ABSTRACT. – Eight new species belonging to the genus Cycloporus (Platyhelminthes, Polycladida, Euryleptidae) are described from Australasian waters including eastern and western Australia and Papua New Guinea. The widely distributed species, Cycloporus variegatus is also redescribed and photographed for the first time. This study significantly increases the number of known Cycloporus species from 6 to 14 worldwide. Species are diagnosed primarily on their colour patterns and arrangement of their eyes.

KEY WORDS. – Cycloporus, Platyhelminthes, Polycladida, taxonomy.

INTRODUCTION

Of all the polyclad flatworms, the pseudocerotids (Platyhelminthes, Polycladida) are thought to be the most conspicuous and diverse throughout tropical and subtropical waters (Newman & Cannon, 1994a, b, 1995a, 1997, 1998; Newman & Anderson, 1997; Newman et al., 1994). Recent studies have shown that the little known euryleptids are also diverse and colourful in warm seas. However, they may be often confused with the pseudocerotids and, therefore, overlooked (Newman & Cannon, 2000; Newman et al., 2000).

According to Faubel (1984) and Prudhoe (1985) there are only six known species of Cycloporus known worldwide (Table 1). Eight new species are described here from eastern and western Australian waters and from Madang, east Papua New Guinea. Cycloporus variegatus Kato, 1934 is also redescribed. The genus Cycloporus is discussed, as well as, taxonomic characters used to describe new species.

MATERIAL AND METHODS

Animals were collected by hand from the reef crest and on scuba from the reef slope from Heron Island (23° 30' S, 152° 05' E), southern Great Barrier Reef (GBR); Lizard Island (14° 40' S, 145° 28' S), northern GBR; Stradbroke Island (27° 27' S, 153° 25' E) and Mooloolabah (26° 48' S, 153° 08' E, southeast Queensland; Freemantle (32° 08' S, 115° 44' E) and Coral Bay (23° 9' S, 113° 46' E), western Australia; and north Madang (5° 14' S, 145° 45' E), Papua New Guinea (PNG).

Worms were photographed in situ, fixed on frozen polyclad fixative (see Newman & Cannon, 1995b) and preserved in 70% ethanol for histological preparations. Whole mounts were stained with Mayer’s haemalum, dehydrated in graded alcohols and then mounted in Canada balsam. Longitudinal serial sections of the reproductive region were obtained from specimens embedded in Paraplast (56°C), sectioned at 5 - 7 µm, and then stained with haematoxylin and eosin.

Measurements of the body were taken from live animals in a relaxed state and are given as length mm x width mm. Measurements of the reproductive organs are taken from the paratypes. Reconstruction of the reproductive system is diagrammatic and derived from the sections with minimal interpretation. Drawings were made with the aid of a camera lucida. This material is lodged at the Queensland Museum (QM) as wholemounts (WM), serial sections (LS) and wet specimens (S).
Newman & Cannon: *Cycloporus* from Australasian waters

**TAXONOMY**

**FAMILY EURYLEPTIDAE**

*Cycloporus* Lang, 1884  
(Fig. 1)


**Diagnosis.** – Emended from Faubel (1984) and Prudhoe (1985). Euryleptidae with elongate to round oval body with smooth or knobbed dorsal surface, variably coloured and patterned (Fig. 1A). Marginal tentacles small bumps or short and pointed. Two elongate cerebral eyes or clusters present. Dorsal and ventral tentacular surfaces with scattered eyespots. Branched intestines with four to ten pair of lateral branches, branches continuous with small round peripheral vesicles at the margin that open to the exterior through minute pores. Male copulatory apparatus with antero-dorsally orientated prostate, unbranched vas deferens and armed penis (Fig. 1B). Female apparatus with multiple uterine vesicles and extensive cement glands when mature.

**Remarks.** – Members of the genus *Cycloporus* may be easily confused with pseudocerotids, especially the genus *Pseudoceros* since they are similarly shaped and coloured. However, with closer examination, *Cycloporus* may be easily distinguished from *Pseudoceros* by the following features (Fig. 1A):

![Diagram of Cycloporus](image)

Fig. 1. A. Diagram of *Cycloporus*, ventral view showing details of the digestive and reproductive systems; B. Diagram of reproductive systems from longitudinal section.
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- distinct small, anterior, tubular pharynx (not ruffled)
- comparatively small size – usually less than 20 mm (compared to an average size of 20 mm)
- transparent margin with yellow or white peripheral glands (absent in all pseudocerotids)
- presence of tentacular bumps (rather than pseudotentacles formed from upfoldings of the anterior margin)
- two elongate eye clusters with numerous eyes (rather than one cluster with relatively few eyes arranged in a horseshoe shaped cluster)
- extensive branching oviducts in mature animals (oviducts are restricted laterally along the intestine).

The internal reproductive anatomy in Cycloporus is remarkably similar to that of the pseudocerotids. The only difference that can be noted from the details of the male anatomy is that the seminal vesicle is significantly larger than the prostate and the penis stylet is relatively small and wide (Fig. 1B). However, due to the plastic nature of these animals, comparisons by direct measurements are not reliable. Furthermore, details of the reproductive structures have not, to date, been used to differentiate species of Cycloporus. Newman & Cannon (1994a, 1995a, 1997, 1998, 2000) concluded that species determination within a genus (pseudocerotids and eury leptids) could rely on colour pattern alone. Litviatis & Newman (2001), from molecular studies, confirmed the use of colour patterns to distinguish species.

The following six species may be reliably placed in Cycloporus sensu strictu based on the morphology of the pharynx, eye arrangement, shape of the tentacles, presence of marginal peripheral vesicles and presence of four to ten pairs of lateral intestinal branches; C. australis Prudhoe, 1982; C. gabrielle Marcus, 1950; C. maculatus Hallez, 1893; C. misakiensis Kato, 1934; (syn. C. japonicus Kato, 1944); C. papillosus Lang, 1884 and C. variegatus Kato, 1934 (see Table 1). Lang (1884) mentions C. papillosus var. laevigatus which is described as lacking the characteristic papillae. However, he did not provide many descriptive details and hence we have not included this “variety” in Table 2.

Cycloporus albofasciatus, new species
(Figs. 2A, B, 11A)


Description. – Body oval without marginal ruffles (Figs. 2A, 11A). Entire dorsal surface covered with extremely small, short, raised round papillae, evenly spaced and regular; papillae do not extend to the margin. Intestine with 4 or 5 lateral branches. Cerebral eyespots with about 30 eyes each, about 15-20 scattered tentacular eyes each side (Fig. 2B). Size: 7 x 4 mm (mature) (see Table 2).

Table 2. Margin clear yellow-brown. Ventrally yellow-brown.

Diagnosis. – Papillate, yellow-brown with white transverse streaks.

Etymology. – Named from the Latin albus = white and fascia = stripe, for its distinct pattern of white transverse streaks.

Remarks. – Two other species possess dorsal papillae, C. papillosus Lang, 1884 and C. xanthopunctatus, new species (Tables 1, 2). This current species has white transverse streaks across the papillae and only about 30 cerebral eyes per side (not varying coloured papillae and numerous cerebral eyes as in C. papillosus). This species also differs from C. xanthopunctatus, new species, since it has white transverse streaks (not median yellow spots).

Habitat & distribution. - Found inside a transparent colonial ascidian. Rare from N Madang, PNG.
Cycloporus atratus, new species
(Figs. 3A, B, 11B)


Description. - Small and oval with no marginal ruffles, tentacles small bumps (Figs. 3A, 11B). Cerebral eyespot with few eyes, 10 eyes each; tentacular bumps with about 15 to 20 scattered eyes each (Fig. 3B). Size: 8 x 5 mm (mature) (see Table 2).

Transparent black with irregular yellow blotches and regular yellow microdots over the entire dorsal surface, short transverse streaks near margin, yellow intermittent blotches medially (Fig. 11B, Table 2). Tentacular bumps orange, large white triangular spot in between. Margin clear with yellow peripheral vesicles. Ventral pattern similar but fainter.

Diagnosis. - Black, yellow blotches and dots; tentacular bumps orange with white spot in between. Few cerebral and tentacular eyes.

Etymology. - Named from the Latin atratus = dressed in black, for its transparent black colour pattern.

Remarks. - No other species has a black background colour and orange tentacular bumps with a white spot in between (see Tables 1, 2).

Habitat & distribution. - Two animals found together under rubble at the reef crest, Heron Is., southern GBR. These worms were extremely active when disturbed.

Cycloporus guttatus, new species
(Figs. 4A, B, 11C)


Fig. 3. Cycloporus atratus, new species. A. Whole mount from the ventral side, bar = 0.5 mm; B. Dorsal eye arrangement.

Fig. 4. Cycloporus guttatus, new species. A. Whole mount from the ventral side, bar = 1.0 mm; B. Dorsal eye arrangement.

Description. – Extremely small, body oval, no marginal ruffles (Figs. 4A, 11C). Tentacles only slight bumps. Intestine with about 4 lateral intestinal branches. Cerebral eyespots with numerous eyes about 50 to 70 each, tentacular bumps with about 20 to 30 eyes each (Fig. 4B). Size: 4 x 3 mm (mature) (see Table 2).

Transparent cream with light brown markings (food in gut diverticula), numerous evenly spaced red dots scattered over the entire dorsal surface and opaque white spots over the tentacles and in between (Fig. 11C, Table 2). Margin clear with opaque white spots.

Diagnosis. – Cream with red dots and numerous cerebral eyes.

Etymology. – Named from the Latin guttatus = dappled, for its red dots.

Remarks. – No other species possesses red dots over its entire dorsal surface (Tables 1, 2). This species most closely resembles C. australis Prudhoe, 1982 and C. reticulatus, new species. However, this species has only about four intestinal branches (not 8 or 9 as in C. australis) and this species also possesses distinct red dots over its dorsal surface which are lacking in C. reticulatus, new species.

Habitat & distribution. – Animals appeared as small scars on an encrusting colonial ascidian on which it was probably feeding. Rare from Heron Island, southern GBR.

Cycloporus harlequin, new species
(Figs. 5A, B, 11D, E)


Description. – Small, margin not ruffled (Figs. 5A, 11D, Table 2). Tentacles slight bumps only. Extensive cement glands and oviducts. Cerebral eyespots with about 15 to 20 eyes each, tentacular bumps with about 15 to 20 eyes each (Fig. 5B). Size 6 x 4 mm (mature).

Background not transparent but opaque light cream with a bold pattern of large irregular black spots or patches with smaller, scattered black irregular spots; several irregular pink dots medially and posterio-laterally (Figs. 11D, E, Table 2). Marginal band orange becoming yellow anteriorly at the tentacles, narrow white rim. Ventrally cream with some faint black blotches.

Diagnosis. – Opaque white with irregular black patches and orange marginal band.
**Description.** – Small and oval, margin with few shallow ruffles (Figs. 6A, 11F). Tentacles slight bumps. Appears to possess four lateral intestinal branches. Large sucker mid-body. Cerebral eyespot with about 30 eyes each, tentacular bumps with about 15 eyes each (Fig. 6B). Size range: 4 x 2 mm to 10 x 4 mm (all mature) (see Table 2).

Transparent with a white opaque reticulate pattern (sometimes appears brown if gut diverticula full of food particles) (Fig. 11F, Table 2). Opaque white dots over tentacular bumps and between. Margin clear with white peripheral glands.

**Diagnosis.** – Transparent with a white opaque reticulate pattern.

**Etymology.** – Named from the Latin reticulatus = netlike, for its distinct white pattern.

**Remarks.** – This species closely resembles *C. guttatus*, new species, and *C. variegatus*. This species does not possess red dots and there are fewer cerebral and tentacular eyes than in *C. guttatus*, new species (Table 2). It has a distinct white reticulate pattern and about three lateral intestinal branches and it is not variable (yellow, orange or red pigment) with 9 lateral intestinal branches as found in *C. variegatus*.

**Habitat & distribution.** – Seven animals were found together under a coral boulder feeding on an encrusting brown colonial ascidian that they had nearly consumed. Rare but widely distributed, found from the reef crest from Heron Is., southern GBR; Madang, PNG and Coral Bay, WA.

**Cycloporus spiritus**, new species
(Figs. 7A, B, 12A)


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Fig. 6. *Cycloporus reticulatus*, new species. A. Whole mount from the ventral side, bar = 0.5 mm; B. Dorsal eye arrangement.

Fig. 7. *Cycloporus spiritus*, new species. A. Whole mount from the ventral side, bar = 1.0 mm; B. Dorsal eye arrangement.
**Description.** – Rounded oval, margin ruffled, tentacles bumps only (Figs. 7A, 12A). Large sucker. Extensive branching oviducts full of eggs. Elongate cerebral eyespots with about 20 to 25 eyes each; tentacular bumps with numerous eyes, about 150 each (Fig. 7B). Size range: 8 x 4 mm to 15 x 8 mm (mature) (see Table 2).

Transparent white (can appear brown when gut diverticula are full of dark brown pigment), median stripe alternating between opaque white then yellow-orange and ending prior to posterior margin (Fig. 12A, Table 2). Brilliant yellow-orange wide margin, clear rim. Tentacles yellow-orange with white triangular spot in between.

**Diagnosis.** – White with opaque white and yellow-orange median stripe, margin bright-yellow orange.

**Etymology.** – Named from the Latin spiritus = ghost, for its white, ghost-like appearance.

**Remarks.** – No other species has so many tentacular eyes except for *C. australis* Prudhoe, 1982 (Tables 1, 2). However, this species is white with a yellow-orange median stripe and yellow-orange marginal band, not brown with brown spots as in *C. australis*.

**Distribution & habitat.** – Rare from under rubble on the reef crest, Heron Is., S GBR and reef slope, Mooloolabah, SE Qld.

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**Cycloporus variegatus, Kato, 1934**
(Figs. 8A, B, 12B, C)

*Cycloporus variegatus* Kato, 1934: 123, fig. 15; Dawydoff, 1952: 81.


**Description.** – Rounded oval (Fig. 8A). Tentacles short and pointed. Intestine with about 9 lateral branches. Sucker large, mid-body. Extensive branching oviducts and cement glands. Two elongate cerebral eyespots with about 70 eyes each, tentacles with about 50 to 60 eyes each (Fig. 8B). Size: 9 x 3 mm (mature) (see Table 2).

Transparent cream, can appear brown when gut diverticula full of food; entire dorsal surface with evenly distributed yellow spots; opaque white spot just posterior to the cerebral eyespot, intermittent median yellow stripe (or irregular elongate spots) ending prior to the posterior margin (Figs. 12B, C). Tentacles yellow. Margin clear with yellow peripheral glands. Ventrally transparent cream.

**Diagnosis.** – Transparent cream, covered in yellow spots with median white and intermittent yellow stripe and short pointed tentacles; nine lateral intestinal branches.

**Remarks.** – Specimens match the original description given by Kato (1934). Kato (1943) did not mention the number of lateral intestinal branches in his specimen so comparisons cannot be made (see Table 1, 2).

**Habitat & distribution.** – Rare from under rubble, Lizard Is., N GBR and Freemantle, WA. Also known from Japan (Kato, 1934, 1937) and Vietnam (Dawydo, 1952).

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**Cycloporus venetus, new species**
(Figs. 9A-C, 12D)

**Material examined.** – Holotype - WM (QM G211203), 3 m, N. Exmouth, WA, 24 Apr.1996.

**Description.** – Rounded oval (Figs. 9A, 12D). Tentacles only. Intestine with about 9 lateral branches. Sucker large, mid-body. Extensive branching oviducts and cement glands. Two elongate cerebral eyespots with about 30 eyes each and about 15 scattered tentacular eyes (Fig. 9B). Size 8 x 3 mm (mature) (see Table 2).

Bright opaque blue with a narrow white median stripe (Fig. 12D). Margin wide, opaque light yellow, rim clear. Tentacles with a small black spot (Fig. 9B).

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**Fig. 8. Cycloporus variegatus** Kato, 1934. A. Whole mount from the ventral side, bar = 1.0 mm; B. Dorsal eye arrangement.
Diagnosis. – Blue with narrow median white stripe and wide yellow margin, tentacular bumps with a black spot.

Etymology. – Named from the Latin venetus = sea-blue, for its blue colour and yellow margin which resembles a sandy beach.

Remarks. – No other Cycloporus has such a unique colour pattern.

Habitat & distribution. – Rare from Exmouth, WA.

Cycloporus xanthopunctatus, new species
(Figs. 10A-C)


Description. – Body elongate oval (Figs. 10A, B). Dorsal surface covered in regularly spaced papillae. Cerebral eye clusters with about 45 eyes each, tentacular bumps with about 25 eyes each (Fig. 10B). Size: 10 x 6 mm (mature) (Table 2).

Fig. 9. Cycloporus venetus, new species. A. Whole mount from the ventral side, bar = 1.0 mm; B. Dorsal eye arrangement.

Fig. 10. Cycloporus xanthopunctatus, new species. A. Diagram of dorsal pattern showing papillae and darker pigment granules; B. Whole mount from the ventral side, bar = 1.0 mm; C. Dorsal eye arrangement.
Transparent brown, covered with bright yellow spots, median line of yellow spots, can appear red-brown when gut diverticula full of food particles (Fig. 10A). Margin clear with yellow peripheral glands.

**Diagnosis.** - Papillate, transparent with yellow spots and yellow median stripe.

**Etymology.** - Named from the Greek *xanthos* = yellow and Latin *punctum* = dot for its yellow spots.

**Remarks.** - Although no colour photograph is available, there is adequate information to determine that this is a new species. Only two other species are papillate, *C. albofasciatus*, new species, and *C. papillosus* (Tables 1, 2). This current species possesses yellow spots, not white transverse streaks as found in *C. albofasciatus*, new species. Furthermore, it does not have numerous cerebral and tentacular eyes as found in *C. papillosus*. It is possible that *C. papillosus* s. s. may represent several species since its distribution from cold temperate seas to tropical seas is unusually broad. Obviously more specimens are needed for study.

**Habitat & distribution.** - Rare from under boulders, reef slope, Moreton Bay, SE Qld, Australia.

![Fig. 11. A. Cycloporus albofasciatus, new species, Madang, PNG; B. Cycloporus atratus, new species, Heron Is., S GBR; C. Cycloporus guttatus, new species, Heron Is., S GBR; D. Cycloporus harlequin new species, Heron Is., S GBR; E. C. harlequin, new species, in situ on a colonial ascidian, Heron Is., S GBR; F. Cycloporus reticulatus, new species, Heron Is., S GBR.](image-url)
DISCUSSION

It is apparent that flatworms belonging to the family Euryleptidae are more common than previously thought. In general, these polyclads are smaller than the more conspicuous pseudocerotids and may have been overlooked. Furthermore, several of these animals were found closely associated with their prey, colonial ascidians, and have not been found roaming about like the larger pseudocerotids.

Identification of *Cycloporus* species has proven to be problematic since there are few reliable taxonomic characters. It appears that pattern is the most reliable character available to separate species, however, the colour of animals varies depending on what they consume. Many animals appeared to be generally dark brown owing to the dark brown food particles in the gut diverticula. The relative number of cerebral and tentacular eyes is also a useful character to differentiate some species although the exact number of eyes was found to vary intra-specifically. The reliability of the number of lateral intestinal branches as a taxonomic character is questionable: they were extremely hard to see in the wholemounts especially if the animals were sexually mature and full of eggs in the swollen, branching oviducts. Details of the reproductive anatomy have not been given here as there is no information from the previous literature for comparison.

Obviously, more information is needed on these elusive polyclads to better understand their biodiversity and distribution.

ACKNOWLEDGEMENTS

We wish to thank Dr A. Flowers, Ms K. Jennings, Dr T. Gosliner, Dr P. & Mrs S. Morrison, Dr W. Brogan, Ms V. Larkin-Matson and Ms M. Hewitt for assistance in collecting flatworms; Ms Z. Khalil and Mr G. Hopper for histological preparations; Mr K. Sewell and Mr M. Bryant for specimen curation. Dr A. Flowers greatly assisted with the underwater photography. Special thanks are given to; the staff of the School of Environmental Science and Management, Southern Cross University; the Directors and staff of the Heron, One Tree and Lizard Island Research Stations and the former Christensen Research Institute, Madang, PNG. Financial support was provided to L. J. N. by the Australian Biological Study, Canberra and the Christensen Fund, Palo Alto, California.

LITERATURE CITED


Fig. 12. A. *Cycloporus spiritus*, new species, Heron Is., S GBR; B. *Cycloporus variegatus* Kato 1934, Lizard Is., N GBR; C. *Cycloporus variegatus* Kato, 1934, Ningaloo Reef, WA; D. *Cycloporus venetus*, new species, Exmouth, WA.
Table 1. Morphological features of known *Cyclopora* spp. (after Faubel, 1984; Prudhoe, 1985; Marcus & Marcus, 1968).

<table>
<thead>
<tr>
<th>Species</th>
<th>Dorsal Surface</th>
<th>Max. Size mm</th>
<th>Colour Pattern</th>
<th>Margin</th>
<th>Tentacles</th>
<th>Cerebral eyespots</th>
<th>No. tent. eyes</th>
<th>No. lateral intestinal branches</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>C. australis</em> Prudhoe, 1982</td>
<td>smooth</td>
<td>10 x 7</td>
<td>brown with dark spots</td>
<td>yellow spots</td>
<td>indefinite</td>
<td>2x long as wide, numerous</td>
<td>numerous</td>
<td>8 or 9</td>
<td>South Australia</td>
</tr>
<tr>
<td><em>C. gabrielle</em> Marcus, 1950</td>
<td>smooth</td>
<td>10</td>
<td>pink/gray with dark spots</td>
<td>smooth</td>
<td>short and pointed</td>
<td>3x long as wide, numerous</td>
<td>2 ventral groups of ~20, 2 dorsal of ~10</td>
<td>9</td>
<td>Caribbean</td>
</tr>
<tr>
<td><em>C. maculatus</em> Hallez, 1893</td>
<td>slightly papillate</td>
<td>10 x 7</td>
<td>variable from yellow, orange to red</td>
<td>smooth, inner red and outer white band</td>
<td>short &amp; pointed</td>
<td>numerous*</td>
<td>numerous</td>
<td>7</td>
<td>Mediterranean, Ireland</td>
</tr>
<tr>
<td><em>C. misakiensis</em> Kato, 1939</td>
<td>smooth</td>
<td>20</td>
<td>brown, darker spots</td>
<td>dark spots</td>
<td>rudimentary</td>
<td>laterally wide, numerous</td>
<td>?</td>
<td></td>
<td>Japan</td>
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<tr>
<td><em>C. papillosus</em> Lang, 1884</td>
<td>papillate</td>
<td>16 x 9</td>
<td>cream, papillate white, yellow or orange</td>
<td>ruffled</td>
<td>short &amp; pointed</td>
<td>scattered &amp; numerous*</td>
<td>scattered &amp; numerous*</td>
<td>6</td>
<td>Japan, Sweden, Vietnam, UK, South Africa</td>
</tr>
<tr>
<td><em>C. variegatus</em> Kato, 1934</td>
<td>smooth</td>
<td>11 x 6</td>
<td>median brown line, white specks</td>
<td>ruffled, yellow spots</td>
<td>short &amp; pointed</td>
<td>numerous, 2 contiguous groups</td>
<td>numerous, especially ventrally</td>
<td>figure shows 4</td>
<td>Japan, Vietnam</td>
</tr>
</tbody>
</table>

* see text
<table>
<thead>
<tr>
<th>Species</th>
<th>Dorsal Surface</th>
<th>Max. Size mm</th>
<th>Colour Pattern</th>
<th>Margin</th>
<th>Tentacles</th>
<th>No. cerebral eyes per side</th>
<th>No. tent. eyes per side</th>
<th>No. intestinal branches</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td><em>C. albofasciatus</em>, new species</td>
<td>papillate</td>
<td>7 x 4</td>
<td>brown, white transverse streaks &amp; flecks</td>
<td>clear</td>
<td>bumps</td>
<td>30</td>
<td>15 - 20 scattered</td>
<td>4 or 5</td>
<td>Madang</td>
</tr>
<tr>
<td><em>C. atratus</em>, new species</td>
<td>smooth</td>
<td>8 x 5</td>
<td>black, yellow blotches</td>
<td>yellow</td>
<td>orange &amp; white bumps</td>
<td>10</td>
<td>10 scattered</td>
<td>?</td>
<td>south GBR</td>
</tr>
<tr>
<td><em>C. guttatus</em>, new species</td>
<td>smooth</td>
<td>4 x 3</td>
<td>cream with red dot</td>
<td>clear</td>
<td>bumps</td>
<td>50 - 70</td>
<td>20</td>
<td>4?</td>
<td>south GBR</td>
</tr>
<tr>
<td><em>C. harlequin</em>, new species</td>
<td>smooth</td>
<td>10 x 7</td>
<td>white with black patches</td>
<td>clear</td>
<td>orange, rim clear</td>
<td>15 - 20</td>
<td>10 - 15</td>
<td>?</td>
<td>south GBR</td>
</tr>
<tr>
<td><em>C. reticulatus</em>, new species</td>
<td>smooth</td>
<td>20 x 10</td>
<td>cream with white reticulate pattern</td>
<td>clear</td>
<td>white bumps</td>
<td>30</td>
<td>15</td>
<td>4</td>
<td>S GBR, SE Qld, Madang, WA</td>
</tr>
<tr>
<td><em>C. spiritus</em>, new species</td>
<td>smooth</td>
<td>15 x 10</td>
<td>white, median yellow &amp; orange stripe</td>
<td>orange</td>
<td>orange bumps</td>
<td>20 - 25</td>
<td>150</td>
<td>?</td>
<td>south GBR</td>
</tr>
<tr>
<td><em>C. variegatus</em> Kato, 1934</td>
<td>smooth</td>
<td>20 x 10</td>
<td>cream, median orange stripe, white dots</td>
<td>yellow</td>
<td>yellow spots, ruffled</td>
<td>70</td>
<td>50 - 60</td>
<td>9</td>
<td>north GBR WA</td>
</tr>
<tr>
<td><em>C. venetus</em>, new species</td>
<td>smooth</td>
<td>8 x 3</td>
<td>bright blue, median white</td>
<td>wide</td>
<td>orange bumps</td>
<td>30</td>
<td>15 scattered</td>
<td>?</td>
<td>WA</td>
</tr>
<tr>
<td><em>C. xanthopunctatus</em>, new species</td>
<td>papillate</td>
<td>10 x 6</td>
<td>brown, median yellow spots</td>
<td>wide yellow</td>
<td>yellow bumps</td>
<td>45</td>
<td>25</td>
<td>?</td>
<td>SE Qld</td>
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