

## عنوان مقاله:

Tree Utilization as Indicator to evaluate the degradation of Iran's Ecosystems in Persian Gulf War (a part of project number ۵۰۰۰۴۵۶ Of the UN certified in ۲۸ October ۲۰۰۴

## محل انتشار:

همایش بین المللی بحران های زیست محیطی ایران و راهکارهای بهبود آن (سال: ۱۳۹۱)

تعداد صفحات اصل مقاله: ۱۰

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## خلاصه مقاله:

Persian Gulf War happened in January ۱۹۹۱ and huge amounts of atmospheric pollutants were distributed in the Persian Gulf region. These studies were carried out in ten provinces which cover more than ۲۵% of the area of Iran . Enzyme patterns were studied in ۴ species (including *Avicennia marina*, *Prosopis cineraria*, *Quercus brantii* var. *persica*, *Ziziphus spina-christi*). Totally around ۲۵۷ individuals were sampled. These results were confirmed by dendrochronological studies. Anatomical studies proved the pollutant penetrated in ۱۹۹۱. Enzymes, the most sensitive stress indicators, showed abnormal alterations during the war year and the subsequent period (۲ to ۷ years). The decrease in annual growth rate was another important evidence for the establishment of pollution. In spite of high rate of annual precipitation in the war period (more than the average), there was a ۳۵.۶۵% decrease in the annual growth rate in all of the studied areas. According to the mentioned results, statistical analysis was carried out and a number of descriptive curves are presented in discussion and conclusion. Results showed that enzyme activity in the war year (۱۹۹۱) decreased because of denaturation of the enzymes .Moreover mean analysis of enzyme activity showed that there were significant differences between the ۱۹۹۱ amount and average of other years. Both of two enzymes (peroxidase and amylase) showed consumption under the war pollution period (۱۹۹۱) in comparison with the other years' average. The most polluted region was determined to be Bushehr province and the most sensitive species was *Prosopis cineraria*.

## کلمات کلیدی:

Pollution, Enzymology, dendrochronology, Indicator, Gulf war

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/۲۰۱۱۹۱/>