

the sides of the axis, spines slender, conical, terminally tylote; axis about 0.006 mm. long, spines about 0.008 mm. long, total length of amphiaser 0.02 to 0.024 mm.

*Colour*.—Yellowish-white in the dried state.

*Habitat*.—Station 192, off the Ki Islands, south of Papua, September 26, 1874; lat. 5° 49' 15" S., long. 132° 14' 15" E.; depth, 140 fathoms; bottom, blue mud.

*Remarks*.—This little sponge, only about 2 mm. in diameter, was found incrusting the fragment of limestone to which *Corallistes thomasi* is attached. It might easily have been mistaken for a Foraminifera, but on mounting in balsam its true character at once appeared.

The monorepidial character of the desma is obvious enough at all stages of its development from the earliest to the latest, but the nature of the disc does not at first appear so clear. After a searching examination I can find no trace of a division of the rhabdal axis on or after entering the disc, there is no trifid nor any other subdivision, simply an abrupt and sudden termination. No trace of subdivision was revealed by treatment with hydrofluoric acid. The disc therefore is uniaxial, like that of *Neopelta*, from which, however, it differs not only by the tuberculation of its surface and the denticulation of its margin, but also by the almost constant presence of a stalk. Only in a single instance was the rhabdome not observed, and even then its place was indicated by a slight irregularity of the surface, and no tangentially lying crepidial axis was observed. In *Neopelta* the stalk on the contrary is more often absent than not. In addition to this the stalk is usually at right angles to the disc in *Callipelta*, while in *Neopelta* when present it is usually obliquely inclined. The discostrongyle of *Callipelta* appears therefore to form a connecting link between the discotriæne and the disc, it differs from the latter and resembles the former in the almost constant presence of a stalk set at right angles to the disc; it differs from the former and resembles the latter in the constant absence of cladal axes. The question then arises, so difficult to answer in all similar cases, not only in the Lithistidæ, as to whether the disc is descended from the discotriæne, or *vice versa*, or whether both have a separate or a common third origin. The last alternative may I think be safely dismissed. With regard to a separate origin there is more to be said. The discotriæne can be traced into the dichotriæne, and we may safely assert that one has arisen from the other. The dichotriæne is the most widely diffused, and departs the least from the usual spicular type, so that the order of development has in general been tacitly assumed as from the dichotriæne to the discotriæne, and not *vice versa*. This conclusion becomes strengthened when the identity in character of the dichotriæne in the Lithistidæ with that of the Choristidæ is considered. Zittel, indeed, speaks of the resemblance between these spicules in the two groups as a deceptive or false resemblance; this is mere transcendentalism, false conclusions may be drawn from the resemblance no doubt, but the resemblance itself