

ments. There were 25 at one end of the bower and 9 at the other.

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It is unfortunate that my observations on the Great Bower-bird had to be carried out without reference to the literature existing on this and other species of Bower-birds. However, Norman Chaffer's paper, 'The Spotted and Satin Bower-birds: A Comparison'—*Emu*, 44, p. 161—reached me a short time before I left the Northern Territory and drew my attention to an interesting fact, namely the habit of zoning ornaments possessed by the Spotted Bower-bird. This habit appears to be general with the Great Bower-bird and was certainly well exemplified by the only bower (bower K) which I had under observation at the time. At this bower flakes of bone and glass were arranged in the centre and close to each end. The heaps of snail shells were a little further removed, while a few kangaroo bones were scattered on each side of the bower and remotely at each end. A few small round green fruits were arranged close to each end of the bower, but had the appearance of being much less permanent than the flakes of bone and glass already mentioned as being in that position.

Pacific Gulls and Mussels.—Many observers have watched Pacific Gulls (*Gabianus pacificus*) dropping shell-fish from a height on to the rocks in order to break them open. In volume 42 at page 181 of *The Emu* I described the actions of an immature Pacific Gull with a mussel, at Parkdale, Vic., dropping the mussel and catching it again before it reached the shore. Since then I have watched Pacific Gulls on many occasions dropping mussels on to rocks, roads and hard-packed sandy beaches.

Recently, at Fishermen's Bend, after a bird dropped a mussel on hard sand, broke the shell, and made a meal of the contents, I gathered the remains of the shell and found that the mussel had broken across the pointed end. Other observations at St. Kilda and Rickett's Point all showed the mussel breaking in the same way.

At Rickett's Point the mussel was dropped on the rocks, but the gulls at St. Kilda are more modern in their methods. They use the bitumen roadway along Marine Parade and dodge speeding motor cars and other vehicles in the process. The height from which the mussel is dropped is from 20 to 60 feet. Sometimes a strong wind interferes with the fall, and instead of hitting the sand or the rocks the shell-fish drops into the sea. From shallow water it is quickly retrieved and dropped again and again until it is broken open. Some mussels take a number of drops before breaking, but the Pacific Gull usually persists until the shell is completely broken and the contents exposed.—ROY WHEELER, Windsor, Vic., 26/11/45.