
**THE ANTIMICROBIAL ACTIVITY OF PROPOLIS
FROM ORDU PROVINCE OF TURKEY**
TÜRKİYE'DE ORDU İLİNDEN ELDE EDİLEN PROPOLİSİN ANTİMİKROBİYAL AKTİVİTESİ

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ERRATUM

MELLIFERA 14-27-28:11-16 (2014) HARUM in abstract part of Turkish version was copied wrongly because of technical problems. It should be as the next page. We apologize for this error and any inconvenience it may have caused.

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TÜRKİYE'DE ORDU İLİNDEN ELDE EDİLEN PROPOLİSİN ANTİMİKROBİYAL AKTİVİTESİ

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Summary: In this study antibacterial and antifungal activities of acetone, ethyl acetate, chloroform, ethanol, methanol dimethyl sulfoxide (DMSO) and water extracts of propolis samples from the Ordu province of Turkey were investigated. antimicrobial activity of propolis varied depending on propolis sample, dosage of propolis, and the extraction solvents for all test microorganisms. A total of fifteen microbial organisms belonging to fourteen species of bacteria, one fungus namely *Staphylococcus aureus*, *Stereptococcus salivarius*, *Klebsiella pneumonia*, *Escherichia coli*, *Salmonella enteridis*, *Stereptococcus pneumonia*, *Bacillus cereus*, *Listeria monocytogenesis*, *Stereptococcus mutans*, *Pseudomonas aeruginosa*, *Basillus licheniformis*, *Micrococcus luteus*, *Basillus subtilis*, *Proteus vulgaris* and *Candida albicans* were studied using a disc-diffusion and Minimal Inhibition Concentration (MIC) method. The antimicrobial activity against all pathogens was evaluated. Ethanol Extract of Propolis (EEP), Acetone Extract of Propolis (AEP), Ethyl Acetate Extract of Propolis (EAEP) and Methanol Extract of Propolis (MEP) showed the highest antimicrobial activity against *S. mutans*, *L. monocytogenesis*, *M. luteus*, *B. licheniformis* and *C. albicans*. While Dimethyl Sulfoxide Extract of Propolis (DMSOEP) has a weak activity against some test organism. Except for *S. mutans* Water Extract of Propolis (WEP) propolis was not effective against all pathogens. The most sensitive microorganism to propolis was *E. coli* in the gram-negative group and *S. mutans* in the gram-positive group. The least sensitive microorganism was *S. salivarius*.

Keywords: Antimicrobial activity, antifungal activity, microorganisms, propolis, *S. mutans*

Özet: Bu çalışmada Türkiye'nin Ordu ilinden propolis örneklerine aseton, etil asetat, kloroform, etanol, metanol, dimetil sülfoksit ve su ekstraktlarıyla antimikrobiyal ve antifungal etkiler araştırılmıştır. Propolisin antimikrobiyal aktivitesi propolis türlerine, propolis dozuna ve tüm mikrobiyal organizmalar için ekstraksiyon çözücülerine bağlı olarak değişmektedir. On beş türe ait mikroorganizmalar *Staphylococcus aureus*, *Stereptococcus salivarius*, *Klebsiella pneumonia*, *Escherichia coli*, *Salmonella enteridis*, *Stereptococcus pneumonia*, *Bacillus cereus*, *Listeria monocytogenesis*, *Stereptococcus mutans*, *Pseudomonas aeruginosa*, *Basillus licheniformis*, *Micrococcus luteus*, *Basillus subtilis*, *Proteus vulgaris* ve *Candida albicans* disk difüzyon ve Minimal İnhibisyon Konsantrasyonu (MİK) yöntemi kullanılarak incelenmiştir. Bütün patojenlere karşı antimikrobiyal aktivite değerlendirilmiştir. Etanolik Propolis Ekstraktı (EPE), Aseton Propolis Ekstraktı (APE), Etil asetat Propolis Ekstraktı (EAPE) ve Metanol Propolis Ekstraktı (MPE) *S. mutans*, *L. monocytogenesis*, *M. luteus*, *B. licheniformis* ve *C. albicans*'a karşı en yüksek antimikrobiyal aktivite göstermiştir. Dimetil sülfoksit Propolis Ekstraktı (DMSOPE) propolis bazı test mikroorganizmalarına karşı zayıf aktivite göstermiştir. Su Propolis Ekstraktı (SPE) propolis *S. mutans* hariç tüm patojenlere karşı etkili olmamıştır. Propolise en duyarlı mikroorganizma gram negatif grubundan *E. coli* ve gram pozitif grubundan *S. mutans* olmuştur. En az duyarlı organizma *S. salivarius* olmuştur.

Anahtar Kelimeler: Antimikrobiyal aktivite, antifungal aktivite, mikroorganizmalar, propolis, *S. mutans*

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