

COLEOPTERA AND THE NIKAU PALM (*Rhopalostylis sapida*)

By J.C. Watt

INTRODUCTION

The main purpose of this paper is to draw attention to an ecological topic which would doubtless repay further research.

The Nikau Palm, *Rhopalostylis sapida*, provides a habitat for a large number of animals. Powell (1946) has drawn attention to the fairly large number of species of small land Mollusca commonly found in Nikau groves. Hudson (1934) mentions four species of cossonine weevils, namely *Arecocryptus bellus* Brn., *Stenotrupidis wollastonianum* Sharp, *S. debilis* Sharp, *Arecophaga varia* Brn., which he says are commonly found associated with the Nikau.

In addition to molluscs and beetles, the writer has observed Turbellaria, Isopoda, Amphipoda, Arachnida, Myriapoda, Annelida, various other Insecta and even a small vertebrate (mouse) in Nikau groves, on or in the palm itself, amongst the leaf litter below, and especially in the sheathing portion of the fallen leaves.

The present information concerns only Coleoptera, but in a full study of the ecology of these it would be necessary to consider the other animals as well.

COLEOPTERA

Those species included in the following list have been grouped, somewhat arbitrarily into three categories, i.e. "definite associates", "possible associates" and "occasional visitors". "Definite associates" are species that are generally found associated with the Nikau, but rarely, if ever, found in other habitats. "Possible associates" are doubtful cases, concerning which further evidence is required. "Occasional visitors" are species occasionally found on the Nikau but known to frequent other habitats as well.

Key to Abbreviations

- A: found on palm itself, generally between the sheathing bases of the leaves and the trunk
- B: found on fallen leaves on ground, generally on the inner surface of the sheathing portion
- C: found in tissues of leaf bases
- D: beaten from growing leaves

Key to Localities

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| 1. Ohau, Hunua Ranges | 7. Great Barrier Island |
| 2. Bethells Beach | 8. Kawau Island |
| 3. Swanson | 9. Mount Manaia, Whangarei Heads |
| 4. Tawharanui, North Auckland | 10. Butterfly Creek, Wellington |
| 5. Moumoukai Valley, Hunua Ranges | 11. The Needles, near Cape Colville |
| 6. Anawhata | 12. Hen Island |

'Definite Associates'

Cryptomorpha sp. (Cucujidae): AB: 2, 4, 6, 7, 8, 9, 11.

Arecopais spectabilis Brn. (Anthribidae): ABD: 1, 2, 3, 4, 5, 6, 9, 11.

Arecocryptus bellus Brn. (Cossoninae): ABC: 1, 2, 3, 5, 9, 10, 11, 12.

"Possible Associates"

Epuraea zealandica Sh. (Nitidulidae): B: 5, 9, 12.

Xenoscelis prolixus Sh. (Erotylidae): AB: 2, 3, 6, 7.

Lorelus sp. (Tenebrionidae): AB: 2, 6, 7.

Stenotrumpis wollastonianum Sh. (Cossoninae): B: 10.

'Occasional Visitors'

Omalius sp. (Staphylinidae): B: 2.

- Leperina brounii* Pasc. (Trogositidae): B: 7.
Carpophilus hemipterus L. (Nitidulidae): B:6.
Cryptamorpha nrsuturalis Wh. (Cucujidae): B:6.
Nosodendron sp. (Nosodendridae): B: 5.
Anthicus aucklandicus Pic. (Anthicidae): B: 4.
A. obscuricornis Brn (Anthicidae): B: 2.
Saphobius squamulosus . Brn (Scarabaeidae): B:4.
Sericospilus sp. nov. (Scarabaeidae): B:11.
Xylotoles inornatus Brn. (Cerambycidae): B:7.
Xylotoles sp. (Cerambycidae): B:11.
Somatidia antarctica Wh. (Cerambycidae): B:6.
Stephanorrhynchus lawsoni Sh. (Eugnominae): D: 6.
Pactola sp. (Eugnominae): B: 9.
+ 5 species not determined.

All the above specimens are in the writer's personal collection. Many specimens from the preceding and other localities have not yet been examined, but the list probably includes most of the definite associates, at least those occurring in the vicinity of Auckland. In the absence of an accurately named reference collection, determinations are based largely on the original descriptions. When the identity of a species is in doubt, only the generic name has been given.

DISCUSSION

It will be noted that the the majority of species collected were found on the inner surface of the sheathing portion of fallen leaves. Probably most of the occasional visitors had entered this habitat in order to obtain shelter, or to feed on the fungi or animals that generally occur there.

Arecocryptus bellus, both larvae and adults, are found very frequently within the tissues of the fallen leaves, on which they no doubt feed.

Cryptamorpha, *Arecopais spectabilis*, *Eपुरaea zealandica*, *Lorelus* and *Xenoscelis prolixus* are probably phytophagous or

saprophagous, judging by the known feeding habits of relatives. Most of the occasional visitors have similar feeding habits, but whether they entered the fallen leaves for shelter or to feed cannot be stated in any particular case, although shelter provides the most probable explanation.

SUGGESTIONS FOR FURTHER RESEARCH

- Intensive collection and observation is required to:
- (a) Confirm or deny the association between possible associates and the Nikau.
 - (b) Establish the exact nature of the association between the definite associates and the palm, e.g. feeding habits of larvae and adults.
 - (c) Establish the relationships between other Nikau associates and the beetles, if any, e.g. predator-prey relationships.
 - (d) Confirm the theory that most occasional visitors enter the sheaths of fallen leaves for shelter rather than food.
 - (e) Discover any other facts which may throw light on the above problems.

REFERENCES

- Hudson, G.V., 1934: *New Zealand Beetles and their Larvae*, 156-157, Ferguson & Osborn Ltd., Wellington.
- Powell, A.W.B., 1946: *The Shellfish of New Zealand*: 45, Whitcombe & Tombs Ltd.,