

21 July. Taxonomy of the red algal genus *Pachymenia* in New Zealand

A presentation by Dr Lisa Russell

Report by D'Angelo L'Strange aka Norm

On the 21st of July Lisa Russell presented the culmination of her epic attempts to disentangle the taxonomy of an infamously problematic genus. At present three endemic *Pachymenia* species are recognized, though as many as five species have been described in the past. Collectively, the three *Pachymenia* species occur throughout New Zealand, with *P. crassa* found north of Auckland, *P. lusoria* occurring north of Auckland, on the northwest coast of the South Island and throughout the southern South Island. *P. laciniata* has only been recorded in the Northwest of the South Island. Previously, *P. lusoria* had been separated into two species, corresponding to latitudinal distribution, while *P. crassa* has in the past been labeled *species inquiridae* with its position in *Pachymenia* questioned. Nancy Adams, obviously a lumper, has suggested that *P. lusoria* and *P. laciniata* were morphological variants of a single species, with variation in morphology being dependent on wave exposure and latitude. If Lisa was seeking a challenge it certainly seems she found one.

Results from a range of analyses were presented, involving morphological, phytochemical and genetic characteristics of specimens collected from around New Zealand. The clearest picture was given by analyses of the ITS regions of nuclear ribosomal DNA (I apologise for the tumult of terminology). These showed that *Pachymenia* is not a distinct genus, but overlaps with the closely related *Aeodes*. *P. lusoria* appears to separate into distinct northern and a southern species, while the range of morphological variants found in Southern New Zealand are identical for the ITS region analysed. *P. laciniata* and *P. lusoria* appear to be distinct species, with *P. laciniata* also being distinct from morphologically similar South African specimens. However, *P. laciniata* was identical to an *Aeodes* species, suggesting that the morphological boundaries of the two species need reassessing.

It was suggested that *P. lusoria* be separated into two species, the southern *P. dichotoma* and the northern *P. lusoria* and it seemed likely that the genera *Aeodes* and *Pachymenia* will be amalgamated into a single genus in the near future. Overall it seemed that Lisa had been able to draw together various strands of evidence to elucidate a small portion of the vast darkness that is red seaweed taxonomy.

Two of the variable southern forms of *Pachymenia lusoria*. Silhouettes scanned from Herbarium sheets. Left, Stewart Is, Right, Snares Is. Scale bar = 5 cm. – Lisa Russell

