Male cockatoos' 'bro-code' means winter buddies become spring nesting neighbors

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Ever thought bird friendships mattered for real estate? For male cockatoos, winter social circles surprisingly dictate where they build their spring nests, proving that even in the wild, your buddies can be

your best neighbors.

Come nighttime, hundreds of these snowy-white birds wheel into the same tall gum trees in Sydney parks. By day, they spread out and forage, but by dusk, the flock settles into giant communal roosts. And all the while they mingle—no bird is an island in winter. A new study has found a surprising twist—come spring, male cockatoos often nest near the friends they made months earlier.

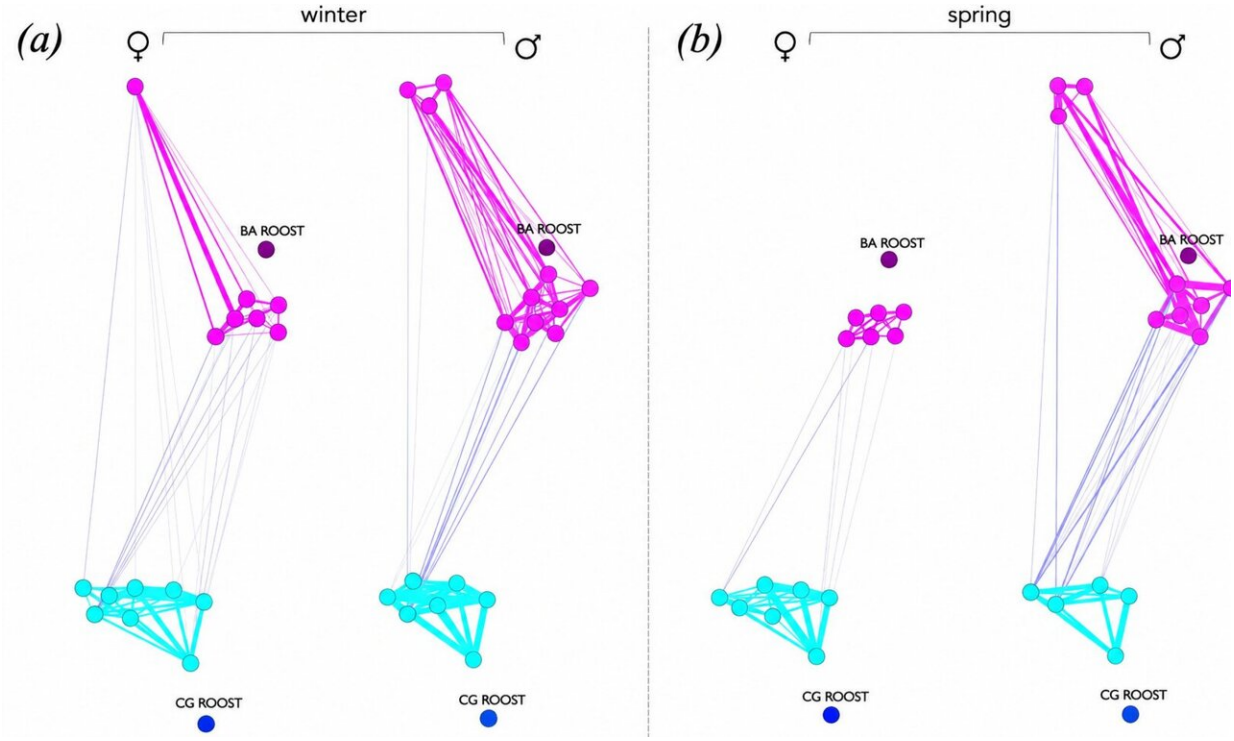
"Males, but not females, tended to breed in closer proximity to individuals with whom they shared stronger foraging associations," report Julia Penndorf and colleagues in their article published in *Biology Letters*. In other words, many cockatoo bachelors end up nesting near the birds they spent last winter with—even though the females do not.

Roosts, hollows, and a social puzzle

These parrots are cavity nesters: They need large, old hollows in gum trees to raise chicks. In the city, those tree holes are rare, yet the cockatoos don't defend big territories. Instead, when spring arrives, each mated pair simply grabs a nearby available hollow. Crucially, all birds started the year sharing the same two urban roosts (at Balmoral Beach and Clifton Gardens parks), effectively "resetting" spatial constraints.

Penndorf's team took advantage of this. In winter (July) and spring (September) 2019, they observed two flocks of ~375 color-marked cockatoos. Using repeated presence scans, they mapped who spent time with whom in each season and tracked exactly which tree hollow each pair occupied in breeding season.

This setup let them ask: do winter "friendships" predict spring nesting neighbors, even when breeding sites aren't limited by defended territory?



Social networks for females and males in winter (a) and spring (b). Social networks show roost members of BA in pink (roost site in maroon) and CG in azure (roost site in dark blue). The relative position of nodes represents the geographical location of occupied nest hollows, and the edge weight represents association strength between individuals. Males, but not females, exhibited strong social associations with nearby breeders, with this observed in both seasons. Credit: *Biology Letters* (2026). DOI: 10.1098/rsbl.2025.0832

Friends and neighbors?

The answer came back loud and clear—for the males. Birds that foraged together in winter tended to end up as neighbors on nests. In plain terms, Mr. Cockatoos picked mates from their winter buddy lists. Penndorf notes that this pattern implies choice, not chance: "Our results demonstrate carry-over between these social networks and the fine-scale

arrangement of breeding individuals"—a pattern "consistent with an active choice to retain stable, across-context social relationships."

By contrast, the ladies of the flock played by a different rulebook. Female breeding success was linked not to who they knew, but to rank: dominant females were more likely to secure a nest hollow (though those hollows were not clustered by friendship). In short, social ties shaped spring locations for the males, but not for the females.

Why just the males?

There is one clue—these parrots are sex-segregated in wanderlust. Many male cockatoos stay near their natal roost year-round and habitually flock with relatives, while females are the ones that disperse. The authors suggest that male cockatoos may deliberately nest near familiar neighbors—perhaps to help defend hollows. They may also benefit from shared vigilance against powerful owls and other nocturnal predators.

With multiple eyes and ears focused on the task, the chances of detecting a threat would improve. As male cockatoos sleep outside the nest hollow at night and females inside, having familiar males could add security and social support while the cockatoos are threatened while asleep during the choice period.

A map of the study site. Pink points indicate the nest hollows at the Balmoral Beach (BA) roost site, while blue points indicate the Clifton Gardens (CG) roosting area. Colored circles are nest hollows where the ID of both breeding individuals was known; triangles are nest hollows where the ID of the breeding male was known; diamonds are nest hollows where the ID of the breeding female was known; and empty circles are nest hollows where neither individual was identified. Credit: *Biology Letters* (2026). DOI: 10.1098/rsbl.2025.0832

Beyond the nest

The work opens new questions as well. Because cockatoo social groups are so stable, the team couldn't tell if males intentionally chose familiar neighbors or simply ended up next to kin. Kinship itself wasn't measured (though earlier work shows these parrots prefer kin company). And only a subset of breeding birds was identified. Still, the findings hint at real benefits: neighboring friends might cooperate to fend off tree-robbing possums or rival cockatoos attempting to take over their valuable nest sites.

More broadly, this research illustrates that even noisy urban parrots have complex social lives featuring friendships that persist through the seasons. As stated by the authors, such carry-over "helps disentangle the complex relationship between spatial structure and social networks in wild populations." To sum up, the choice of a cockatoo's site to nest at can be a social decision. Winter friendships can literally impact where one's spring neighbors are located.

More information: Julia Penndorf et al, Sex-dependent carry-over between winter social associations and breeding proximity in a communally roosting wild parrot, *Biology Letters* (2026). DOI: 10.1098/rsbl.2025.0832

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