

along cervical groove, roughly located below the site of lateral projections from middle. Ocular peduncles gray with a wide black band proximally, a black patch on base, or without black area (see Remarks); ocular acicles gray. Antennal acicles and proximal segment of peduncle cream, distal segment of peduncle and flagellum orange. Antennular peduncles gray-blue, 2nd segment black-brown, flagellum pale orange. Chelipeds with fingers cream, palm, carpus and merus gray-green; 2nd and 3rd pereopods uniformly cream.

Habitat:

Calcinus vachoni lives on the branches of corals in the shallow subtidal to about 3 m depth or under large rocks in the low intertidal. The gastropod shells inhabited include *Drupa* spp., *Drupella* spp., *Conus* spp., *Mitra* spp., *Latirus* spp., *Cymatium* spp., *Coralliophila* spp. and *Cronia* spp. *Calcinus vachoni* lives sympatrically with *C. latens*, *C. gaimardii*, *C. minutus*, *C. guamensis*, and *Dardanus lagopodes*.

Distribution:

Northwestern Australia south to Shark Bay, Mauritius, Vietnam, Taiwan, Ryukyu Islands, mainland Japan.

Remarks:

Calcinus vachoni resembles *C. guamensis* and easily confused with the latter (Forest, 1958: 286; Miyake, 1978: 54; Baba, 1982: 65). They are very similar in the external features, but still can be distinguished in that *C. vachoni* has greater development of setae of dactyls and propodi on the 3rd pereopods than those on the 2nd. *C. guamensis* has similar development of setae on the 2nd and 3rd pereopods. The two species can also be separated by differential color patterns. The carpi and meri of chelipeds, and the dactyls of the 2nd and 3rd pereopods in *C. guamensis* are black with white spots, while the dark pigmentation is absent in *C. vachoni*. *C. vachoni* is also always misidentified as *C. seurati* (see Discussion) and the difference in color pattern together with other

easily confused external features are shown in Table 1.

The black dorsal patch at the base of eyestalks in *C. vachoni* is a main character adopted by Forest (1958) and Morgan (1991). However, the color pattern of eyestalks is variable among the materials collected from Kenting area. Different degrees of the black patches on eyestalks (Fig. 1A–E) are expanded from initial absence of black patches (Fig. 1A) to the presence of small black patches at the base (Fig. 1B) with a further extension to cover nearly proximal half (Fig. 1C, D) or even to the entire eyestalks (Fig. 1E). It is noted that most very small individuals have black patches occupied nearly entire eyestalks (Fig. 1E). Such variable black patches on eyestalks is not recommended as a key character for specific identification.

Calcinus seurati Forest, 1951

(Figs. 4, 5, 6)

Calcinus seurati Forest, 1951: 84, figs. 1, 3, 4, 7, 8. — Forest, 1953: 556; Holthuis, 1953: 44; Haig and McLaughlin, 1984: 108; Wooster, 1984: 158; Reay and Haig, 1990: 582, 584; Morgan, 1991: 898, figs. 46–48; Asakura *et al.*, 1994: 279; Poupin, 1994: 19, fig. 15, pl. 2d; Poupin, 1996: 15.

Material examined:

Lanyu Island, Taitung County, 6♂♂ (SL 1.6–6.3 mm), 7♀♀ (SL 2.9–4.4 mm) (incl. 1 ovig. ♀), Apr. 16, 1996, NSYSU 960416; 4♂♂ (SL 2.6–3.3 mm), 4♀♀ (SL 2.0–3.5 mm), Apr. 1, 1997, NSYSU 970401; 2♂♂ (SL 4.1, 5.2 mm), Apr. 2, 1997, NSYSU 970402.

Diagnosis:

Ocular acicles with 1 spine at distal margin. Antennal flagella long, exceeding 2nd pereopod. Left cheliped much larger than right; palm and fingers smooth, fingers with cutting edge toothless; carpus smooth, with 1 large submedian tubercle on lateral surface. Right cheliped smooth or slightly granulous; palm and

Table 1. Comparison of external characters and coloration between *Calcinus vachoni* and *Calcinus seurati*

Characters	<i>C. vachoni</i>	<i>C. seurati</i>
Ocular acicles	multispinose	simple
Left chela	not massive, cutting edge of fingers with teeth	massive, cutting edge of fingers without teeth
Dorsal margin of right chela	spinose/tuberculate	smooth/granulose
Setae of 2nd and 3rd pereopods	Setae of dactyl and propodus of 3rd pereopod more dense than 2nd	Setae of dactyls and propodi of 2nd and 3rd pereopods with similar sparsity
Posterior lobes of telson	both with several spines	both with 1 spine
Coloration	Shield cream, with 2 small black spots along cervical groove below lateral projections; eyestalks with different degree of black patch or without patch; antennular peduncles gray-blue, 2nd segment black-brown, flagellum pale orange; first 3 pereopods cream to gray-green.	Shield cream, with 2 longitudinal green-gray stripes below lateral projections; eyestalks with 2 colors not separated distinctly; antennular peduncles with 2nd segment pale blue with orange distally, 3rd segment blue with orange proximally, flagellum orange; chelipeds cream to gray-blue, 2nd and 3rd pereopods cream, with dactyls and propodi with green-brown band proximally and distally, carpi with longitudinal stripe, meri with oblique band.