Pilbara Wattles revised (about 120 different types)
- Ten new species and two new subspecies published in scientific paper (*Nuytsia* 2008)
- DEC *Bush Book* published providing user-friendly descriptions of 30 most common Pilbara Wattles
- *Landscape* article & brochure published (December 2008)
- CD produced providing quick, easy and reliable identification of Pilbara Acacia, plus photos, maps and information
- Comprehensive *Field Guide to Wattles of the Pilbara* almost finished (to be published in 2009)
- Web site established and maintained

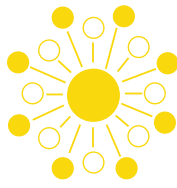


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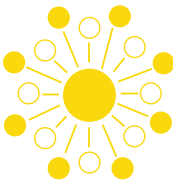
# Wattles of the Pilbara

*Acacia robeorum*



# Wattles of the Pilbara

*Acacia leeuweniana*




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# Lucid Key Demonstration

## *Wattles of the Pilbara*

