A Synthesis of Wild and Captive Cockatoo Diets: Integrating Historical and Contemporary Data Sources

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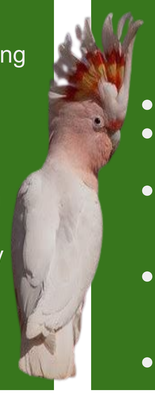
Introduction

Many captive parrots are affected by malnutrition due to being fed inappropriate diets. Despite nearly a century of keeping captive parrots, such as Cockatoos (Psittaciformes: Cacatuidae), knowledge of their wild dietary habits remains limited. As noted in “Parrot Dietary Habits and Consumption of Alternate Foodstuffs,” only 38.1% of Cockatoo species’ wild dietary habits are relatively “well-resolved,” and none of the five IUCN Endangered or Critically Endangered Cockatoo species fall into this category (Voltura et al. 2023). This is because existing information on the subject is sparse and/or scattered. The present project seeks to address this gap by identifying, collecting, and integrating historic and contemporary global sources of information relevant to Cockatoo diets both in the wild and in captivity.



Methods

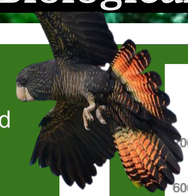
The project began by systematically reviewing The Parrots’ Project Library for all references pertaining to the diets of the 21 species of the family Cacatuidae and digitizing materials not otherwise available online. This hybrid physical and digital archive aims to gather and preserve a variety of sources of information related to parrots, including avicultural journals dating back to the early 1900s, veterinary case reports, peer-reviewed literature, citizen science records, and photographic collections. Undergraduate students at Texas A&M and St. Xavier Universities spent the fall 2025 semester extracting data from various sources on what wild and captive Cockatoos have been reported to consume. To organize the collected data, we used a structured spreadsheet to document what Cockatoos have reportedly consumed, including factors such as Cockatoo species, observation type (i.e., captive diet, experimental data, or wild observation), geographic location, seasonality, and specific food items consumed (i.e., Kingdom, family, genus, species).



Results

During the fall semester of 2025, a total of 39 students reviewed 156 sources, which revealed at least some data on of all 21 species in 7 genera. 2,188 entries were recorded.

- 78.29% of findings reported presence of foodstuffs, while 21.71% reported abundance.
- 34.83% of reports included seasonal or temporal data.
- 61.70%, 1.92%, and 36.38% percent of findings were reports of dietary habits of wild, feral, and captive Cockatoos, respectively.
- Of the items consumed, 88.57% were plant material, 5.26% animals or animal products, and 4.98% human-derived or processed foods.
- 80.22% of foods consumed represented reproductive plant parts, while the other 19.78% are considered alternative foodstuffs.
- 83 different plant families are represented.
- Of the insects consumed, 34.65% were in the order Coleoptera, 9.90% Lepidoptera, 5.94% Orthoptera, 4.95% Diptera, 4.95% Hymenoptera, 1.98% Blattodea, and 37.62% were unidentified.
- 22.49% of entries included data on phenology.
- 77.56% of entries were from primary sources while 22.44% were from secondary sources.
- Captive Cockatoos consumed 50 families of plants. Entries recorded 75.30% plants, 7.40% non-plant foods, and 17.30% processed foods
- Wild Cockatoos consumed 64 families of plants. Entries recorded 93.93% plants, 5.85% non-plant foods, and less than 1% processed foods
- Sources range from 1949-2025







Discussion

This classification highlights the diversity of natural and anthropogenic resources outside of the expected diets of reproductive plant parts exploited by captive and wild Cockatoos. This reflects patterns of dietary flexibility documented in studies of alternative foodstuff consumption in parrots (Voltura et al. 2023). Captive Cockatoos consume diets with significantly less plant diversity and rely on different plant families compared with their wild counterparts. In captivity, diets are often dominated by a few families of plants such as corn, soy, and wheat, which may serve as convenient proxies for natural foods but substantially limit dietary diversity. While both captive and wild diets often provide similar energy intake and macronutrient composition, the foods eaten by wild versus captive Cockatoos likely differ markedly in their micronutrients, trace elements, and phytochemical profiles, with potential implications for health and physiology. Additionally, captive Cockatoo diets have a higher proportion of processed foods, like cereals, and animal products such as milk. While some of these can serve as proxy for Cockatoo dietary needs that are difficult to obtain otherwise, the increase in processed foods likely impacts the physiology of captive Cockatoos. More data continues to be collected as to better resolve dietary patterns and expand the scope of included data, including photographs from wildlife photographers and citizen scientists.

Voltura EV, Brightsmith DJ, Cornejo J, Tizard I, Bailey CA, Heatley JJ. Parrot Dietary Habits and Consumption of Alternate Foodstuffs. J Avian Med Surg. 2024 Jan;37(4):297-313. doi: 10.1647/20-00028. PMID: 38363162.
iNaturalist Community. Cockatoo observations and photos. iNaturalist. https://www.inaturalist.org/observations?taxon_id=119157 (accessed on January 14, 2026).

Figure 1: Count of Foodstuffs Reported Being Consumed by 7 Cockatoo Genera

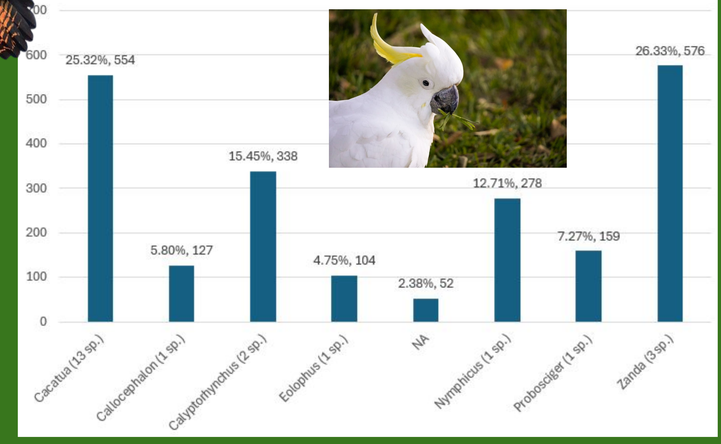


Figure 2: Kingdom or Origin of Consumed Item

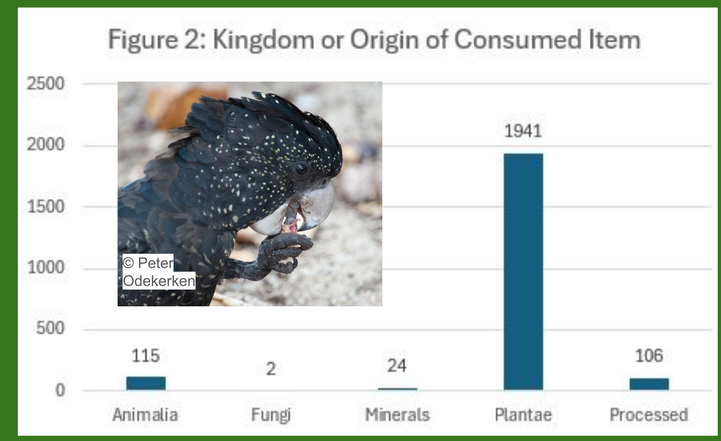


Figure 3: Count of Food Types Consumed

