



ALIEN SPECIES: THE THREAT TO BIODIVERSITY

By Colombo - Bizzotto

Biodiversity: a word much used in recent times regarding the protection of the environment and nature. It is the diversity of species, of ecosystems and of the landscape that surrounds us, where animals and plants of a certain territory have found a balance after millennia of co-evolution, that is, they have adapted to mutual coexistence.

The increasing mobility of people and goods worldwide is causing serious problems to the ecosystems of each country: the entry of invasive alien species, both animal and vegetable, is today one of the main environmental emergencies and is considered by the international scientific community the second cause of global biodiversity loss. The valuntary or unaware transport of invasive alien (invasive) species can in fact be a source of significant problems related to

biodiversity, health and agriculture. The alien species are likely to extinguish the native species causing the loss of very precious genetic information and resources, also economic, for the territory itself. Introducina species into new territories mankind can act valuntarily or be a completely unconscious carrier. Examples of voluntary introductions concern animal species of interest for hunting or fishing (such as Sylvilagus floridanus- little hare and Silvrus alanis - catfish), fur species (Myocastor coypus - coypu and Neovison vison - mink) or species marketed as pets (many reptiles ea Trachemys Scriptal, Amona the involuntary introductions there are various cases that contemplate "escapes" from farms, zoos, nurseries and batanical gardens and / or accidental transportation. Some species can, in fact, be introduced together with other commonly commercialized ones (for example insects transported on plants,

as happened for the Rhynchophorus ferruaineus - red palm weevil and Anaplophora chinensis malasiaca or Asian woodworm), Just like the "hitchhikers", animals and plants can also be found on airplanes and ships, in ballast water (as happened for the Dreissena palymarpha - zebra mussel considered among the 100 most harmful invasive species in the world), on sports equipment, among the goods (eg timber, seeds, etc.) and among the personal effects of travelers, and thus be transported and introduced into new environments. Not even rare rare the cases of introductions resulting from the opening of artificial corridors created by man to overcome great natural barriers, as happened for the Pterois miles - scorpion fish, arrived in the Mediterranean after the opening of the Suez Canal. Once introduced and naturalized in the new environment, some species disperse and spread spontaneously, colonizing increasingly large areas.

It is therefore also human activities that determine, in addition to habitat loss, pollution, overpapulation and excessive explaitation of natural resources, the "movement" of



potentially dangerous species.

The "aliens" are therefore species that live outside their natural range of distribution; in many cases they reproduce independently but are NOT in equilibrium with the rest of the ecosystem; many find it difficult to adopt to the new intro-

duction environment and fail to survive. In some cases, however, they settle so well that they generate autonomous and consistent populations, becoming "naturalized" Among these species there are entities that become a real threat, due to the natural environment (ecosystems, native flora and fauna), human activities and health. In this case the species are defined as "invasive". The damage can be:

1) impoverished ecosy

stems, with few species, cause the extinction of rare or ecologically important species in the most serious cases. The impact on the environment is represented by direct negative effects on native species and by effects on ecosystems and habitats.

Procambarus clarkii American origin, for example, is cauthe sing destruction note rai aquatic ecosystems many parts of Italy; Trachemys scripta, imparted for

ornamental purposes, is destroying the fauna of entire watercourses.

2) quality of people's lives: species of direct danger (poisonous, stinging, vermin or aggressive) or indirect (allergies). The Heracleum mantegazzianum for example is a burner; Ambrosia is strongly alleraenic.

 economic: agriculture and hydraulic works (eg coypu), fishing (damage to local fish fauna), breeding (eg wasps predators of bees),



production; The Xylella fastidiosa, previously not present in Italy, is destroying hundreds of olive trees compromising the oil economy of an entire region.

The damage from invasive species







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in Europe is quantified in the order of 12.5 billion euros a year: a problem that is so important that the EU itself has decided to bring it to the attention of member countries with Regulation 1143/2014; that includes a list of species against

This important challenge is also one of the five fundamental pillars that Environmental Strategy had selected, few years ago, in order

against them.



some simple practices:

avoid buying them, raising them, cultivating them: avoid spreading them volunby freeing in nature; be careful not to spread them unintentionally example, carefully cleaning the sports equipment used during stays obroad): being inforand reporing their presence in new areas: raising awareness among other citizens if they witness wrong practices

The fifth pillar is "Wider impact" and its objective is to increase the level to which missions both take into account the wider environmental impact of their deployments and attempt to deliver a positive legacy. In particular, within this argument, they want to protect and preserve natural and cultural re-

to apply for any UN field Mission.

that objective within that timeframe (to June 2020) are identified, as are the systems that will be introduce to manage, motivate and monitor progress.

sources. Approaches to achieve

The most important one, affecting directly field missions, is related to the consideration that UN missions threaten local ecosystems in various ways: unregulated hunting or fishing, purchase/possession of dead or live wildlife or trophies (tusks, skins, etc.), construction of structures that block wildlife corridors or clearing of natural habitatis.

According to UN Environmental Policy, hunting, logging, harvesting, collecting, purchasing or acquiring of wildlife, live or dead, or any parts and derivatives are strictly forbidden activities.

Fishing is only permitted as a recreational activity if it does not interfere with the needs of the local population.

The Director of Mission Support / Chief of Mission Support will issue instructions immediately upon establishment of a mission to prohibit any personnel in the mission from taking any wild animals or plants out of the country, unless prior authorization has been received from the Director of Mission Support / Chief of Mission Support, and, where applicable, documentation establishing legal acquisition and non-detrimental trade and all relevant customs and transportation documentation has been properly completed.

Of course, the mission must respect any environmental International Agreement and Convention, in this context it is mandatary to accord any mission's action or project to the Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (www.cites.org).

PICTURES: J. by Vittorio Barba



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which the adoption of control and

contrast measures is justified. In

Italy, Legislative Decree 230/2017

prohibits the introduction into the

EU of the reproduction, cultivation,

transport, purchase, sale, use,

exchange, possession and release

of alien invasive species of Union

The phenomenon of the invasion

of alien species is a threat that in-

valves everyone directly. Each of us,

in our journeys over long distances

or with trade between nations or

continents, could be voluntary or

unconscious carriers of alien spe-

cies. For this reason prevention be-

comes essential. A prevention that

importance.



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