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Plant Biodiversity in the Old World (A Case Study for Amedi District in the Northern Iraq)

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Aim of the study: This study was conducted at Amedi District (Duhok / Iraq) to investigate flora, life forms and geographical distributions of vascular plants. Settlement centre of Amedi is a plain and the district totally has an area of 2723,7 km^2. It is located in the far north of Iraq also is in the north-eastern part of Dohuk province, just about 50 km away according to air distance. The Study area is situated between the latitudes (37º 07' 30,00" & 37º 00' 50,45" N) and (43º 32' 40,00" & 43º 32' 55,90" E) longitudes, with an altitude between 1000-1700 meters. The complicated topography and habitat heterogeneity, in addition to influencing the plain by cold semi-arid climate and precipitation regime of Mediterranean climate type caused variable environmental formations, landscapes and distinctive flora which included by diverse vegetation types including mountain and riparian forests, and steppe grasslands.

Material and Methods: Plant samples are the materials of this study which collected and dried according to the standard herbarium techniques. Almost 800 plant samples were collected at the surrounding of the 21 villages within the district Amedi in 2016. The samples were pressed in the field and transferred to the laboratory, and identified according to the Flora of Iraq, Flora Iranica and Flora of Turkey.

Results: In the present study, 294 plant taxa belonging to 175 genera and 74 families were identified and geo-located. Of the total taxa, 247 are herbaceous (84.0 %), 20 trees (6.8%), 25shrubs (8.5%), 1 ferns (0.3%) and one parasitic taxon (0.3%). The life form spectrum was determined using Raunkiaer's classification system and compared with the normal spectrum. The families with the greatest number of species were *Asteraceae* with 29 plant taxa (18.4%), *Fabaceae* with 26 plant taxa (16.5%), *Brassicaceae* with 18 plant taxa (11.4%), *Lamiaceae* with17plant taxa (10.8%), *Poaceae* and *Rosaceae* with 13 plant taxa (8.2%) for each, *Apiaceae* with12 plant taxa (7.6%), *Boraginaceae* with 11 plant taxa (7.0%), *Ranunculaceae* and *Scrophulariaceae* with 9 plant taxa (5.7%) for each. The results revealed that the life-form spectrum in the present study was characteristic of a cold semi-arid climate region and dominated by Therophytes (40.4%), Hemicryptophytes (29.2%), Phanerophyte (15.3%), Cryptophyte-Geophyte (10.5%) and Chamaephyte (4.0%). Results showed that the ratios of Therophytes, Hemicryptophytes and Cryptophytes (Geophyte) were more than the normal spectrum, while the ratios of Phanerophytes and Chamaephytes were less than the normal spectrum. In geographical distribution, Irano-Turanian phytogeographical region was the most frequent with the ratio 50.6% (149 plant taxa).

Keywords: Plant diversity, floristic composition, Raunkiaer's classification system, Amedi, Northern Iraq.