

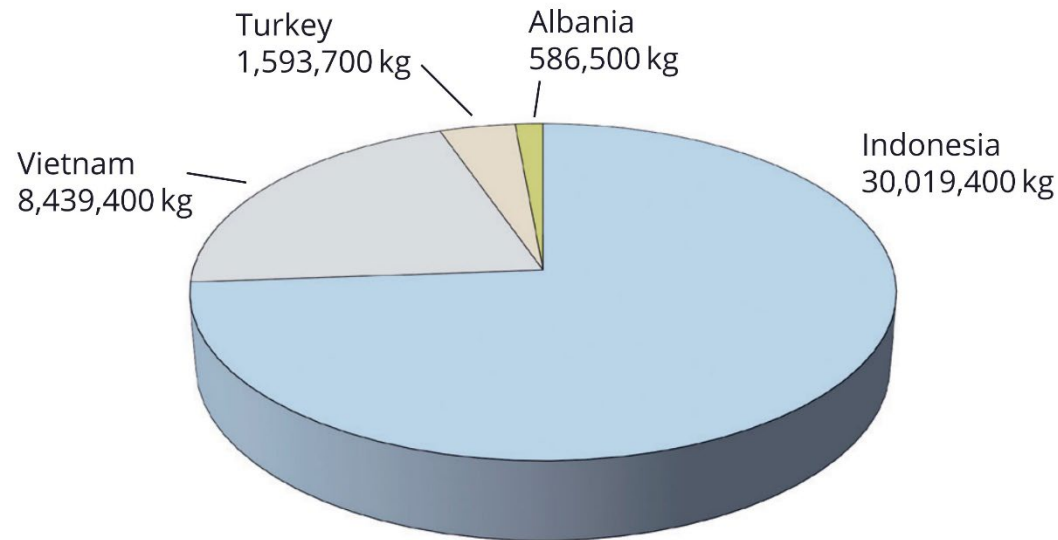
CITES Workshop on Amphibian Conservation, 27 Nov – 1 Dec 2023

International trade in frogs' legs

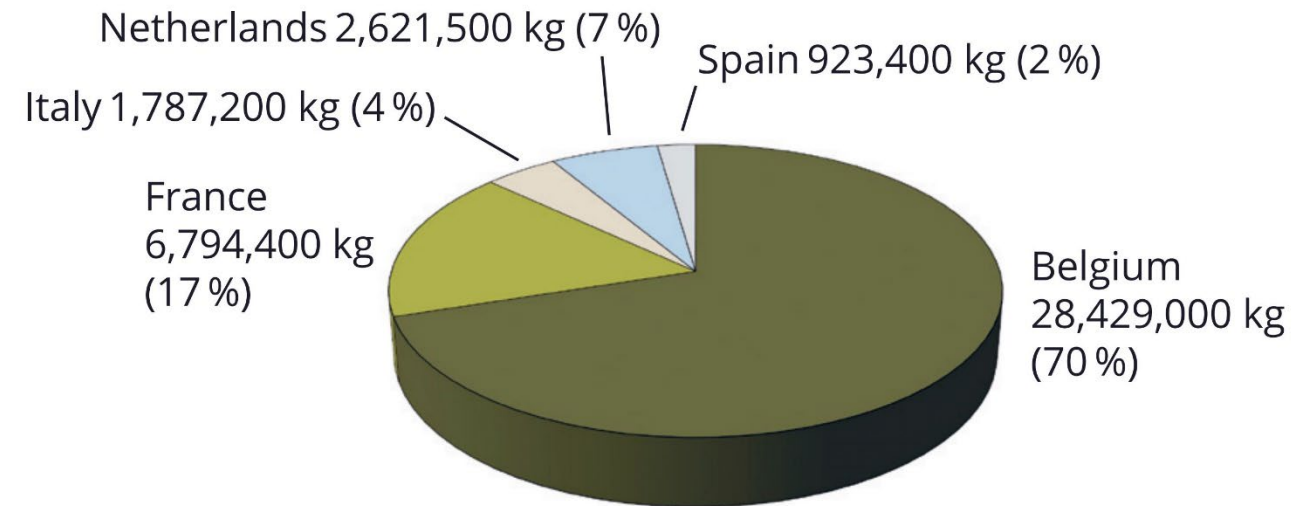
Ecological impact of EU imports

The EU's frogs' legs imports

► 40,598 tonnes within the period 2010-2019 (EUROSTAT 2021)



Supplying countries



Importing EU countries

Most targeted species in SE Asia

Indonesia and Vietnam



- ▶ **Indonesia:** *Fejervarya cancrivora* & *F. limnocharis* are seen as common species (“Least Concern”), trade factor underrepresented in IUCN Red List
- ▶ However, regional decline and significant demographic changes reported for both species
- ▶ *Limnonectes macrodon* vanished in EU market
- ▶ **Vietnam:** *Hoplobatrachus rugulosus*, mostly farmed, but restocking from the wild

Most targeted species in SE Europe

Turkey & Albania



Pelophylax bedriagae © Dina Kuzia CC 4.0

- ▶ **Turkey:** *Pelophylax bedriagae* (including "*P. caralitanus*") & *P. ridibindus* severely overexploited, rapidly declining
- ▶ Risk of extinction of large-bodied frogs in Turkey until 2030 (Çicek et al. 2020)
- ▶ Exports often wrongly declared as "*P. esculentus*"
- ▶ **Albania:** 3 *Pelophylax* species targeted, all of them have declining populations: *P. epiroticus*, *P. kurtmuelleri* & *P. shqipericus*

Historic overview & trade shifts

Country	Period	Species in trade	Volume of trade	Ecological impact
India	1960s-1980s	<ul style="list-style-type: none"> ▪ <i>Phrynoderma hexadactylum</i> ▪ <i>Hoplobatrachus tigerinus</i> 	<ul style="list-style-type: none"> ▪ roughly 1,881 t/yr ▪ (peak in 1981) 	Serious decline of wild populations ⇒ increase of pests ⇒ pesticide use (⇒ CITES App. II listing in 1985)
Bangladesh	1970s-1980s	<ul style="list-style-type: none"> ▪ <i>Phrynoderma hexadactylum</i> ▪ <i>Hoplobatrachus tigerinus</i> 	<ul style="list-style-type: none"> ▪ roughly 1,253 t/yr 	
Indonesia	1990s-present	<ul style="list-style-type: none"> ▪ <i>Fejervarya cancrivora</i> ▪ <i>F. limnocharis</i> ▪ <i>Limnonectes macrodon</i> ▪ <i>L. blythii</i> ▪ <i>L. kuhlii</i> 	<ul style="list-style-type: none"> ▪ Exports 3,800-5,600 t/yr, ▪ Recent declines of exports ▪ Largest supplier to the EU with ~ 3,000 t/yr (2010-2019) 	<ul style="list-style-type: none"> ▪ Declines of <i>F. cancrivora</i> & <i>F. limnocharis</i> ▪ Altered population structures ▪ <i>L. macrodon</i> vanished from EU imports ▪ sharp increase of pesticides since 2002
Turkey	1990s-present	<ul style="list-style-type: none"> ▪ <i>Pelophylax bedriagae</i> (including "<i>P. caralitanus</i>") ▪ <i>P. ridibundus</i> 	<ul style="list-style-type: none"> ▪ Annual exports almost 700 t/yr; ▪ 3rd largest supplier for the EU (2010-2019) 	Wild populations decimated by c. 20% /yr ⇒ likely extinction in c. 2032 if over-exploitation is not stopped
Albania	2000s-present	<ul style="list-style-type: none"> ▪ <i>Pelophylax epeiroticus</i> ▪ <i>P. kurtmuelleri</i> ▪ <i>P. shqipericus</i> 	<ul style="list-style-type: none"> ▪ 4th largest supplier for the EU with ~ 59 t/yr (2010-2019) 	<ul style="list-style-type: none"> ▪ All 3 species in decline ▪ Overexploitation documented, especially in region of Lake Skadar
Vietnam	2000-present	<ul style="list-style-type: none"> ▪ <i>Hoplobatrachus rugulosus</i> ▪ <i>Quasipaa spinosa</i> (?) 	<ul style="list-style-type: none"> ▪ 2nd largest supplier for the EU with imports of 844 t /yr (2010-2019) 	<ul style="list-style-type: none"> ▪ Ongoing restocking of farms with wild-caught frogs ▪ Genetic pollution by escaped animals ▪ Open water systems (antibiotics!)

Challenges & Conclusions

- ▶ Lack of species-specific trade data (EUROSTAT)
- ▶ Processed frogs' legs hardly distinguishable
⇒ High level of mis-labelling
- ▶ Local or regional decline of targeted populations ⇒
Extinction domino effect
- ▶ Lack of international regulation to ensure sustainability ⇒
consider CITES App. II listings
- ▶ Frog farming: environmental risks to be addressed





Thank you for listening!

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