

FORTY YEARS AGO

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Nineteen thirty nine was a good year in Western New South Wales (though not an exceptionally wet one) and a wealth of herbaceous growth had transformed the arid zone into a fairyland of colour. Reports reached Sydney that many species which had not been seen for a couple of decades were in flower and that some new species might possibly be found.

Some enterprising member or members of the Linnean Society of New South Wales suggested that parties of botanists should visit the area to make collections. Two groups of people were selected, one consisting of four ladies who were to travel by car to Broken Hill, thence to proceed south to Wentworth and home by a southern highway. The other group, all male, was to proceed by car to Broken Hill and then travel northward to Tibooburra and the Queensland border, returning home by a northern route.

I was lucky enough to be included in this male party led by Mr W. A. W. de Beuzeville of the Forestry Commission, who drove us without mishap along the prescribed route. The others were Dr P. Brough, Senior Lecturer in Botany at the University of Sydney, and Trevor Langford-Smith (now Professor of Geography at the University of Sydney, then a post-graduate student in the Department of Geography) (Figure 1). For me, the trip was an historic one since, soon after our return to Sydney, the newly established Soil Conservation Service of New South Wales advertised for a botanist to work on a vegetation and erosion survey of the far west of the State. Having collected plants in this area I felt that I would have some qualification for such a job, though I was soon to realize that I was really poorly equipped. Indeed, in those days no ecology at all was included in the botany course and my knowledge of the grasses consisted of a superficial look at the awn of *Stipa* and the spikelet of a *Bromus*. However, the trip of 1939 provided me with a lot of new knowledge, including illustrations of vegetation patterns in relation to soil and climate, community structure, floristic composition, succession, the idea of transects and the impact of man and his domestic stock on the stability of the natural vegetative cover.

At this point the problems associated with vegetation survey work in 1939 and 1979 may be compared. Two major strides have been made in this forty-year period. Firstly, modern students are provided with a different kind of training which equips them better for field and conservation studies, broadly classed under 'ecology'. Secondly, field workers have available aerial surveys which are invaluable for mapping. Smaller advantages of today include a better network of roads and better road surfaces, refrigeration, lighter camping gear, plastic bags and bottles, motels and caravans. But some of these have disadvantages for the modern ecologist, especially the high-speed roads which enable us to travel at such a rate that the driver, at least, and possibly the passengers, see nothing but bitumen, sometimes viewing the vegetation through the side windows as long rectangles of green.

The first part of our trip was 'modern' in so far as we sped westward to reach the plains, stopping only for essentials until we had left Dubbo. Thereafter, the mid-western eucalypts (chiefly Bimble Box—*E. populnea*) were accompanied by such tall shrubs or small trees as Myall (*Acacia pendula*, on more clayey soils), Wilga (*Geijera parviflora*), Warrior Bush (*Apophyllum anomalum*), Belah (*Casuarina cristata*), Yarran (*Acacia homalophylla*) and Wild Orange (*Capparis*

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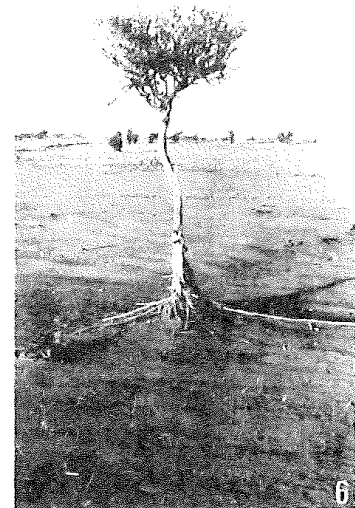
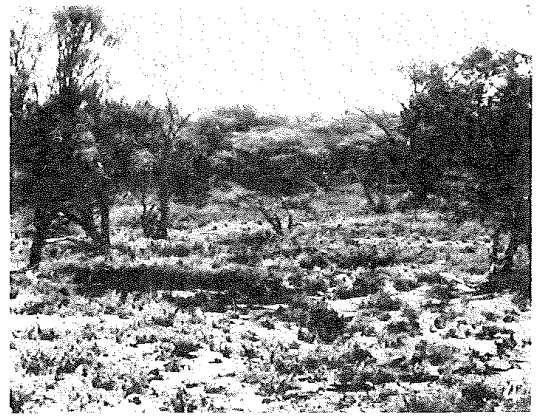
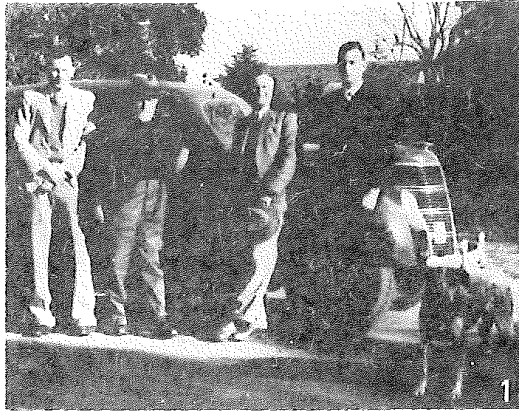


Figure 1. The members of the 1939 collecting trip (left to right: N. C. W. Beadle, W. A. W. de Beuzeville, P. Brough, T. Langford-Smith).

Figure 2. The highway, 50 miles [80 km] West of Cobar. Mulga scrub with *Heterodendrum oleifolium* and occasional trees of *Flindersia maculosa*.

Figure 3. The Darling River at Wilcannia.

Figure 4. Belah, with Mulga scrub behind. Dolo Hills area.

Figure 5. Tillite hill. *Atriplex vesicaria* and *Sclerolaena longicuspis*. Near Yanco Glen. Note Mulga on hills.

Figure 6. Soil erosion by wind; a lonely Mulga. Between Cobham Lake and Milparinka.

mitchellii). Shortly before we reached Cobar we saw our first Mulga (*Acacia aneura*) and we saw, as well, around the town of Cobar, the devastation of the Mulga country through the activities of mining companies. Fortunately, these devastated stretches of red-brown soil (some of it shiny and impervious to water as a result of the removal by erosion of the A horizon) have been revegetated over the years, partly through better mine-management and partly by the exclusion or control of stock from the degenerate scrubs which formerly covered the town common.

We left Cobar on a dirt highway (Figure 2), aiming to reach Wilcannia by nightfall. The distance to be travelled was 178 miles [285 km] and the road was uniformly bad all the way, rough and dusty, but now replaced by a magnificent 2-4-lane speedway. We travelled through scrubs of Mulga and Belah with occasional patches of Leopard Tree (*Flindersia maculosa*), except for the treeless expanses towards the west where the countryside was carpeted by everlasting daisies (*Helipterum polygalifolium* and *H. floribundum*).

We crossed the Darling at dusk (Figure 3) and spent an uncomfortable night at the hotel in Wilcannia.

The road to Broken Hill was gravel and very dusty, carrying more traffic than the highway between Cobar and Wilcannia. We passed through many miles of Mulga scrub on gently undulating sandy country. The Dolo Hills (Figure 4) broke the monotony of the almost level terrain, but we soon plunged back into the Mulga where emus and kangaroos provided welcome diversions. A treeless tract of Perennial Saltbush (*Atriplex vesicaria*) on flat clayey country presented another change in scenery and flora, as did also the woodland of River Red Gum (*Eucalyptus camaldulensis*) edging Yancowinna Creek.

We viewed more hills as we approached Broken Hill, located on the Barrier Range which was once "covered with dense low woodlands of Mulga" (so we were told by an old lady who had lived in the area since the ore was discovered last century). The range is a refuge for many rare plant species, as are most ranges of the inland. It was difficult to understand how such bareness could be caused by the continual removal of trees by the axe, the timber being in demand for the lead-zinc ore mines and as fuel for the inhabitants of the Silver City, with a population of c. 30,000 in 1939.

This devastation of trees led to an erosion problem. The unstable red-brown sandy soil, being unprotected, was blown into the city to the irritation of the inhabitants. However, at the instigation of a professional metallurgist, the late Albert Morris, who was also an amateur botanist, fences were erected in 1937 on the western side of the city to exclude stock and to promote regeneration (see Morris, 1939). Another illustrious name associated with the Mulga is that of Miss Marjorie Collins (later Mrs Shiels) who ventured to the far west in the early twenties and, with headquarters at Corona Station, which lies northwest of Broken Hill, surveyed botanically part of the Barrier Range (Collins, 1923). Later she did a similar survey of the Grey Range (Collins, 1924) which lies further north and which we were to visit during the following week.

We left Broken Hill at noon for our adventure north. The bare hills of the Barrier Range lay to the west and the few Mulga trees on the ridges were the last remnants of the scrub. A camel team which had dragged a load of firewood some 50 miles into the city provided evidence of the fuel shortage. We had planned to reach the Fowlers Gap hotel that night, a journey of about 70 miles [112 km] north of Broken Hill. The range with its scattered Mulga lay to our left, the gibber plains with saltbush to the east (Figure 5) and we collected plants copiously from the two communities. Drying the specimens became a major problem. All the plants were literally full of water and many had succulent leaves. We had not counted on this and had not taken enough drying paper with us. Being the junior botanist, it fell to my lot to dry the specimens and most of my time of an evening was spent desiccating newspaper in front of the fire in the hotels.



Figure 7. Gidgee (*Acacia cambagei*) near Milparinka.

Figure 8. The tanksinker and his donkey team in degenerate Mulga country near Tibooburra.

We crossed several dry creeks edged with River Red Gum and finally reached Fowlers Gap Creek with its woodland of trees and a stone house on its northern bank. The house, a 2-roomed structure with a waterproof iron roof, was then an outstation of Corona and was occupied by a boundary rider. Later, the block of land was taken over by the Department of Conservation as a research station (see Mabbutt, 1973) when it was occupied periodically by groups of students from the University of New England. Some 15 years ago a wall of water which overtopped the eucalypts edging the creek destroyed the house, fortunately unoccupied at the time. This creek flows into Lake Bancannia, which we were to see the following day.

It was dark when we reached the Fowlers Gap hotel, but we could see that its days were numbered. Hotels along this road were located about every 20 miles [32 km] to provide for people travelling by horse-drawn vehicles. The one at Euriowie, once a tin-mining town, located some 40 miles [64 km] north of Broken Hill, had been abandoned several years before. The hotel at the Gap provided us with good meals and satisfactory accommodation. Apart from a lamp for the lounge and one candle for each room, we had no lights and the specimens had to sweat in the wet papers till lunch time the following day.

The most memorable view on the journey northward to Milparinka was the vast area of purple pea (*Swainsona swainsonioides*), which dominated the plain north of the hotel. We calculated a sheet of purple of 18 square miles [c. 50 sq. km]. The plants were copiously nodulated with rhizobial nodules.

The road led us past Lake Bancannia, with a fine supply of water complete with sea gulls on a "holiday" from the coast. The mud supported a community of the rare Australian liquorice (*Glycyrrhiza acanthocarpa*). Then more Mulga scrub (much with bad erosion, Figure 6), and saltbush downs until we reached the one-time mining town of Milparinka, which once had a population of c. 3,000 people.

The hotel, which provided travellers with meals at 2/6 each and a bed for 2/6 (i.e. 10/- or \$1 per day), was owned by Mrs Bonnet, a delightful old lady with long experience in the west and a love for people in general and for her country. In spite of isolation and duststorms, the hotel was meticulously kept and the meals were beautifully cooked and served in a dining room with linoleum-covered walls. Mrs Bonnet told us much about the country, emphasizing its one-time splendour and its destruction by over-grazing, mainly by sheep and later by rabbits, towards the end of last century. I remember in particular her description of the waters of Evelyn Creek, on which Milparinka stands, and of the fish that one could catch there. The creek is now full of sand. In 1939, Milparinka had a population of five people, which dropped to four when the old lady died. However, her son restored the number to five when he married. The town, built largely of stone, is now in ruins.

We were directed to Preservation Creek, where Sturt's party was stranded for 6 months and James Poole died of scurvy and was buried below a Beefwood Tree (*Grevillea striata*). There is an outlier of Gidgee (*Acacia cambagei*) on the creek, the species occurring in this area near its southern and western limit (Figure 7).

Tibooburra lies only 20 miles [32 km] north of Milparinka, and we arrived at this outpost before nightfall. The town had a main street and a few other buildings. It seemed a long way from the rest of the New South Wales towns, but was (and still is) a home for a couple of hundred people and a civic centre for many more, including Queenslanders. Many were living in isolation in the district, using old-fashioned techniques to sustain life, such as donkeys as draught animals (Figure 8). The town is located within a granite outcrop, the granite being gold-bearing. The gold is no longer abundant enough to cause a gold-rush, but from time to time small nuggets may be found after rain has fallen. Lack of water in the area precludes panning.

The granite outcrops support outliers of the tropical and subtropical *Eucalyptus terminalis* (Desert Bloodwood), which occurs in open woodlands or scattered clumps or as individual trees in the rugged terrain (Figure 9). A small gully, named at that time "Dead Horse Gully", was a refuge for rare species and at the same time a riot of colour produced by the yellow-flowered *Sida virgata* and the scarlet *Clianthus formosus*. Other unusual or rare species in full flower were *Prostanthera striatiflora*, *Podocoma cuneifolia* among the rocks, and *Gnephosis eriocarpa* forming mats on the sand of the valley floor.

A trip to the Grey Range, another isolated refugium, and to the border fence completed our stay in the area. An aboriginal water hole (Figure 10) on the range attracted more attention than the vegetation, with which we were now becoming familiar. The border fence (Figure 11) has been erected along the state border to restrict the migration of noxious animals, rabbits moving northward and dingoes southwards. The fence is over 2 m high, the lower part being small mesh wire-netting, the upper part of larger mesh.

Our route back to Sydney took us firstly along the border fence across the Bulloo Overflow, a number of large claypans that fill with water when the Bulloo River spills out into New South Wales. There was little water to be seen and the road was easily negotiated—indeed even a speedway across the clay flats.

The plant communities were similar to those we had seen to the south on our forward journey. Mulga dominated much of the area and *Eucalyptus populnea* began to re-appear in depressions. One major difference, as we approached Wanaaring, was the occurrence in this predominantly summer-rainfall zone of *Acacia cambagei* (Gidgee), forming woodlands some 10 m tall. As is usual under humid or moist conditions, the phyllodes were emitting their offensive odour.

We stayed the night at a comfortable hotel at Wanaaring, and the following morning we lingered to examine the Paroo River. The road to Bourke led us through stands of Mulga, Gidgee and Belah, and we crossed the Darling River at Bourke into what one may call "closely settled" country.

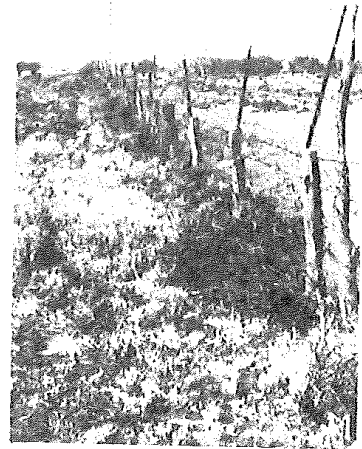
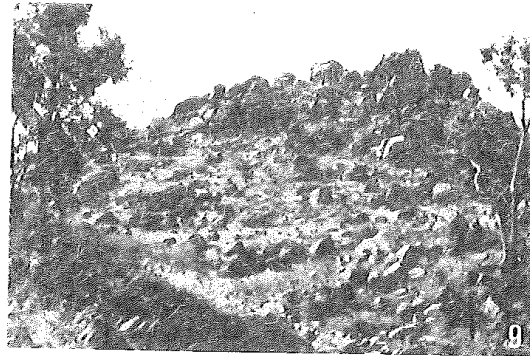


Figure 9. Granite boulders at Tibooburra. *Eucalyptus terminalis* on left.

Figure 10. Aboriginal rock waterhole.

Figure 11. Border fence near Fort Grey Gate.

Our collection consisted of almost 300 species and the trip had provided us with two transects across New South Wales and a wealth of experience which laid the foundation of my *Vegetation of Western New South Wales*, published in 1948.

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