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Antibiotic resistance is one of the world's most urgent public health threats. According to the Centers for Disease Control and Prevention, at least 2.8 million people get an antibiotic-resistant infection each year, and more than 35,000 people die in the United States from these infections. The development of new antibiotics is essential to combat this crisis and prevent the loss of additional lives. Natural products have historically been an essential source for the discovery of novel antibacterial agents. Furthermore, several studies have shown Puerto Rican plant extracts possess biologically active compounds. Therefore, we sought to determine whether extracts derived from Puerto Rican plants have broad-spectrum antimicrobial activity against a variety of pathogenic bacteria. Using a broth microdilution assay, we screened thirteen extracts generated from different plant species for antibacterial activity. Each extract was tested against the ESKAPE pathogens, *Enterococcus faecalis*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and *Enterobacter spp*, which are known to exhibit multidrug resistance. All extracts tested thus far were ineffective at inhibiting bacterial growth with the exception of the *Bucida buceras* leaf extract which showed broad spectrum antibacterial activity against *E. faecalis*, *K. pneumoniae*, and *E. aerogenes*. We are currently validating the antimicrobial activity of *B. buceras* extract through other antibiotic susceptibility assays. Here, we have shown that Puerto Rican plants have potential as a source of novel antimicrobial agents.