Abstract

Medicinal plants are very much in their own habitats in the deserts and the mountains that be found. Because these plants in the world be used for feeding and treating disease and have special importance, therefore, study of native species, of researchers and scholars in this field.This study was onducted to assess the quantitative and qualitative characteristics of the medicinal plant Colocynthis or Bitter apple (*Citrullus Colocynthis* L.) in some natural habitats of Sistan and Baluchestan Province, including cities of Zabol, Iranshahr, Nikshahr and Sarbaz.The tropical plant of the Cucurbitaceae family, gramineous, perennial, asleep or climbing stem and covered with lint that is abundant in the south Iranian provinces specially Sistan-Baluchestan. Results showed that morphological traits such as number of branches, fruit fresh weight and 100 seed weight, had significant differences between the cities and the regions. And traits such as size of petiole, leaf length and width, length and diameter and fruit dry weight had not significantly differences. between the cities and regions in the cities, was not a significant difference from seed protein and oil content Bitter apple. but calcium, magnesium, zinc, potassium and carbohydrates of seeds, had a significant difference in the level of one percent between the cities and the regions has shown.The results of this research showed that the amount of nitrogen and phosphorus in soil is less than the plant, also had a significant correlation between the elements in soil and plant mineral elements. Ethanol extract of fruit and root analize showed that cucurbitacin A, B, C, L, E, D and colocyntin and colocyntitin was at different amaumts in fruit and roots on studied areas. Amounts of cucurbitacins was furthur in root than fruit. results from the GC / MS butanol extract of the fruit were identified compounds such as alcohols, ketones, compounds euoxy and Hydrocarbon. The compounds are biologically active compounds, the properties of these compounds are likely to traditional medicine. Nikshahr has shown highest rates of Cucurbitacin. Therefore we can say that the differences in studied due to differences such as temperature, moisture and height from sea level or other soil and geographical factors.

Key words: Bitter apple, Natural habitat, Herbal extract, Secondary metabolites

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Title

Investigation of the quantitative and qualitative characteristics of Bitter apple (C*itrullus Colocynthis* L.) in some natural habitats of Sistan and Baluchestan Province

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