

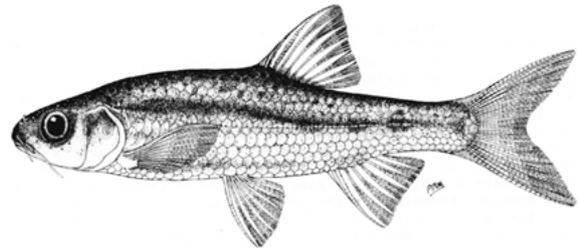
Threatened fishes of the world: *Barbus calidus* Barnard, 1938 (Cyprinidae)

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Common names: Clanwilliam redfin (E), Clanwilliam-rooivlerkie (Afrikaans). **Conservation status:** Endangered (Baillie & Groombridge 1996). **Identification:** Primary dorsal spine serrated. D IV, 7; A iii, 6. Scales in lateral line 34–39, 16 around caudal peduncle. Body fusiform, origin of dorsal fin behind pelvics. Head pointed, eyes large, 2 pairs of barbels. Olive-brown with black markings on dorsal surface, silvery white below with dark band along midline. Base of fins red and small tubercles over head during breeding (Skelton 1993). Attains 150 mm SL. Drawing by Penny Meakin. **Distribution:**



Endemic to Cederberg part of Olifants River system (ORS) of the Cape Floral Kingdom, South Africa. Formerly also in mainstream areas, now restricted to upper reaches of mountain tributaries. **Abundance:** Healthy populations in the Boskloof, Breekkran, Matjies, Noordhoeks, Ratels, Rondegat and Thee rivers. Small populations in Tra Tra, Eselbank and Oudste rivers due to excessive water abstraction and substantial invasion by smallmouth bass, *Micropterus dolomieu*. Jan Dissels River population possibly extinct due to *M. dolomieu*. **Habitat and ecology:** Favors pools and runs in clear, acidic, perennial mountain streams. Feeds almost exclusively on *Baetidae*, *Chironomidae* and *Formicidae* (Nthimo 1998). Co-exists with other threatened ORS endemic fishes such as *Austroglanis gilli* (VU), *Barbus capensis* (VU), *B. serra* (EN) and *Pseudobarbus phlegethon* (EN). **Reproduction:** Extended summer breeding season with ripe gonads from November to January (Nthimo 1998). Forms spawning aggregations in shallow flowing pools with spawning occurring in rock crevices and amongst boulders. **Threats:** *B. calidus* evolved in rivers lacking primarily piscivorous fishes such as *M. dolomieu* and *M. salmoides*, which were introduced into the ORS in the 1930's for angling purposes. These species dominate the ichthyofauna of most of the system and have eliminated *B. calidus* and other endemic species from much of their former ranges (Skelton 1987). Irrigation-dependant crops such as citrus have contributed to substantial degradation of *B. calidus* habitat (e.g. excessive water abstraction and river channelisation). **Conservation action:** Key areas and strategies for the conservation of indigenous freshwater fishes of the Cape Floral Kingdom have been identified (Impson et al. 2001). Knowledge of *B. calidus* distribution is good. Presently known populations form one Evolutionary Significant Unit within which six Management Units occur (Swartz 2000). Several populations enjoy some protection above waterfalls within formally protected (e.g. Cederberg Wilderness) and privately protected areas (e.g. Beaverlac, a National Heritage Site), but *M. dolomieu* occurs below these barriers. **Conservation recommendations:** The biology and ecology of *B. calidus* needs further investigation. Large populations need to be secured against intrusion by alien fishes by constructing barrier weirs on the lower reaches of tributary streams and improving riparian land-owner awareness. The range of certain small populations needs to be increased because of susceptibility to inbreeding. A pilot river rehabilitation project to eradicate invasive alien fishes from the Rondegat River is being developed. **Remarks:** The conservation status of *B. calidus* can be improved through effective river rehabilitation and public awareness programmes.

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