

**A natural bi-generic fern hybrid between *Christella dentata* and
Pneumatopteris afra, from Ghana**

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An illustrated account is given of a natural bi-generic fern hybrid and its putative parents, *Christella dentata* (Forsk.) Holtt. and *Pneumatopteris afra* (Chr.) Holtt. from Ghana.

The hybrid possesses the genomes of the two parents ($n = 144$ for the hybrid and $n = 72$ each for *C. dentata* and *P. afra*) and is easily distinguished from them by having crenate to pinnately-lobed pinnae margins, 2–3 pairs of veins anastomosing; glabrous to setose sporangia and abortive and abnormal spores.

The hybrid is found where the putative parents grow together and these three taxa are widespread in the forest zones of Ghana.

Biology and distribution of *Asplenium s.l.* in the West Balkans

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Asplenium sensu lato is the most abundant and diversified fern genus in limestone karst and ophiolite mounts of the Dinaric Alps and Adriatic Archipelago of Yugoslavia. Much of its abundance derives from the considerable drought-tolerance of members of this genus.

Asplenium hybridum (Milde) Bange is endemic to the Kvarner islands (northeast Adriatic), and its new northernmost localities are in the Krk and Prvic isles (Senj Archipelago). It occurs mostly in the aerosaline maritime rockwoods of semi-temperate pseudomaquis type (*Quercus virgiliana*–*Euphorbia wulfenii* communities), and this species is one of the most resistant native ferns to high soil salinity. Horvatic (1939) and his subsequent collaborators have listed *A. hybridum* as a member of coastal cave and maritime spring habitats in *Adiantum capillus veneris*–*Phyllitis sagittata* communities, in the eastern Adriatic. These records are, however, problematic, for the morphology, cuticular structure, and karyotype ($2n = 72$) of these specimens suggest their close affinity to the salt-tolerant *A. sagittatum* f. *hemioniti-folium*.

The earlier indications of *Ceterach officinarum* DC. in the inland calcareous rocks of Croatia are now known to be *A. javorkeanum* (Vida) Soo. This latter species is very