The Melithaeidae (Coelenterata: Octocorallia) of Singapore

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Key words: Octocorallia; Melithaeidae; Singapore.
Four species of Melithaeidae from Singapore waters are described and depicted: M*elithaea ochracea* (Linnaeus, 1758), *Mopsella rubeola* (Wright & Studer, 1889), *M. retifera* (Lamarck, 1816), and *Acabaria robusta* (Shann, 1912). Variation and synonymy are discussed.

Introduction

Goh & Chou (1996) mentioned, in their annotated checklist of Singapore gorgonians, the following melithaeids: *Melithaea ochracea* (Linnaeus, 1758), *Mopsella rubeola* (Wright & Studer, 1889), *M. retifera* (Lamarck, 1816), *Acabaria robusta* (Shann, 1912), and *A. gracillima* (Ridley, 1884). The first four of these were present in newly collected material and are described below.

Acabaria gracillima, recorded by Shann (1912) to occur at Selat Sinki (see fig. 1), was not present in the newly collected material although a site (Terumbu Pempang Laut) adjacent to the above mentioned channel was sampled. We regard Shann's identification to be incorrect (see remarks of *A. robusta*). *Melithaea ochracea*, *Mopsella retifera* and *Acabaria robusta* had been recorded to occur in Singapore waters prior to the publication of Goh & Chou.

The specimens examined are deposited in the Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity Research (RMBR) of the National University of Singapore, and in the Nationaal Natuurhistorisch Museum, Leiden, The Netherlands (RMNH). The RMBR specimens are stored dry, the RMNH specimens are preserved in 70% alcohol.

Systematic part

Melithaea ochracea (Linnaeus, 1758)
(figs 2-4, 13a-b)

Accarbarium rubrum, Rumphius Herb. VI, 1750: 234, pl. 85 fig. 1, "Accarbaar mera".
Isis ocracea Linnaeus, 1758: 799.
Melithaea ochracea; van Ofwegen, 1987: 7, figs 1-2 (other references); Goh & Chou, 1996: 440, pl. 1a-b.
Melitodes albitincta; Shann, 1912: 525 (Singapore); Hickson, 1937: 103, fig. 8 (re-examination of Shann's specimen).
Not *Melitodes albitincta* Ridley, 1884: 357, pl. 37 figs C-C"", pl. 38 figs b, b'.

Material.— ZRC.1995.7, Terumbu Pembang Tengah, 16.ix.1993; ZRC.1995.5, 1995.8, Pulau Subar Laut, 19.iv.1993; ZRC.1995.9-1995.10, Raffles Lighthouse, 14.vi.1993; ZRC.1995.11, Raffles Lighthouse, 17.ii.1992; ZRC.1996.1677, Pulau Subar Laut, 19.iv.1993; ZRC.1996.1678, Pulau Subar Laut, 8.vi.1992;

ZRC.1996.1679, Terumbu Pembang Tengah, 23.iv.1993; ZRC.1996.1680, Pulau Subar Laut, 18.xii.1992; ZRC.1998.39-1998.41, Pulau Subar Laut, 8.vi.1992.

Description.— Colonies up to 20 cm long, branched in one plane. Colour of colonies very variable (see table 1; fig. 13a-b; Goh & Chou, 1996: pl. 1a-b). Calyces dome-like, placed on three sides of the branches.

Coenenchyme with small clubs (figs 2a, 3a); capstans, double discs, leaf capstans (figs 2b, 3b, 4a-b); disc-spindles, unilaterally spinose spindles (figs 2c, 3c, 4c); rods and spindles (figs 2d, 3d, 4d). Spindles up to about 0.20 mm long. Calyces with wart- to leaf-clubs up to about 0.20 mm long (figs 2e, 3e, 4e). Because of the dry condition of the material the anthocodial arrangement has not been examined. Crown with slightly bent thorny spindles up to about 0.25 mm long, middle part with more developed thorns or some irregular projections. Points with slightly bent thorny spindles up to about 0.20 mm long, distal end with more developed thorns, several with irregular projections on the convex side. Tentacles with irregularly formed rods up to 0.11 mm long, the smallest almost smooth, the largest crescent-shaped with spines and irregular projections. Pharynx with straight spiny rods up to 0.05 mm long (figs 2f, 3f, 4f).

Ecology.— Among the gorgonians of Singapore, this species is one of few that is found at very shallow depths (< 3 m, but below the low tide level), especially colonies with yellow branches and red calyces. Colonies of this morph can grow to more than 1 m across here. The depth range extends to about 15 m for other colour morphs which generally do not grow as large.

Variation.— The colour of the colonies and sclerites as well as the form of the sclerites of this species show a huge variation. The variation of the sclerites is chiefly the

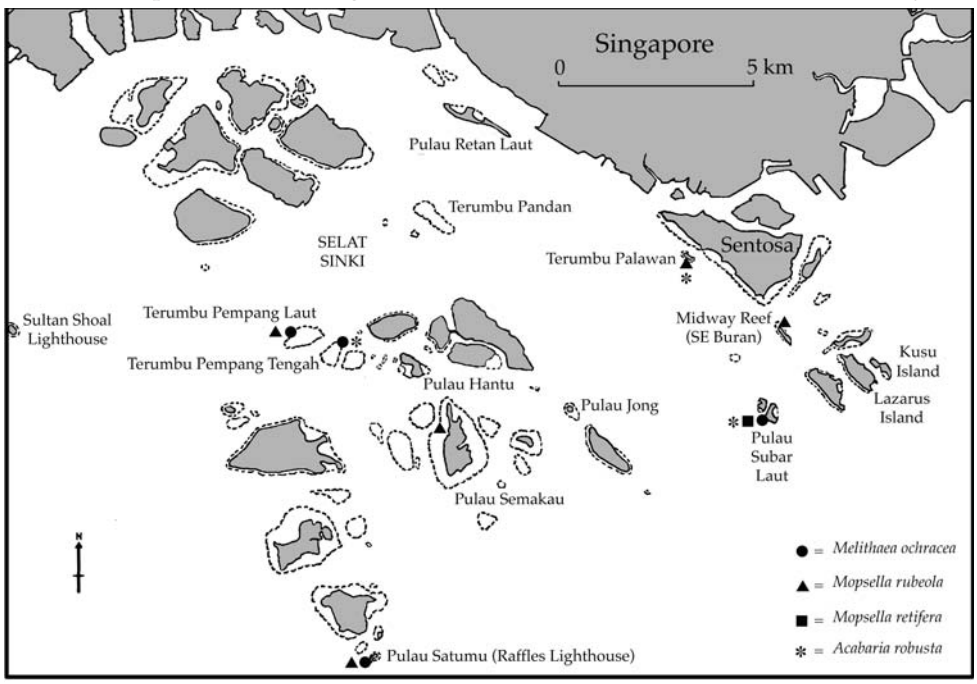

Fig. 1. Map of Singapore waters with collecting sites.

result of variation in roundness of the discs and tubercles of the sclerites and a similar phenomenon is also present in other species of this family (see van Ofwegen, 1987: 14; this paper: 303) we consider all specimens to belong to the same species. The extremes of this variation are depicted in figs 2-3.

Remarks.— Nowadays it is generally accepted that Linnaeus (1758) based his *Isis ocracea* on Rumphius' red coloured form of "Accarbarium rubrum" from Ambon (Hickson, 1937; Bayer, 1959). The sclerite characters of Rumphius' specimen were never described and the material seems to be lost. Despite this lack of knowledge many specimens have been assigned to this species, from regions as far apart as Japan, Fiji, Bass Strait and Singapore, mostly with minimal description. However, the exact characters of the species are still unknown and therefore a neotype designation is badly needed, preferable based on a specimen from Ambon. The first author has examined a red *Melithaea* specimen from Ambon with characters similar to the red specimens described by van Ofwegen (1987: 7), from Banda and Ceram, as *M. ochracea*. However, knowing the variation in melithaeid species it is desirable to wait with a neotype designation till more specimens from Ambon are examined. Recently collected material from Ambon probably will enable this in the near future.

The Singapore material is different from the above mentioned specimens from Indonesia. Most obvious are the wide colour variation (see table 1) and the presence of disc-spindles. According to Hickson (1937: 103) *M. albitincta* Ridley, 1884, as well as the specimens from Singapore that Shann (1912) referred to *M. albitincta*, are conspecific with *M. ochracea.* We undoubtedly have the same *Melithaea* species as Shann, and therefore, pending a designation of a neotype of *M. ochracea*, we follow Hickson in referring the present specimens to *M. ochracea*.

A re-examination of microscopic slides of type material of *M. albitincta* (BM 1881. 10.21.189) showed sclerite characters coming close to those of the genus *Acabaria.* Therefore we have excluded this species from *M. ochracea*.

The collection site of Shann's *Melitodes albitincta* at Blakang Mati (= Sentosa Island) has been extensively developed and dredged for tourism and port activities respectively. No specimens from around that site were collected. However, the second author has observed that healthy specimens of *M. ochracea* are present at Terumba Palawan, which used to be a patch reef just off Sentosa Island before being reclaimed to become an island.

Table. 1. Range of colour variation in the material of *Melithaea ochracea* (Linnaeus, 1758) examined.

Specimens	nodes & internodes	calyces	polyps	sclerites internodes	sclerites calyces	sclerites polyps	axis
ZRC.1996.1677 ZRC.1989.39	white	white	white	colourless	colourless	colourless	red
ZRC.1996.1678	yellow	yellow	yellow	yellow	yellow	yellow	red
ZRC.1995.7-11	yellow	red	red	yellow	reddish	reddish	red
ZRC.1996.1679; 1996.1680	red	red	red	red + colourless*	red + colourless*	red	red
ZRC.1995.5; 1998.40-41	red	white	white	reddish	colourless	colourless	red

* Ratio of colourless and reddish sclerites varies in the specimens.

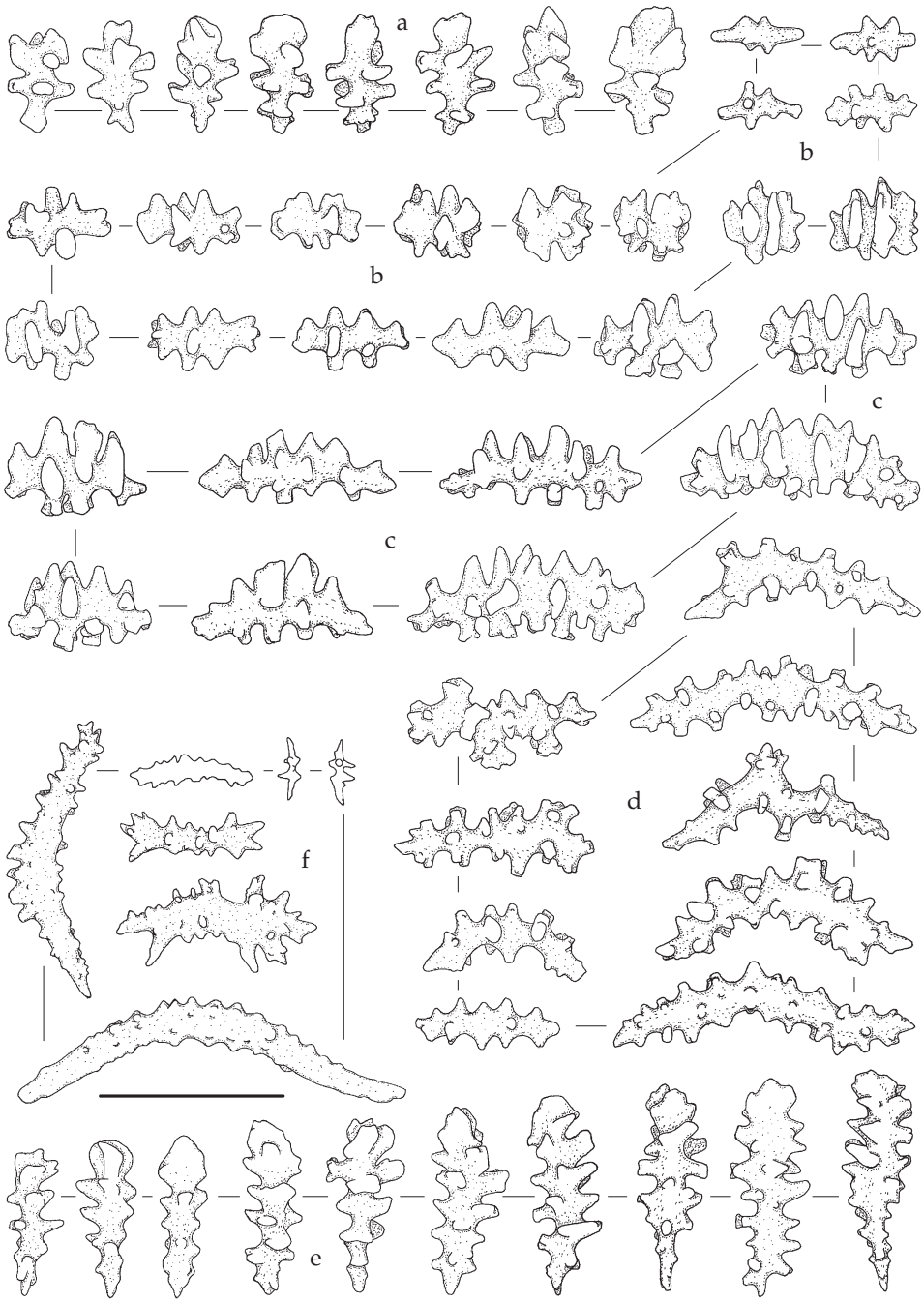

Fig. 2. *Melithaea ochracea* (Linnaeus, 1758), sclerites of ZRC.1995.7; a-d, coenenchyme of nodes and internodes; a, clubs; b, capstans, double discs; c, disc-spindles and unilaterally spinose spindles; d, spindles; e, clubs of calyces; f, anthocodial sclerites. Scale 0.10 mm.

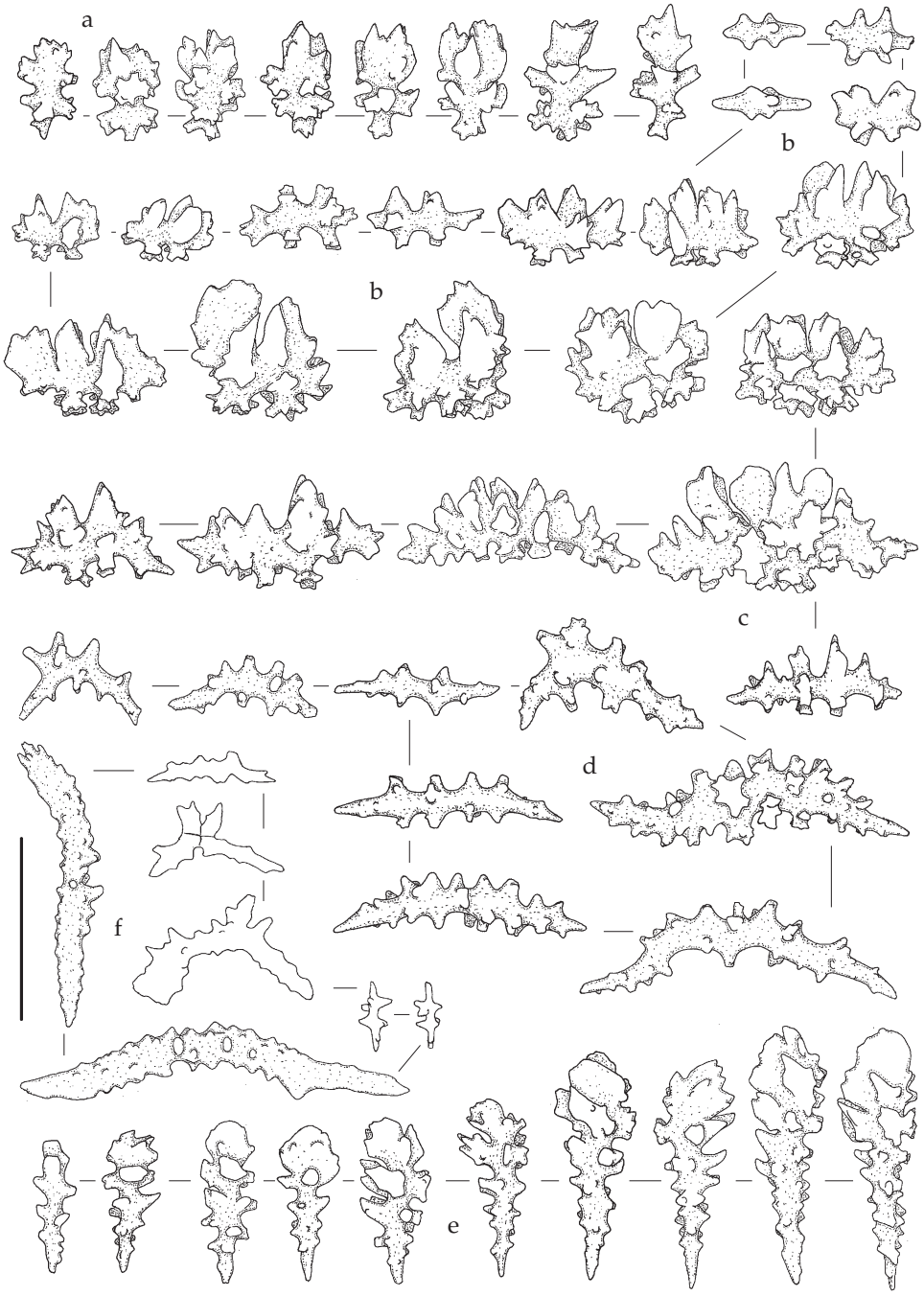

Fig. 3. *Melithaea ochracea* (Linnaeus, 1758), sclerites of ZRC.1995.5; a-d, coenenchyme of nodes and internodes; a, clubs, b; capstans, double discs; c, disc-spindles and unilaterally spinose spindles; d, spindles; e, clubs of calyces; f, anthocodial sclerites. Scale 0.10 mm.

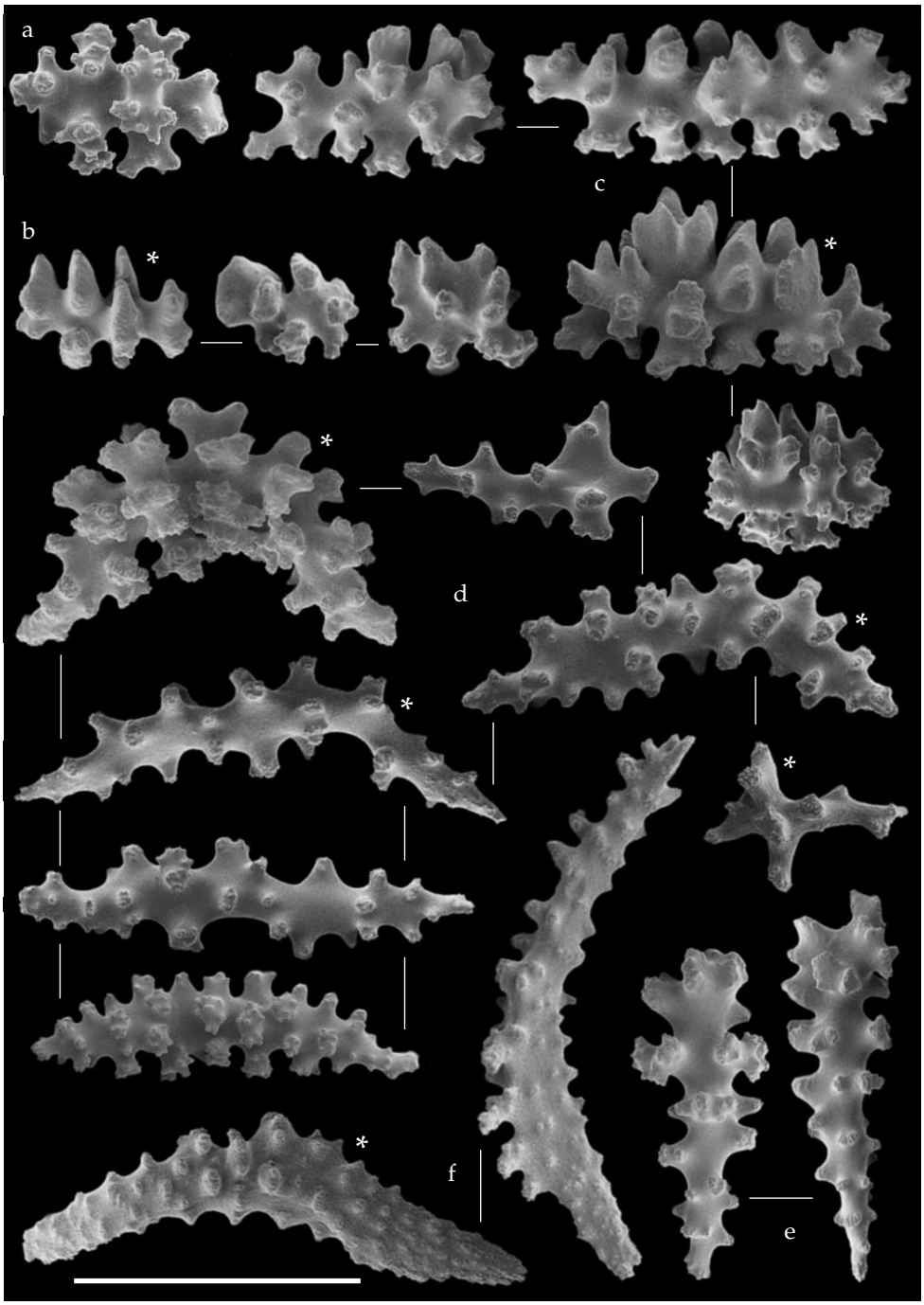

Fig. 4. *Melithaea ochracea* (Linnaeus, 1758), sclerites of ZRC.1995.8(*) and ZRC.1996.1678; a-d, coenenchyme of nodes and internodes; a, capstan; b, double discs; c, disc-spindles and unilaterally spinose spindles; d, spindles; e, clubs of calyces; f, anthocodial sclerites. Scale 0.10 mm.

Mopsella rubeola (Wright & Studer, 1889)
(figs 5-7, 13c-d)

Melitodes rubeola Wright & Studer, 1889: 175, pl. 40 figs 6, 7. (Arafura Sea).
Mopsella rubeola; (in part) Hickson, 1937: 135, fig. 16, pl. 14 fig. 3; Goh & Chou, 1996: 441, pl. 1c-f, 2a (Singapore).
Not *Mopsella rubeola*; Stiasny, 1940: 231, fig. 1, pl. 10 figs 18-19; 1941: 69 (= *Acabaria* spec.).
Not *Acabaria rubeola*; Van Ofwegen, 1987: 23, figs 14-16 (= *Acabaria* spec.).
Mopsella spongiosa Nutting, 1911: 50, pl. 8 fig. 1, pl. 12 fig. 7 (Aru Islands).
Not *Mopsella spinosa* Kükenthal, 1909: 52 (= *Acabaria* spec.).

Material.— BMNH 1889.05.27.115 (micro-slide preparations of the holotype of *Melitodes rubeola*); RMNH Coel. 24019, RMNH Coel. 24020, RMNH Coel. 24021, ZRC.1998.42 & ZRC.1998.43, Pulau Semakau, 8.ix.1993; RMNH Coel. 24022 & ZRC.1998.44, Terumba Palawan, 23.vii.1993; ZRC.1995.13, Terumbu Pempang Laut, 3.v.1993; ZRC.1990.11942, Raffles Lighthouse, 14.xi.1991; ZRC.1995.14 & ZRC.1995.15, Terumbu Pempang Laut, 2.vi.1992; ZRC.1995.6, Raffles Lighthouse, 15.iv.1992; ZRC.1995.16, Midway Reef 13.xi.1990; ZRC. 1995.17, ZRC.1995.18 & ZRC.1990.11913, unspecified locality, 1990.

Description.— Colonies up to 24 cm long, branched in one plane. Colour of colonies very variable (see table 2; fig. 13c-d; Goh & Chou, 1996: pl. 1c-f, 2a). Calyces dome-like, placed on three sides of the branches.

Coenenchyme with leaf-clubs (figs 5a, 6a, 7a); capstans, foliate capstans (figs 5b, 6b, 7b); unilaterally foliate spheroids, leaf-spindles (figs 5c, 6c, 7c); rods and spindles (figs 5d, 6d, 7d). Leafs often narrow, spine-like. Largest unilaterally foliate spheroid 0.18 mm long and 0.10 mm wide. Spindles up to about 0.20 mm long. Calyces with leaf-clubs up to 0.20 mm long and 0.10 mm wide (figs 5e, 6e, 7e). Anthocodiae with a crown of one to three rows of spindles and eight points of two to four spindles. Crown with slightly bent thorny spindles up to about 0.35 mm long, middle part with more developed thorns or some irregular projections. Points with slightly bent thorny spindles up to 0.20 mm long, distal end with more developed thorns, several with irregular projections on the convex side. Tentacles with irregularly formed rods up to 0.12 mm long, the smallest almost smooth, the largest crescent-shaped with spines and irregular projections. Pharynx with straight spiny rods up to 0.05 mm long (figs 5f, 6f).

Ecology.— Depth distribution generally between 8-16 m, but one specimen (ZRC.1995.16) was found in less than 3 m at Midway Reef.

Variation.— The present material shows a huge variation in colour and some variation in sclerite characters. The latter mainly concerns the roundness of the leaves.

Remarks.— We have re-examined the holotype of *Mopsella rubeola* (Wright & Studer, 1889) (BM 1889.05.27.115) and found the present material in close agreement. Hickson (1937) included *Mopsella spinosa* Kükenthal, 1909, *Mopsella studeri* Nutting, 1911, and *Mopsella spongiosa* Nutting, 1911 in *M. rubeola*; all without re-examination of the material. Stiasny (1940: 234) re-examined type material of *M. studeri* and clearly showed it to be a valid species. We have re-examined microscopic slides of the type of *Mopsella spongiosa* Nutting, 1911 (RMNH Coel. 6208). We confirm Hickson's opinion: it undoubtedly belongs to *M. rubeola*. The type material of *M. spinosa* was re-examined by Grasshoff (1999: 9). It represents a species of *Acabaria*.

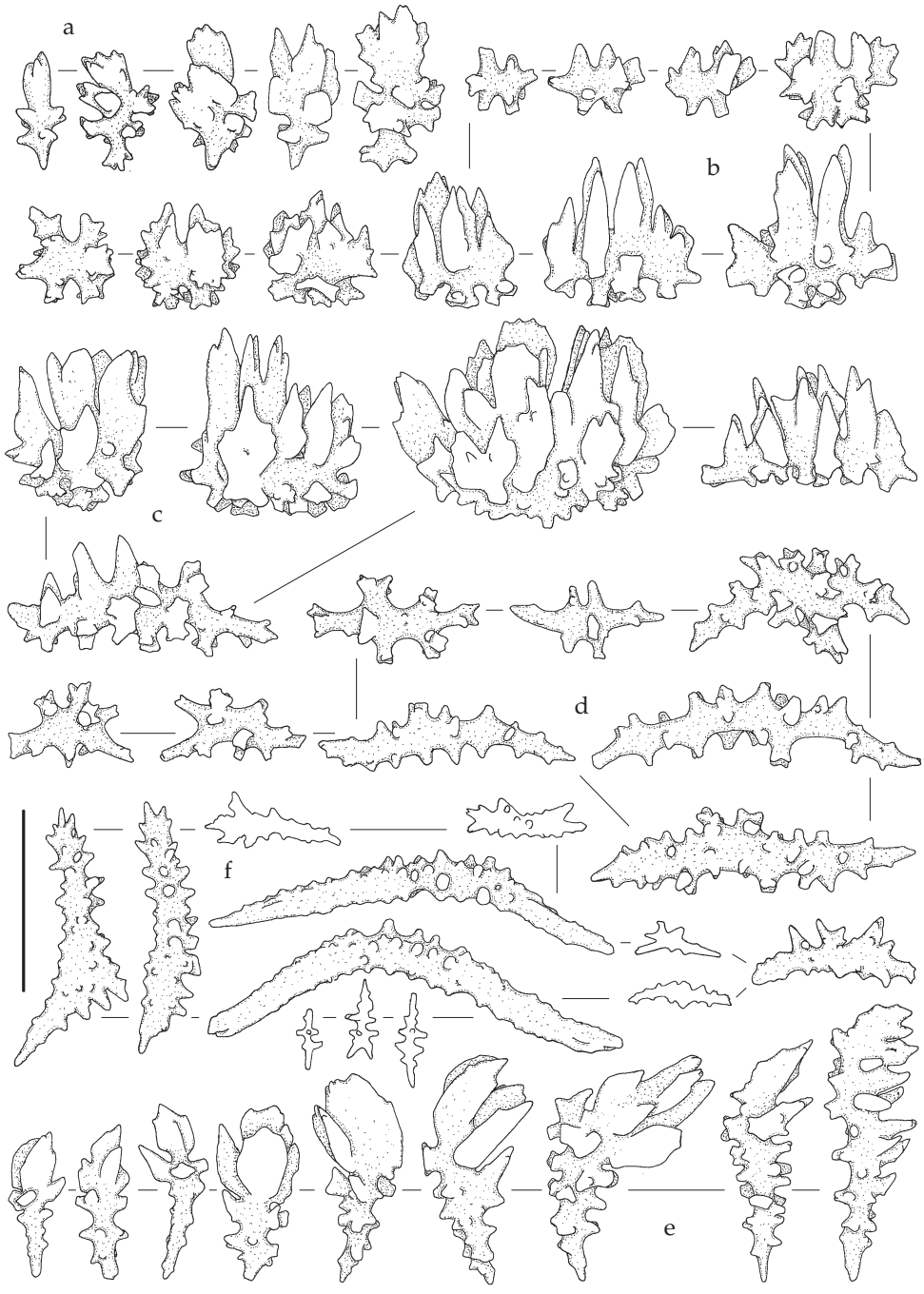

Fig. 5. *Mopsella rubeola* (Wright & Studer, 1889), sclerites of RMNH Coel. 24019; a-d, coenenchyme of nodes and internodes; a, clubs; b, capstans, foliate capstans; c, unilaterally foliate spheroids, leaf-spindles; d, spindles; e, clubs of calyces; f, anthocodial sclerites. Scale 0.10 mm.

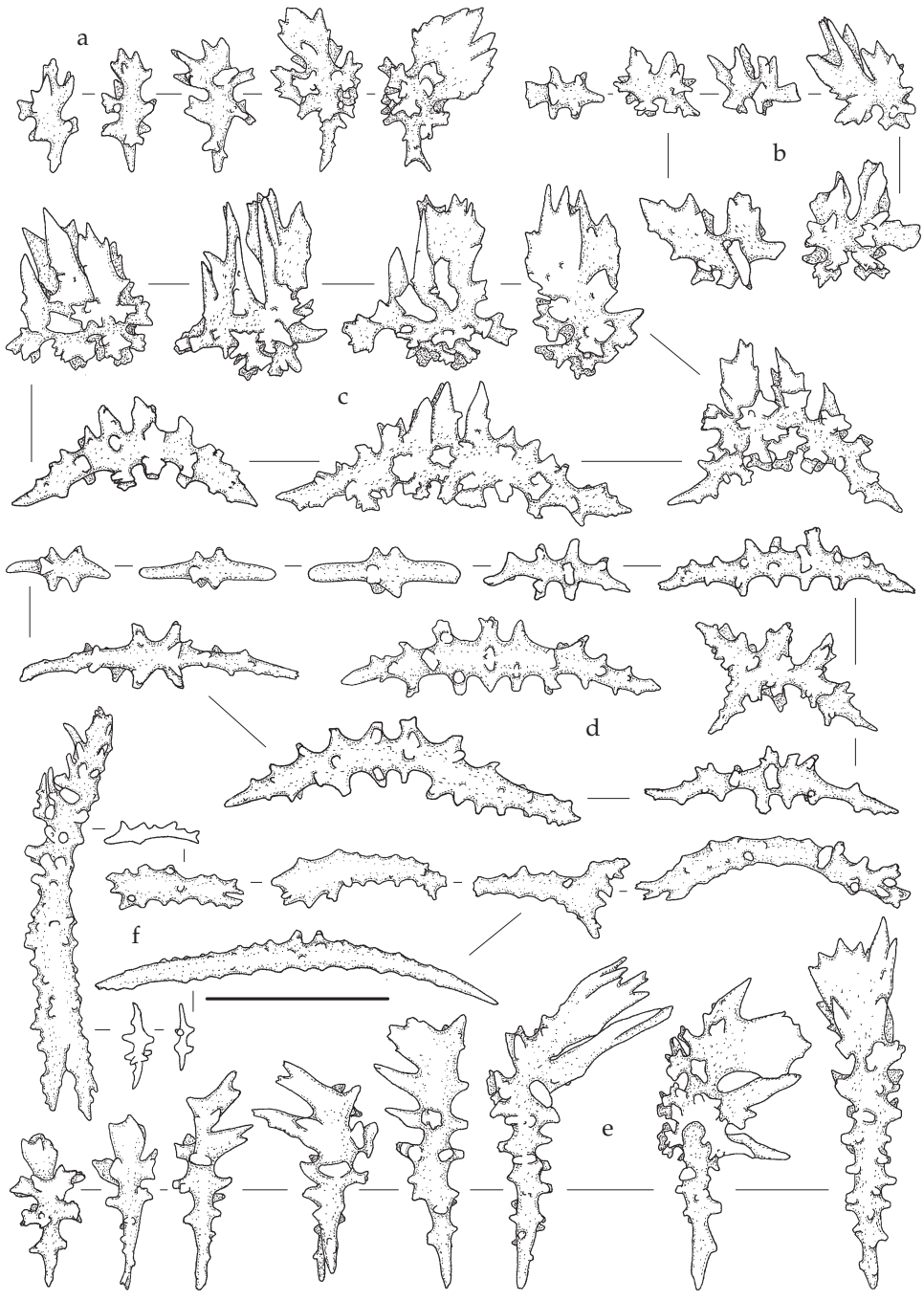

Fig. 6. *Mopsella rubeola* (Wright & Studer, 1889), sclerites of holotype (BMNH 1889.05.27.115); a-d, coenenchyme of nodes and internodes; a, clubs; b, capstans, foliate capstans; c, unilaterally foliate spheroids, leaf-spindles; d, spindles; e, clubs of calyces; f, anthocodial sclerites. Scale 0.10 mm.

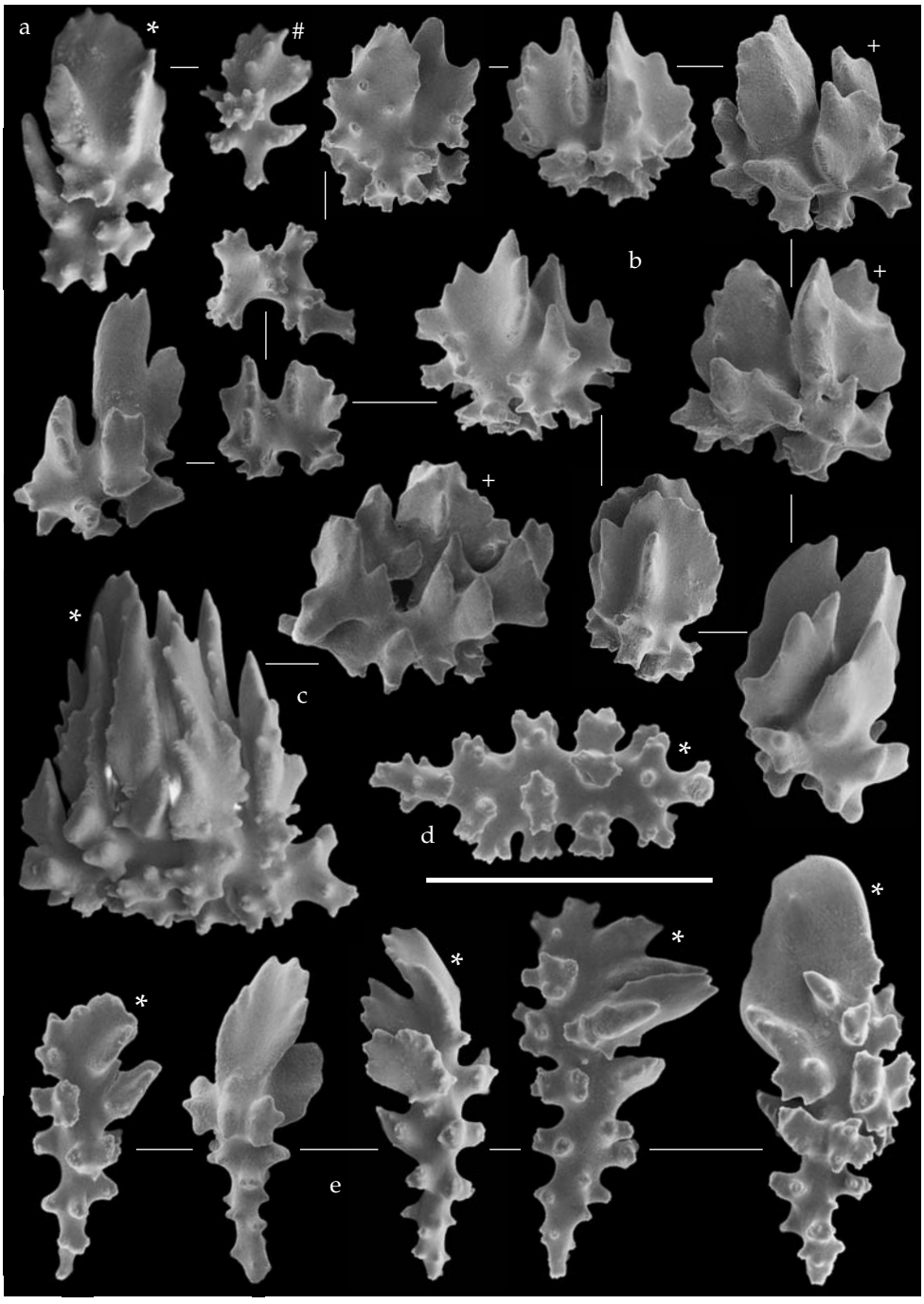

Fig. 7. *Mopsella rubeola* (Wright & Studer, 1889), sclerites of ZRC.1995.16, ZRC.1998.44(+), ZRC.1995.13(*), and ZRC.1990.11942(#); a-d, coenenchyme of nodes and internodes; a, clubs; b, capstan, foliate capstans; c, unilaterally foliate spheroids; d, spindle; e, clubs of calyces. Scale 0.10 mm.

The specimens identified as *Mopsella rubeola* by Stiasny, 1940, as well as those identified by van Ofwegen, 1987, as *Acabaria rubeola* (comb. nov.), belong to a yet unidentified species of *Acabaria*.

Table. 2. Range of colour variation in the material of *Mopsella rubeola* (Wright & Studer, 1889) examined.

Specimens	nodes & internodes	calyces	polyps	sclerites internodes	sclerites calyces	sclerites polyps	axis
BM 1889-5-27-115 ZRC.1995.16; 1995.18	white	white	white	colourless	colourless	colourless	white
ZRC.1998.42; 1998.44 ZRC.1995.17	white	white	white	colourless + pink*	colourless	colourless	red
ZRC.1995.13	yellow	yellow	white	yellow + colourless	yellow + colourless	yellow + colourless	red
ZRC.1990.11942	yellow	yellow	white	yellow	yellow	yellow + colourless	yellow
RMNH 24019	orange	red	white	yellow	pink	colourless +pink	red
RMNH 24020; 21; 22 ZRC.1998.43; 1995.14 ZRC.1995.15; 1995.6 ZRC.1990.11913	red	white	white	colourless + pink*	colourless	colourless	red

* Ratio of colourless and pink sclerites varies in the specimens.

? *Mopsella retifera* (Lamarck, 1816)
(figs 8-9, 13c-f)

? *Melitaea retifera* Lamarck, 1816: 299.
Melithaea retifera; Kölliker, 1865: 142, pl. 19 figs 38-39.
Mopsella retifera; Goh & Chou, 1996: 441, pl. 2b.
Mopsella elongata Verrill, 1864: 38 (Singapore).
Mopsella aurantia; Hickson, 1937: 142 (re-examination of Verrill's *Mopsella elongata*); Stiasny, 1940: 230, fig. H, pl. 14 figs 36-37.
Not *Isis aurantia* Esper, 1795: 3, pl. 9.

Material.— ZRC.1995.12, ZRC.1995.87-88, all Palau Subar Laut, 8.vi.1992.

Description.— Colonies up to 16 cm long, branched in one plane. Colour of colonies yellowish (ZRC.1995.12) or red with yellow calyces; polyps white (fig. 13e-f; Goh & Chou, 1996: pl. 2b). Calyces dome-like, placed on three sides of the branches.

Coenenchyme with leaf-clubs (figs 8a, 9a); capstans, foliate capstans (figs 8b, 9b); unilaterally foliate spheroids (figs 8c, 9c); rods and spindles (figs 8d, 9d). Spindles up to about 0.25 mm long. Calyces with leaf-clubs up to 0.20 mm long (figs 8e, 9e). Because of the dry condition of the material the anthocodial arrangement has not been examined. Crown with slightly bent thorny spindles up to about 0.35 mm long, middle part with more developed thorns or some irregular projections. Points with slightly bent thorny spindles up to 0.25 mm long, distal end with strongly developed

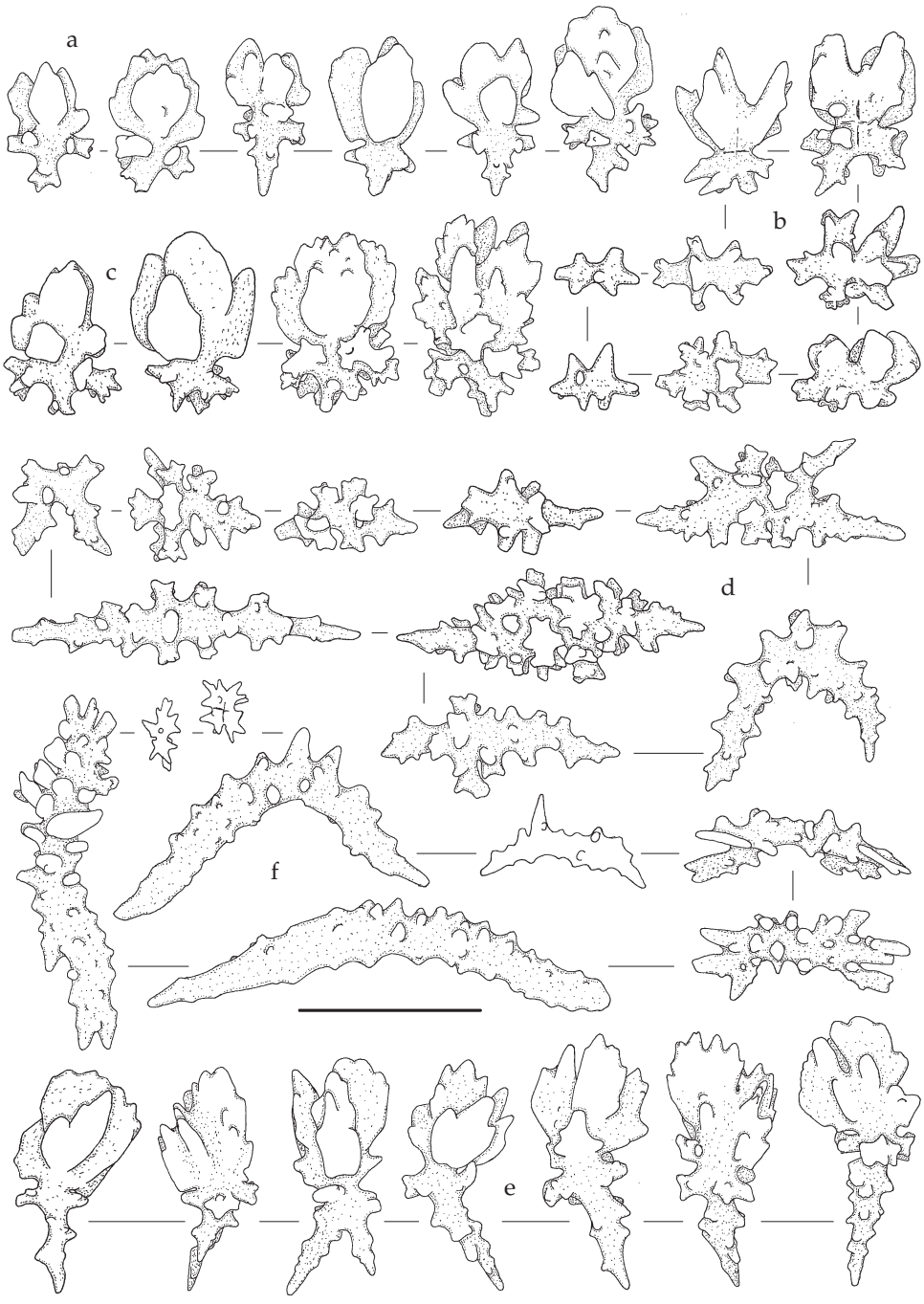

Fig. 8. ? *Mopsella retifera* (Lamarck, 1816), sclerites of ZRC.1995.87; a-d, coenenchyme of nodes and internodes; a, clubs; b, capstans, foliate capstans; c, unilaterally foliate spheroids; d, spindles; e, clubs of calyces; f, anthocodial sclerites. Scale 0.10 mm.

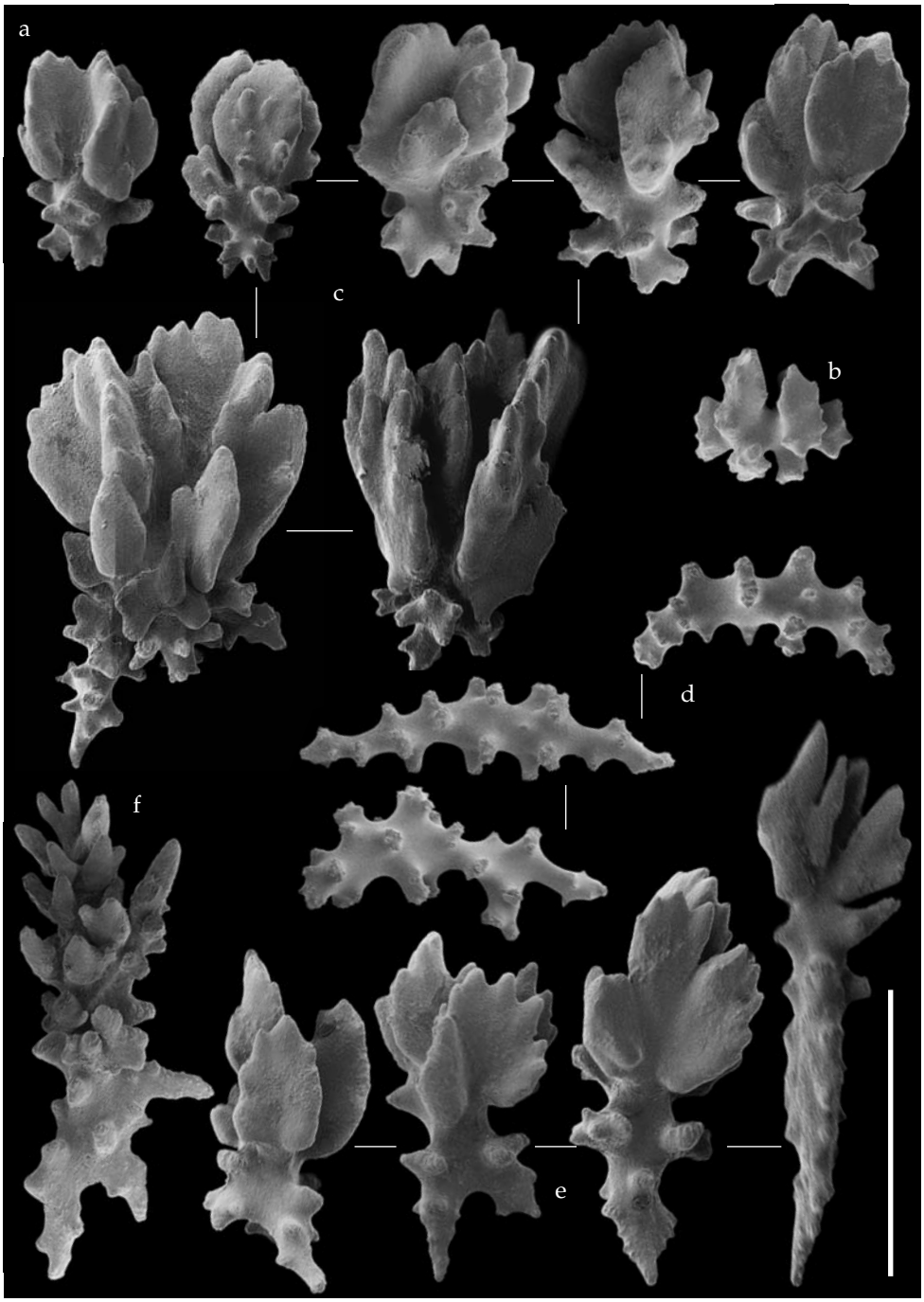

Fig. 9. ? *Mopsella retifera* (Lamarck, 1816), sclerites of ZRC.1995.87; a-d, coenenchyme of nodes and internodes; a, club; b, foliate capstan; c, unilaterally foliate spheroids; d, spindles; e, clubs of calyces; f, anthocodial sclerite. Scale 0.10 mm.

thorns, several with irregular projections on the convex side. Tentacles with irregularly formed rods up to 0.15 mm long, the smallest almost smooth, the largest crescent-shaped with spines and irregular projections. Pharynx with straight spiny rods up to 0.05 mm long (figs 8f, 9f). Sclerites of coenenchyme of nodes and internodes orange, yellow and colourless (yellowish colony); or reddish and colourless (red colonies). Sclerites of calyces orange, yellow and colourless (yellowish colony), or yellow (colonies with yellow calyces). Sclerites of polyps colourless. Axis red.

Ecology.— This species is rare in Singapore and appears to have a very limited distribution (found so far only at Pulau Subar Laut). Found at depths between 10 m and 18 m.

Remarks.— *M. retifera* is easily recognized by the clubs of the coenenchyme of the nodes and internodes, which look like flower-buds. Kölliker (1865) was the first to give a drawing of one the these very characteristic clubs.

In the original description Lamarck mentioned two varieties (var. *purpurea* and var. *lutea*). As a synonym he mentioned *Isis aurantia* Esper, 1795. Prior to 1894 the specific name *retifera* was used, although the species was assigned to several genera. Studer (1894: 109) and later authors, seemingly correctly, used the older name *aurantia* and placed the species in the genus *Mopsella*. However, Grasshoff (1991: 347) re-examined the Esper collection and discovered that the species described as *Isis aurantia* actually has sclerites not referable to the genus *Mopsella*. For that reason we provisionally describe the species as *Mopsella retifera* (Lamarck, 1816). Whether Lamarck's *Melitaea retifera* is the same as the presently described material is subject for further research.

Acabaria robusta (Shann, 1912)
(figs 10-12, 13g-h)

Wrightella robusta Shann, 1912: 525, pl. 62 fig. 9, pl. 63 fig. 15 (Singapore).
Mopsella robusta; Kükenthal, 1919: 165; 1924: 69.
Melitodes robusta; Hickson, 1937: 118, fig. 12 (re-examination of Shann's specimen).
Acabaria robusta; Goh & Chou, 1996: 442, pl. 2c-d.
Psilacabaria gracillima; Shann, 1912: 525 (Singapore).
Acabaria gracillima; Goh & Chou, 1996: 442.
Not *Psilacabaria gracillima* Ridley, 1884: 364, pl. 37 figs D-D", pl. 38 figs f-f'.

Material.— BMNH 1939.06.12.007; RMNH Coel. 24023 & ZRC.1998.45, Terumbu Palawan, 23.vii.1993; RMNH Coel. 24024 & ZRC.1996.1047, Terumbu Pempang Tengah, 16.ix.1993; ZRC.1998.46, Terumbu Pempang Tengah, 23.iv.1993; ZRC.1990.11911, Pulau Subar Laut, 1990; ZRC.1995.19, Pulau Subar Laut, 8.vi.1992.

Description.— Colonies up to 15 cm long, branched in one plane. Colour of colonies reddish with white calyces and polyps or completely white (fig. 13g-h; Goh & Chou, 1996: pl. 2c-d). Calyces dome-like, placed on three sides of the branches.

Coenenchyme with small clubs (figs 10a, 11b); capstans (figs 10b, 11b); unilaterally spinose spindles, unilaterally foliate spheroids and leaf-spindles (figs 10c, 11c, 12b); rods and spindles (figs 10d, 11d, 12a). Transitional forms between spindles, unilaterally spinose spindles and leaf-spindles are also present. Spindles and leaf-spindles up to about 0.25 mm long. Calyces with leaf-clubs up to 0.25 mm long and 0.06 mm wide

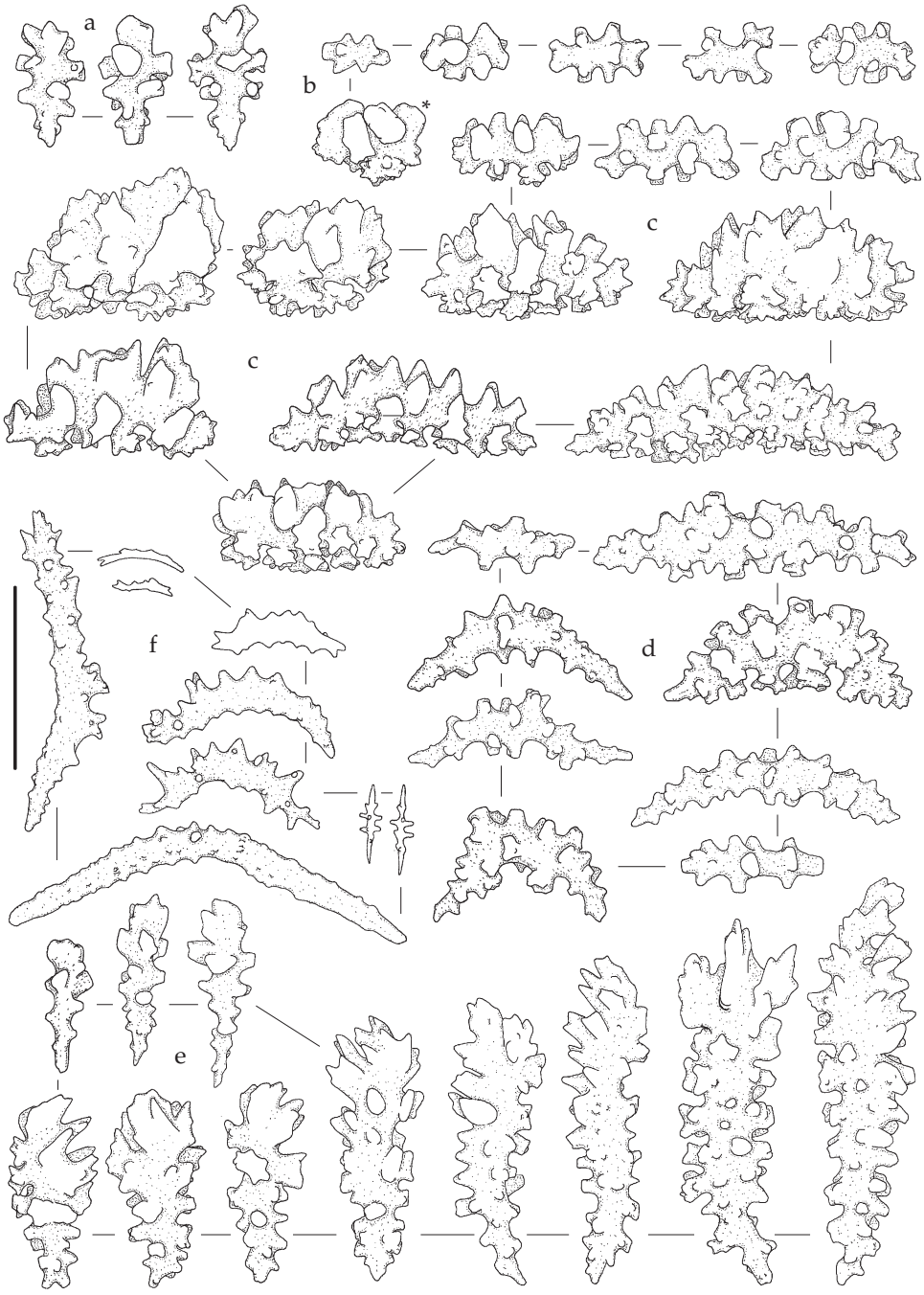

Fig. 10. *Acabaria robusta* (Shann, 1912), sclerites of RMNH Coel. 24023; a-d, coenenchyme of nodes and internodes; a, clubs; b, capstans, double disc*; c, unilaterally spinose spindles, unilaterally foliate spheroids and leaf-spindles; d, spindles; e, clubs of calyces; f, anthocodial sclerites. Scale 0.10 mm.

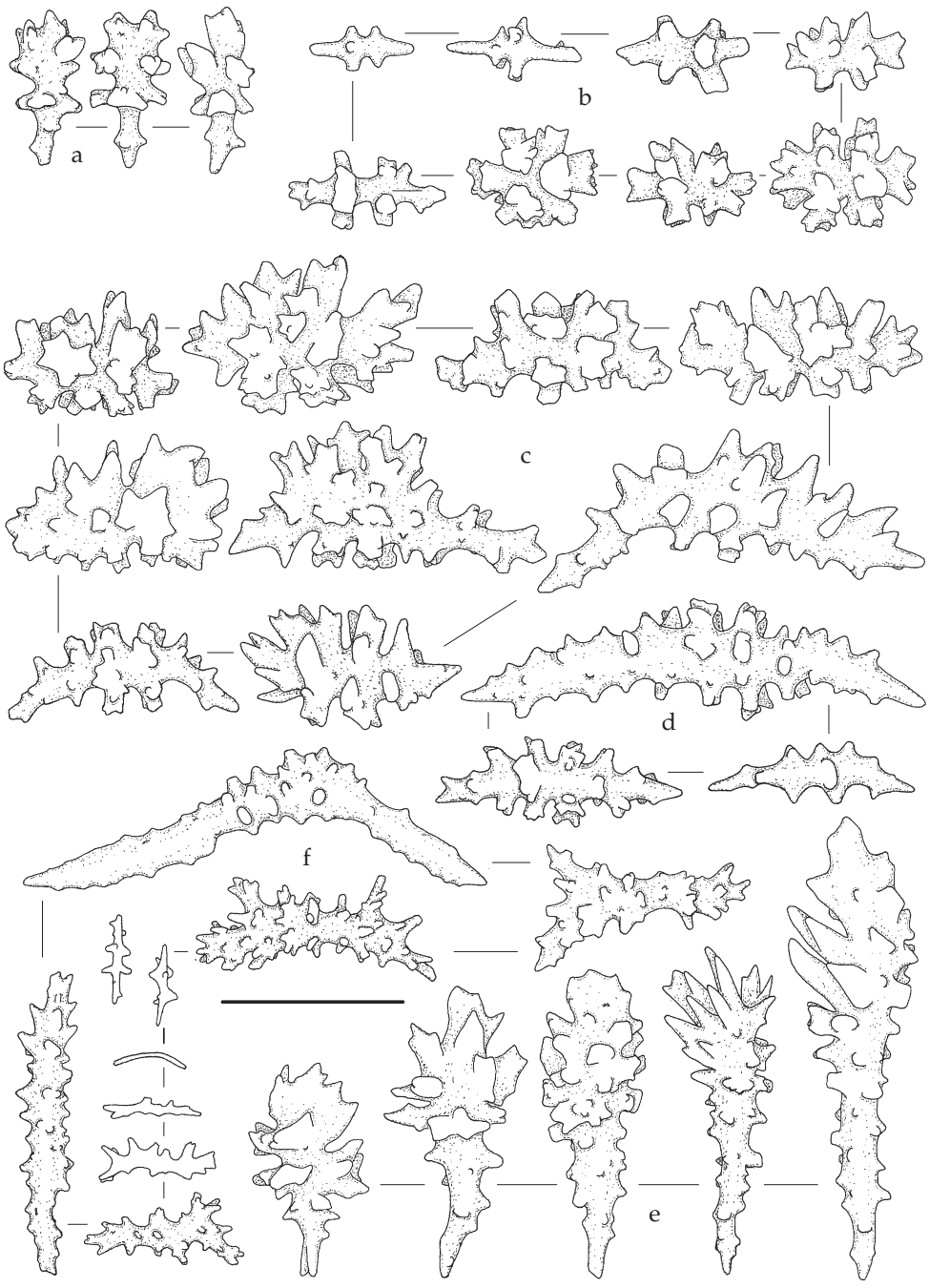

Fig. 11. *Acabaria robusta* (Shann, 1912), sclerites of holotype (BMNH 1939.06.12.007); a-d, coenenchyme of nodes and internodes; a, clubs; b, capstans; c, unilaterally spinose spindles, unilaterally foliate spheroids and leaf-spindles; d, spindles; e, clubs of calyces; f, anthocodial sclerites. Scale 0.10 mm.

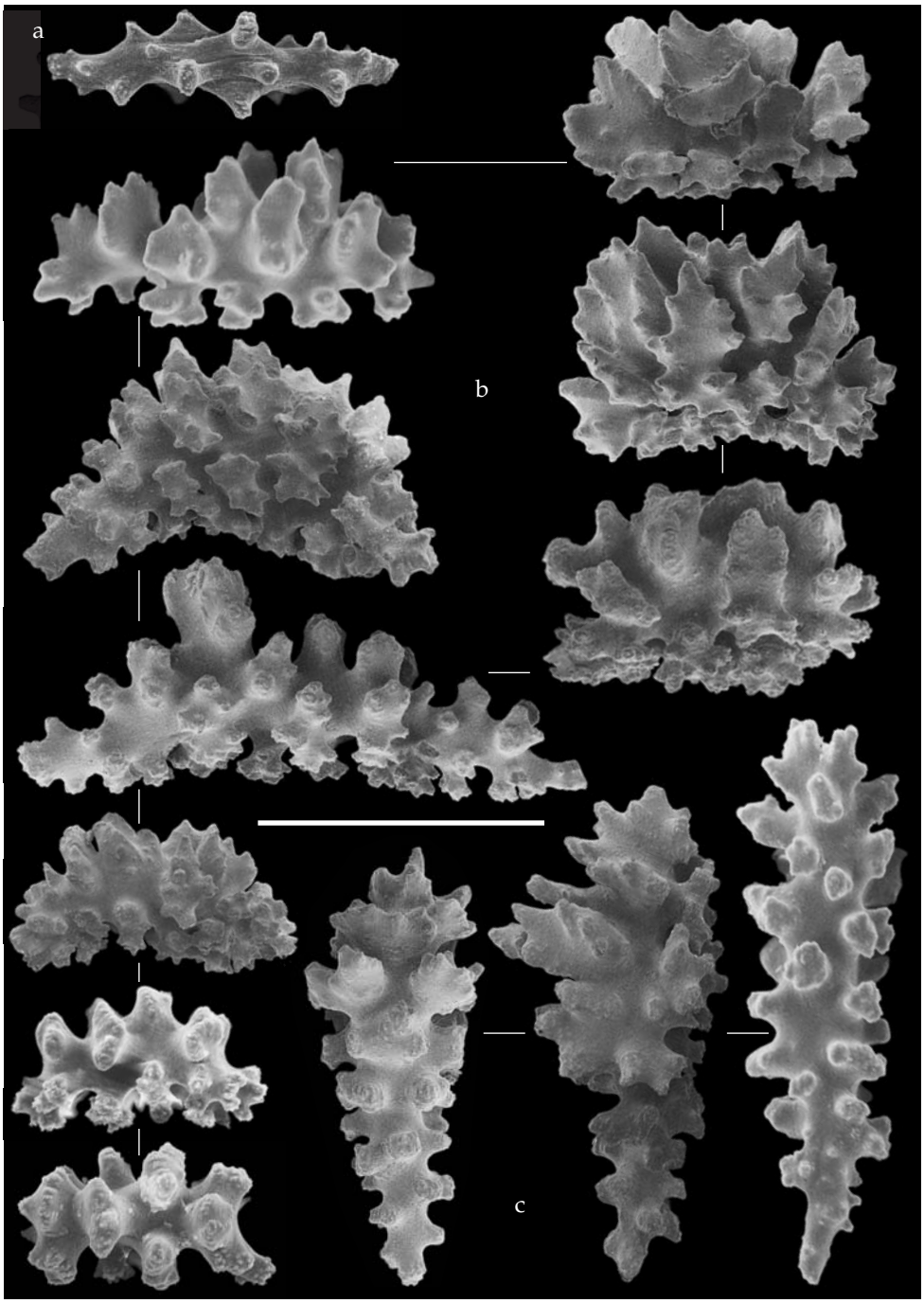

Fig. 12. *Acabaria robusta* (Shann, 1912), sclerites of ZRC.1998.45; a-b, coenenchyme of nodes and internodes; a, spindle; b, unilaterally spinose spindles, unilaterally foliate spheroids and leaf-spindles; c, clubs of calyces. Scale 0.10 mm.

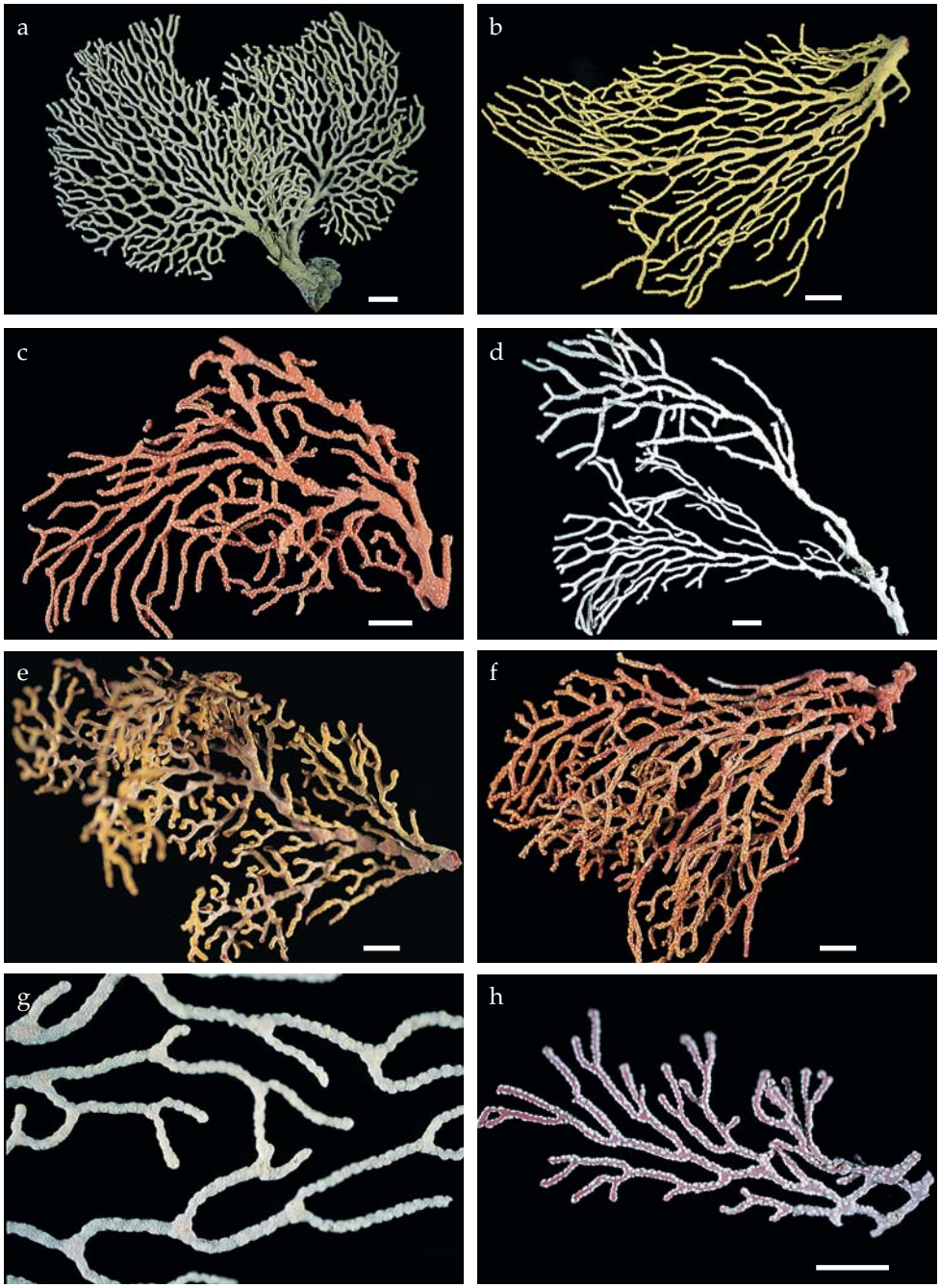

Fig. 13a-b, *Melithaea ochracea* (Linnaeus, 1758), a, ZRC.1996.1677, b, ZRC.1996.1678; c-d, *Mopsella rubeola* (Wright & Studer, 1889), c, ZRC.1995.15, d, ZRC.1998.42; e-f, *Mopsella retifera* (Lamarck, 1816), e, ZRC.1995.12, f, ZRC.1995.88; g-h, *Acabaria robusta* (Shann, 1912), g, ZRC.1995.19, detail of branches, h, ZRC.1998.45. Scales 1 cm.

(figs 10e, 11e, 12c). Most clubs possess thorns as well as some terminal leaves. Anthocodiae with a crown of two to three rows of spindles and eight points of two to four spindles. Crown with slightly bent thorny spindles up to about 0.30 mm long, middle part with more developed thorns or some irregular projections. Points with slightly bent thorny spindles up to 0.20 mm long, distal end with more developed thorns, several with irregular projections on the convex side. Tentacles with irregularly formed rods up to 0.12 mm long, the smallest almost smooth, the largest crescent-shaped with spines and irregular projections. Pharynx with straight spiny rods up to 0.05 mm long (figs 10f, 11f). Sclerites of coenenchyme of nodes and internodes reddish (reddish colonies) or colourless (white colonies). Sclerites of calyces and polyps colourless. Axis red.

Ecology.— Generally occurs at depths greater than 8 m. Among the Singapore melithaeids this is the most common species. It is known to host the commensal shrimps *Periclimenes psamathe* and *Hamodactylus boschmai* (Goh et al., in press). The same paper also reports the predatory ovulid gastropod *Phenacovolva tokioi* associated with this species.

Variation.— The recently collected material resembles the holotype (BMNH 1939.06.12.007), although all sclerites of the holotype show more developed tubercles and spines and the spindles are somewhat longer, up to 0.30 mm long.

Remarks.— Shann referred this species to *Wrightella*, Kükenthal to *Mopsella*, and Hickson to *Melithaea*. Hickson (1937: 119) already said "It is, however, one of those species of Melitodidae which is difficult definitely to locate". Indeed, this is one of the species being intermediate between *Acabaria* and the other genera of the family. In the coenenchyme of the nodes and internodes quite some capstans are present, even some small clubs and a rare double-disc. These are sclerites typical of *Melithaea*, *Mopsella*, *Clathraria*, and *Wrightella*. The drawings of the sclerites of this species (fig. 10) even resemble those of *M. ochracea* (fig. 2). However, as most of the sclerites are spindles we refer the species to *Acabaria*.

During a recent visit to the Natural History Museum, London, the first author had the possibility to examine three microscopic slides (BMNH 1961.406-408) of Shann's material identified as *Acabaria gracillima* (Ridley, 1884); Shann's specimens are lost. Although the sclerites were dissolved for the greater part, they were like those of our recently collected *A. robusta* material. A re-examination of microscopic slides of the type material of *A. gracillima* showed similar sclerites but an absence of the capstans which are characteristic for *A. robusta*. In our opinion Shann's material identified as *Acabaria gracillima* represents part of the intraspecific variation of *A. robusta*.

It is remarkable that all recently collected material shows a red axis while Shann's *Wrightella robusta* as well as his *Acabaria gracillima* had a white axis.

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