

NEW MICRO-BALANIDS FROM TONGATABU

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The material* derived from the coast of the island Tongatabu, near its capital:

Nukulofa. It was stored in the Hungarian Geological Institute and in 1960 got into the author's hands. The collector is unknown. The material is a deposit of coral-sand and, as originating from an area inside the 70° F isotherm-line, it consists of numerous reef-structure components. The rests of deposit building animals derived from corals, *Foraminifera*, *Mollusca*, sea urchins, lobsters and are associated with calcareous algae (*Lithothamnium*). In this work author deals only with the Balanids. These represent a strikingly minute micro-fauna which also in the original coral-association followed a hidden course of life and therefore it contains several novelties. This Balanid-association may be termed as *Balanoamphitrite-trigonetum*.

As dominant species occurred a new subspecies of *Balanus amphitrite* DARWIN: *Balanus amphitrite tongaensis* *subspec. nov.* As subdominants *Balanus trigonus* DARWIN and an exactly undeterminable *Tetraclita* species were found. As influents species *Balanus dentifer* BROCH and a new *Balanus* species: *Balanus gizellae* *spec. nov.* were to be found. It occurred also several indeterminable fragments. Subinfluents were *Balanus tintinnabulum* (LINNÉ), *Tetraclita pacifica* PILSBRY and two new species: *Balanus tuboperforatus* *spec. nov.* and *Balanus tumorifer* *spec. nov.*

All *Balanus* fragments — although they are very small — belong to adult exemplars and have no juvenile characteristics. They are members of a definite micro-fauna which lived hidden in the hollows of the coral riffles and were detected only after sedimentation and adequate collection and precise investigation.

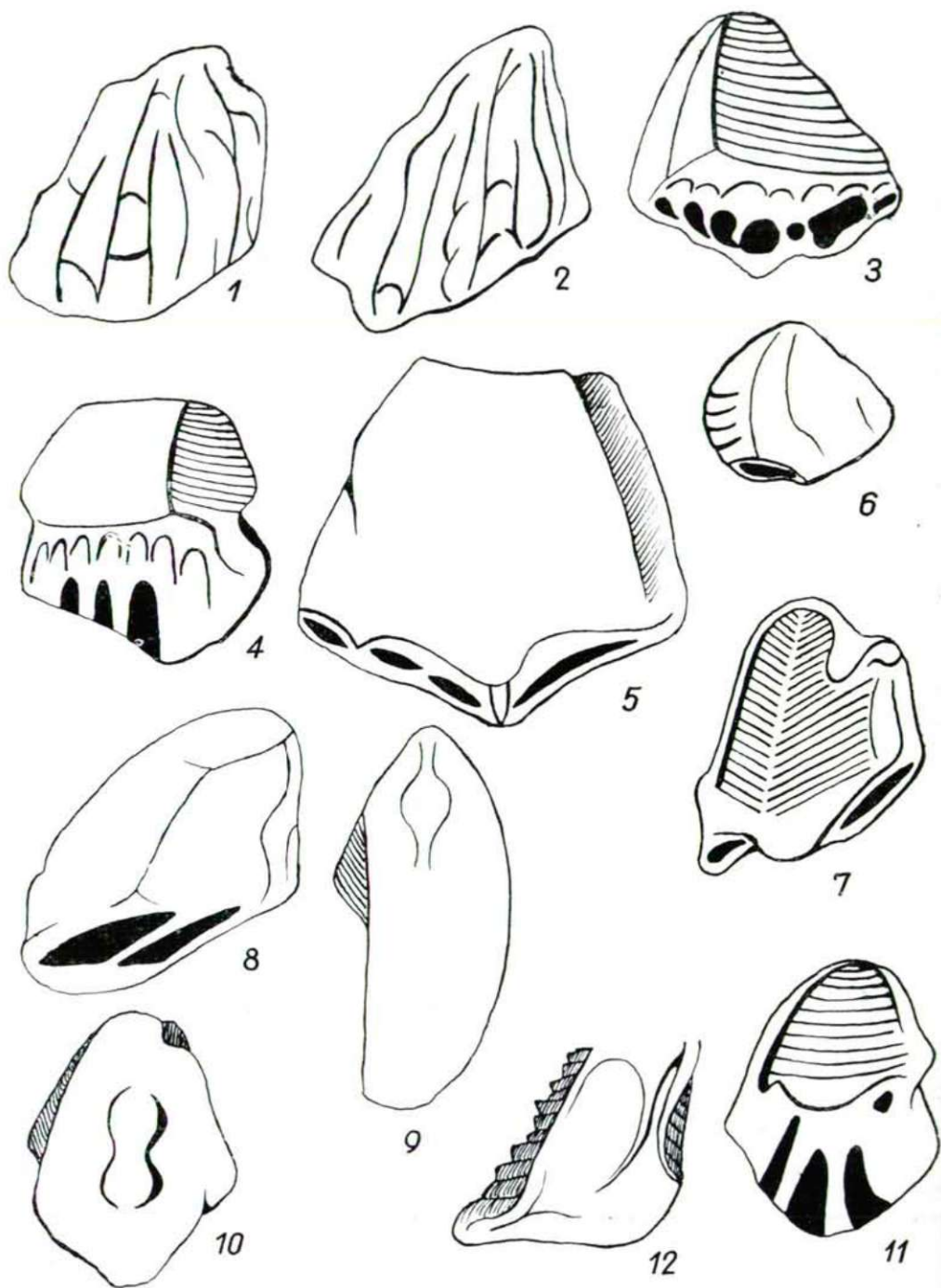
Descriptions of the new forms

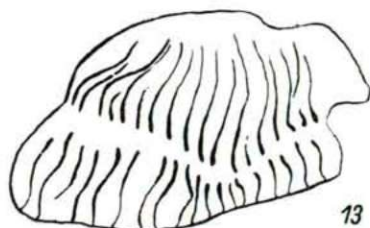
Balanus amphitrite tongaensis *n. ssp.*

Holotype: compartments of Nukulofa in Coll. Mus. Inst. Syst. Zool. Univ. Szeged, Hungary.

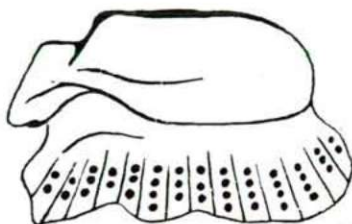
Color of the shell glossy white. Outside of the parieties with fine longitudinal ribs anastomosed also reticularly composed! Inside of parieties finely ribbed. Number of tubes in the *lateralis* 5–8, in the *carina* 3–4. *Radii* non very broad. The *specifica* of this new subspecies are the anastomosing ribs of

* coral-sand.





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the *parietalia* as unicum in the knowledge of Balanids. Opercular-valves unknown.

Balanus gizellae n. sp.

Holotype: compartements of Nukufola in Coll. Mus. Inst. Syst. Zool. Univ. Szeged, Hungary.

Color of the shell glossy white. Outside without ribs. *Lateralialia* sometimes near the margin with wrinkled part. Inside of the *parietalia* also without ribs. The characteristics of this new species are the parietal-tubes in excellent and enorme horizontally elongated and enlarged forms. In the lateral compartement the number of these tubes are only 2–4, in the *radius* only one. I named this new form from my helping wife GIZELLA VIDA—KOLOSVÁRY.

Balanus tumorifer n. sp.

Holotype: two *lateralialia* of Nukulofa in Coll. Mus. Inst. Syst. Zool. Univ. Szeged, Hungary.

Color of the shell glossy white. Outside of the compartements with some ribs and with one tumor in the *apex* or in the middle. Shell thick. Number of the tubes of the compartements 4–5. Outside of the *scutum* only horizontally ribbed. The ribs are fine. Inside of the *scutum* with large *depressor-pit* and very developed *adductor-crista* enlarged near the basis. The occludent margins

- 1–2. *Balanus amphitrite tongaensis*, outside of valves (2–4 mm).
- 3–4. *Balanus amphitrite tongaensis*, inside of valves (2–4 mm).
- 5–6. *Balanus gizellae*, outside of valves (3–4 mm).
- 7–8. *Balanus gizellae*, inside of valves (3–4 mm).
9. *Balanus dentifer*, outside of the *carina* (2 mm).
- 10–11. *Balanus tumorifer*, outside and inside of valves (1–3 mm).
12. *Balanus tumorifer*, surface of the inside of the *scutum* (1,5 mm).
13. *Balanus tuboperforatus*, outside of the lateral-valve (2–3 mm).
14. *Balanus tuboperforatus*, inside of the lateral-valve (2–3 mm).

Orig. del author.



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of the *scutum* unequally dentified. The basi-tergal *depressor* muscle pit wanting!

Balanus tuboperforatus n. sp.

Holotype: 1 compartement of Nukulofa in Coll. Mus. Inst. Syst. Zool. Univ. Szeged, Hungary.

Color of the shell grey. Ala very developed. Outside of the compartement with unequally big ribs and with one horizontal *sutura* (furrow). Inside of the *lateralis* small. The characteristic of this new species is the wall-perforation of the inside of the tubes near the basis of the *parietalis*. The number of the perforation per tubus is 2—5. Opercularvalves wanting.

Summary

In the coral-sediments from Tongatabu a Balanid micro-fauna was detected in which the species already known and also the species newly described have little size. The measures are seen in the explanation of the Table. Not only the Balanids, which called my attention, but also the *Mollusca* and *Echinida* fragments derived from dwarf exemplares. Author observed also several little snails and cockles which all goes to show the existence of a general micro-fauna. These minute fragments concentrate naturally during the fine-sedimentation and do not preclude the possibility that beside this micro-fauna a meso-, and a macro-fauna were also living members of the former coral-biocoenoses.

From the point of view of novelties is just this microfauna interesting, which presumably lived originally hidden in the micro-biotopes of the hollows of coral-riffles and as a consequence of this specialized in constitution and in mode of life.

References

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- 1—4 = *Balanus amphitrite tongaensis*
 5—7 = *Balanus gizellae*
 8 = *Balanus dentifer*
 9 = *Balanus tumorifer*
 10 = *Balanus tuboperforatus*
 11—12 = *Balanus trigonus*, *scutum* outside and *lateralis*
 13 = *Tetraclita* sp.

Photo L. HAVRANEK.