

PROVISIONAL KEY TO THE COMMON NONCALCAREOUS ENCRUSTING RED ALGAE

1. Thallus tissue of closely united cells, usually isodiametric, c. 4µm; surface pitted with tetrasporangial conceptacles visible with x 10 lens; directly on rock, loose stones or pebbles from deep sublittoral to estuarine and freshwater conditions
HILDENBRANDIA
1. Thallus tissue looser or composed of appreciable larger cells; reproductive bodies not borne in pits; on rock, lithothamnia, shells or Laminaria stipes. 2
- 2(1) Upper layers of thallus tissue composed of vertical filaments embedded in mucilage, easily separable under pressure. At least last few cells not more than 6 µm in diameter; reproductive bodies buried in thallus but not aggregated in conceptacles; fertile in winter (Nov.-Mar.) only 3
- 2(1) Upper layers of thallus closely united, not particularly mucilaginous; last few cells of vertical filaments at least 10 µm in diameter; reproductive bodies aggregated into superficial sori; fertile mainly in summer 4
- 3(2) Loose vertical filaments not much tapering, c. 6 µm throughout; tetrasporangia cruciate, c. 15-20 x 25-35 µm, intercalary in the filaments; usually growing directly on fixed rock, rarely on lithothamnia or Laminaria stipes; HWNT - LWST; greenish purple PETROCELIS
- 3(2) Loose vertical filaments tapering from base (c. 6µm diam.) to apex (c. 6µm diam.); tetrasporangia zonate, to 60 µm, lateral on the erect filaments; usually growing on lithothamnia, rarely directly on fixed rock or Laminaria stipes; LWST and below; reddish purple CRUOPIA
- 4(2) Under surface of thallus beset with rhizoids and somewhat calcified; thallus epiphytic, usually on lithothamnia; individual plants well-defined, orbicular or somewhat lobed, comparatively loosely attached to substrate especially at margins; upper surface wrinkled, striated or concentrically zoned PESSONELIA
- 4(2) Under surface of thallus without rhizoids, not calcified; thallus spreading indiscriminately over any substrate; individual confluent and margins ill-defined; always closely adherent; surface smooth and uniform, interrupted only by tetrasporangial sori RHODOPHYSEMA

Notes: There is a thick polystromatic form of Rhodophysema which resembles a Peyssonelia, but lacks rhizoids; it has been called Peyss. rupestris Haematocelis is omitted as it is still problematical. Porphyrodiscus is like Hildenbrandia but with superficial sori, and is dark violet in colour. Cruoria rosea, Rhododiscus pulcherrimus, Erythrodermis allenii and Cruoriopsis spp are very thin, small discs occasionally found in (usually deep) sublittoral. The author would be happy to receive any such material for identification.