The evolution of H-deficient post-AGB stars: observational tests of single and binary evolutionary scenarios

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We currently explain all hydrogen-deficient (but carbon-rich) post-AGB stars with a similar scenario, namely a final helium shell flash (final thermal pulse or FTP), that happens either just before the end of the AGB or after it. This scenario successfully predicts the observed stellar atmospheric abundances of [WCL], [WCE], PG1159 stars and the progeny of born again stars. In this talk I will review several observations which are in contrast with the single star, FTP scenario (at least for the [WCL] class). I will then present binary scenarios which go part-way in reconciling the observations, emphasizing however the fact that there is no simple scenario which can tie together all observations. The largest difficulty is that an FTP is still the only knwon way to generate the observed abundances so that, in a binary scenario, the binary interaction needs to be causally linked to the FTP.