

Alkaloids of Anuran Skin: Antimicrobial Function?

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A variety of alkaloids, most of which occur or are structurally related to alkaloids that occur in skin glands of dendrobatid poison frogs, were assayed for antimicrobial activity against the Gram-positive bacterium *Bacillus subtilis*, the Gram-negative bacterium *Escherichia coli* and the fungus *Candida albicans*. Certain pyrrolidines, piperidines and decahydroquinolines, perhydro-histrionicotoxin, and a synthetic pumiliotoxin were active against *B. subtilis*. Only 2-*n*-nonylpiperidine was active against *E. coli*. One pyrrolidine, two piperidines, two decahydroquinolines, and the synthetic pumiliotoxin were active against the fungus *C. albicans*. The results suggest that certain of the skin alkaloids of poison frogs, in addition to being noxious to predators, may also benefit the frog through protection against skin infections.

Key words: Alkaloids, Antibiotics, Antifungals