present, the case of the Black-spot tuskfish may be an illuminating example of ecosystem overfishing.

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More new fishes from the Cape d'Aguilar Marine Reserve

by Andy Cornish

The following is an update on the reef fishes at Cape d'Aguilar since the last time I wrote on them in August 2000 (*Porcupine!* 21). That article included 5 new records of reef associated species for Cape d'Aguilar to the 170 already known (Cornish 2000). I had spotted another new fish at that time (15 and 16 June, 2000) but was reluctant to reveal it as I was concerned about poaching, a 20 cm Napolean wrasse (*Cheilinus undulatus*). This globally threatened species has not been seen wild locally for decades as far as I am aware, although spearfishers occasionally shoot very large ones they believe to have been released. The fact that Cape d'Aguilar is miles away from the nearest live reef fish trade operations means there is a good chance this was a truly wild individual! Since then I also recorded a single initial phase Pastel ringwrasse (*Hologymnosus doliatus*) in summer 2000 (no date) which is the second record of this species from Hong Kong, the first being obtained by me from Lamma fishers on 22 May 2000. Other new records for the reserve are of individuals of Yellowstreaked snapper, *Lutjanus lemniscatus* (20 March, 2001), Thumbprint Emperor, *Lethrinus harak*, (31 May 2001, 19 March 2003) and, Longfin batfish, *Platax tiera*, (19 March 2003). The Emperor is particularly rare and three 30 cm individuals seen at Long Ke Wan on 28 April 2000 represent a new record for Hong Kong. The total number of reef associated species from the Cape d'Aguilar Marine Reserve now stands at 180.

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Fig.1. *Hologymnosus doliatus* Pastel ringwrasse (initial phase) a new record for Cape d'Aguilar.

FLORA

It is time for ecologists to take notice of recent advances in plant phylogeny

by Richard T. Corlett

Ecology only makes sense in the light of evolution, so a correct understanding of phylogenetic relationships is a fundamental requirement for almost any ecological research. The rapidly increasing availability of DNA sequence data over the last 10-15 years, coupled with improved methods for analyzing these data, has transformed our views of the relationships between organisms. However, for much of the last decade, changes have been so rapid – and, in some cases, so controversial - that ecologists have been reluctant to adjust the classification systems with which they are familiar. For flowering plants, at least, this caution is no longer justified. Thanks, in part, to the collaborative approach adopted by plant phylogeneticists, the new phylogenetic understanding of the angiosperms at the family level and above has reached a level of comprehensiveness and stability that removes any excuse for ignoring it (as the two most recent checklists of the Hong Kong flora - Corlett *et al.* (2000) and AFCD (2002) – unfortunately did). When I have time (i.e. when pigs fly), I intend to produce a generic checklist of our flora that reflects the new phylogenetic classification. In the meantime, here are some highlights of the major changes as they affect the Hong Kong flora. I have followed the most recent publication of the Angiosperm Phylogeny Group (APG 2003), but it is easier to

find current information on their regularly updated website, (www.mobot.org/MOBOT/Research/APweb/) although it differs in some details.

The following major local families have not survived the revolution at all: Aceraceae (= Sapindaceae), Asclepiadaceae (= Apocynaceae), Capparaceae (= Brassicaceae), Chenopodiaceae (= Amaranthaceae), Flacourtiaceae (= Salicaceae), Sterculiaceae (= Malvaceae), and Tiliaceae (= Malvaceae). The Euphorbiaceae has survived, but most of the local woody genera, including *Antidesma*, *Aporosa*, *Bischofia*, *Bridelia*, *Glochidion* and *Phyllanthus*, are now in a separate family Phyllanthaceae. The Hamamelidaceae loses *Altingia* and *Liquidambar* to the Altingiaceae, the Caprifoliaceae loses *Sambucus* and *Viburnum* to the Adoxaceae, the Loganiaceae loses *Buddleja* to the Scrophulariaceae and *Gelsemium* to Gelsemiaceae, and the Theaceae loses *Adinandra*, *Anneslea*, *Cleyera*, *Eurya* and *Ternstroemia* to the Ternstroemiaceae. As for the Scrophulariaceae, I do not have the space to explain all the changes. Suffice it to say that *Lindernia, Veronica* and several other genera are now in the Plantaginaceae, along with *Callitriche*. Other noticeable changes among the dicots are the inclusion of *Avicennia* in the Acanthaceae and the separation of *Maesa* as the Maesaceae.

Fig.1. *Aporusa dioica*, now in the Phyllanthaceae

There are also a lot of changes among the monocots, but, since I did not really believe in the Anthericaceae, Convallariaceae, Phormiaceae *et al.* anyway, I will have less problem adjusting to these changes than those botanists brought up on Dahlgren's narrowly defined families. Here, the APG (2003) authors – rather irritatingly - offer several alternative options, with their current recommendations putting the Anthericaceae in the Agavaceae, the Convallariaceae in the Ruscaceae, and the Phormiaceae (*Dianella* in Hong Kong) in the Hemerocallidaceae. I never liked the monocots much anyway!

I am oversimplifying things a lot. Some of these proposed changes come with a great deal of support. There is no reasonable argument for continuing to recognize families that have been shown to be polyphyletic (e.g. Flacourtiaceae or the old, world-dominating, Mega-Euphorbiaceae) or to be nested within another family (e.g. Asclepiadaceae). Other proposals are more tentative – some differ between the text, the appendix and the website! – and a few may still change again as more taxa and more molecules are sampled. It should also be remembered that evolution does not always produce well-circumscribed families, so decisions on whether or not to combine sister groups under one umbrella are often more or less arbitrary.

Fig. 2. *Asclepias curassavica*, now in the Apocynaceae.

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Fig. 3. *Eurya chinensis*, now in the Ternstroemiaceae.