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REAL UPM PROJECTS

3

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Ecuador Project

PHYTOGENETIC RESOURCE MANAGEMENT AND CONSERVATION

BIODIVERSITY AND PHYTOGENETIC RESOURCES RESEARCH GROUP

School of Agricultural Engineering (Escuela Técnica Superior de Ingenieros Agrónomos)

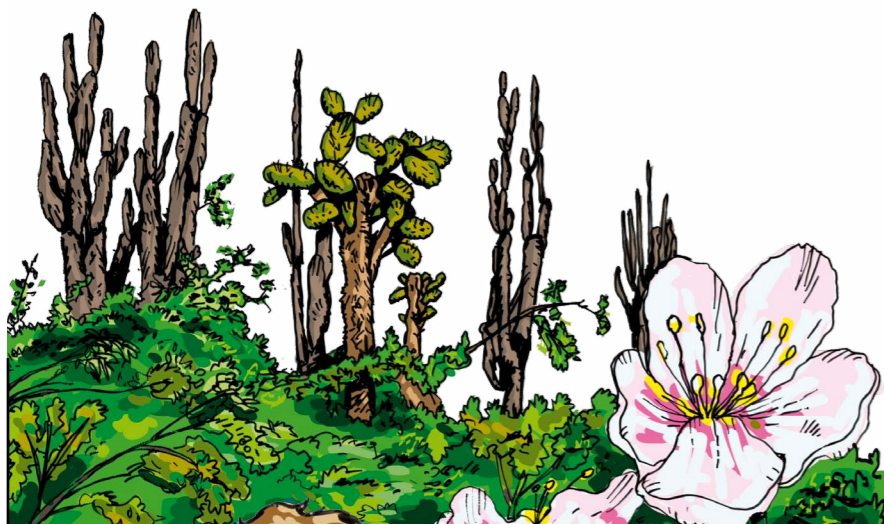
ON THIS OCCASION I TRAVELLED TO THE GALÁPAGOS ISLANDS IN THE COMPANY OF CÉSAR PÉREZ, PROFESSOR OF PLANT PRODUCTION AT THE UPM. CÉSAR AND HIS TEAM WERE GOING TO ADVISE THE CHARLES DARWIN FOUNDATION ON THE ESTABLISHMENT OF A PLANT GERMLASM BANK ON THE GALÁPAGOS ISLANDS. A GERMLASM BANK IS RESPONSIBLE FOR CONSERVING PLANT MATTER AND PROMOTING ITS USE. A PLANT GERMLASM BANK CONSERVES PLANT SPECIES AND CROP VARIETIES, SOME OF WHICH ARE IN DANGER OF EXTINCTION, AND, IN DOING SO, PREVENTS THEIR DISAPPEARANCE.

FIRST WE HEADED FOR PUERTO AYORA ON SANTA CRUZ (INDEFATIGABLE) ISLAND, WHICH IS HOME TO THE CHARLES DARWIN RESEARCH STATION, WITH SATELLITE OFFICES ON ISABELA (ALBEMARLE) ISLAND AND SAN CRISTOBAL (CHATHAM) ISLAND.



THERE IS LITERALLY NO OTHER PLACE ON EARTH LIKE THE GALÁPAGOS ISLANDS. AS A RESULT OF THEIR ALMOST TOTAL ISOLATION, THE FLORA AND FAUNA HAVE EVOLVED DISTINCTIVELY.

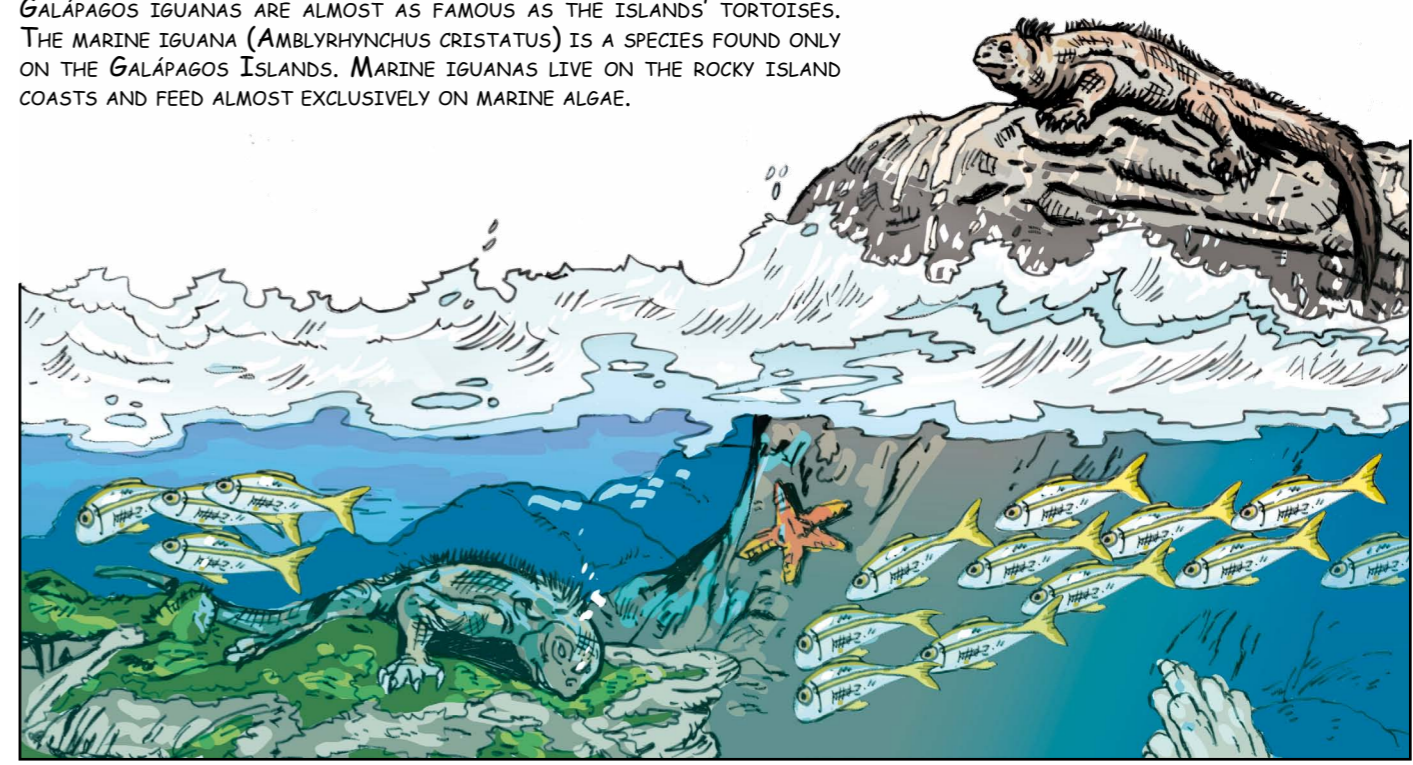
ACCORDING TO CÉSAR, THERE ARE AROUND 260 ENDEMIC OR EXCLUSIVE PLANT SPECIES OR SUBSPECIES ON THE GALÁPAGOS. HUMAN PRESSURE HAS MEANT THAT AN ESTIMATED 10% OF ENDEMIC FLORA IS NOW CONSIDERED TO BE CRITICALLY ENDANGERED, 15% IS ENDANGERED AND 40% IS VULNERABLE.



DURING OUR STAY ON THE ISLAND, WE HAD THE HONOUR OF MEETING LONESOME GEORGE, THE LAST LIVING *GEACHELONE ABINGDONII*, BORN SOMETIME BETWEEN 1903 AND 1919. GEORGE'S LONG LIFE CAME TO AN END ON 24 JUNE 2012, WHEN THE SPECIES BECAME EXTINCT.



GALÁPAGOS IGUANAS ARE ALMOST AS FAMOUS AS THE ISLANDS' TORTOISES. THE MARINE IGUANA (*AMBLYRHYNCHUS CRISTATUS*) IS A SPECIES FOUND ONLY ON THE GALÁPAGOS ISLANDS. MARINE IGUANAS LIVE ON THE ROCKY ISLAND COASTS AND FEED ALMOST EXCLUSIVELY ON MARINE ALGAE.



THE UPM BIODIVERSITY AND PHYTOGENETIC RESOURCES RESEARCH GROUP'S PROJECT WAS TO PAVE THE WAY FOR THE ESTABLISHMENT OF A MODERN AND PERMANENT PLANT GERMLASM BANK, EQUIPPED WITH MATERIAL AND HUMAN RESOURCES TO GUARANTEE THE CONSERVATION OF UNIQUE PLANT MATTER OF INCALCULABLE WORTH. IT NOW SAFEGUARDS SEEDS OF ENDEMIC GALAPAGEAN PLANT POPULATIONS THAT ARE IN DANGER OF EXTINCTION: *SCALEZIA ATRACTYLOIDES*, *CALANDRINIA GALAPAGOSA*, *OPUNTIA GALAPAGEIA* AND *LECOCARPUS DARWINII*. WITH THIS OUR WORK WAS COMPLETE, WE HAD MET THE PLANNED OBJECTIVES AND WE SAID FAREWELL TO THE CHARLES DARWIN RESEARCH STATION.



AS WE TRAVELLED AWAY FROM WHAT ARE KNOWN AS THE ENCHANTED ISLANDS, I WAS REMINDED AGAIN AND AGAIN OF THE GOOD JOB THAT THE UPM STAFF HAD DONE. THEIR RESEARCH HAD FURTHER ADDED TO THE GALAPAGOS ISLANDS' CHANCES OF CONTINUING TO PLAY A VITAL ROLE IN THE FUTURE OF HUMANITY.



THE GROUP'S NEXT RESEARCH PROJECT, ECUADORIAN AMAZON PLANT CONSERVATION, TOOK US TO THE *PODOCARPUS NATIONAL PARK*, A UNESCO WORLD HERITAGE SITE AND ONE OF THE REGIONS WITH THE HIGHEST BIODIVERSITY RATES ON THE PLANET.



PODOCARPUS NATIONAL PARK COVERS 1462.80 KM², FROM THE SPURS OF THE EASTERN RANGE OF THE ANDES TO THE BASINS OF THE NANGARITZA, NUMBALA AND LOYOLA RIVERS. ABOUT 85% OF THE PARK IS IN THE PROVINCE OF ZAMORA CHINCHIPE AND THE REMAINING 15% IN THE PROVINCE OF LOJA. THE NATIONAL PARK WAS SET UP TO PROTECT THE COUNTRY'S LARGEST ROMERILLO FOREST, COMPOSED OF THREE SPECIES OF THE *PODOCARPUS* GENUS, ECUADOR'S ONLY NATIVE CONIFER, WHICH GIVES ITS NAME TO THE PARK. IT IS ALSO HOME TO THE CINCHONA OR QUINA, THE NATIONAL TREE OF ECUADOR, A HIGHLY PRIZED SPECIES WHOSE BARK IS USED TO EXTRACT A MALARIA CURE. SOME 4000 PLANT SPECIES, INCLUDING COUNTLESS ORNAMENTAL ORCHIDS, POPULATE THE PARK.

ANOTHER OF THE PROJECTS RUN BY CÉSAR AND HIS TEAM WAS TO COUNSEL THE PONTIFICIA UNIVERSIDAD CATÓLICA DE ECUADOR ON HOW TO ENHANCE CONSERVATIONISM AT ITS BOTANICAL GARDEN ON THE SANTO DOMINGO CAMPUS IN THE PROVINCE OF SANTO DOMINGO DE LOS TSÁCHILAS. THE RESEARCHERS' MISSION WAS NOT WITHOUT PERILS, AS THE REGION IS RIDDLED WITH SNAKES, ESPECIALLY A DANGEROUS AND DEADLY VIPER (BOTHROPS ATROX), POPULARLY KNOWN AS X.



THE PROVINCE IS NAMED AFTER A PRE-INCAN PEOPLE KNOWN AS TSÁCHILA OR COLORADO (MEANING COLOURED RED) AFTER THEIR CUSTOM OF PAINTING THEIR BODY AND HAIR WITH ACHIOTE. THIS ETHNIC GROUP IS DIVIDED INTO EIGHT COMMUNES WITH THEIR RESPECTIVE TRIBAL CHIEFS OR MIYAS. THEIR SHAMANS OR PONÉS ARE MASTERS OF THE ART OF USING NATURAL RESOURCES FOR MEDICINAL AND RITUAL PURPOSES.



CÉSAR, HIS TEAM AND MYSELF CAME AWAY FROM ECUADOR WITH THE SENSE OF A GOOD JOB DONE AND THE IMPRESSION THAT, THROUGH ITS MANY STUDIES OF BIODIVERSITY AND PLANT POPULATION CONSERVATION, THE UNIVERSIDAD POLITÉCNICA DE MADRID HAD BROUGHT US A STEP CLOSER TO ASSURING THAT THE WORLD'S NATURAL RESOURCES WILL SURVIVE FOR THE ENJOYMENT OF GENERATIONS TO COME.

