



Results of the GMP2 study on POPs in Air

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Countries:

- DRC
- Egypt
- Ethiopia
- Ghana
- Kenya
- Mali
- Mauritius
- Morocco
- Nigeria
- Senegal
- Tanzania
- Togo
- Tunisia
- Zambia
- 2017
- 2018
- 2019
- 1 PUF per 3 months
- PCB, OCPs, BFRs
- Toxaphene

LOD and LOQ, definitions

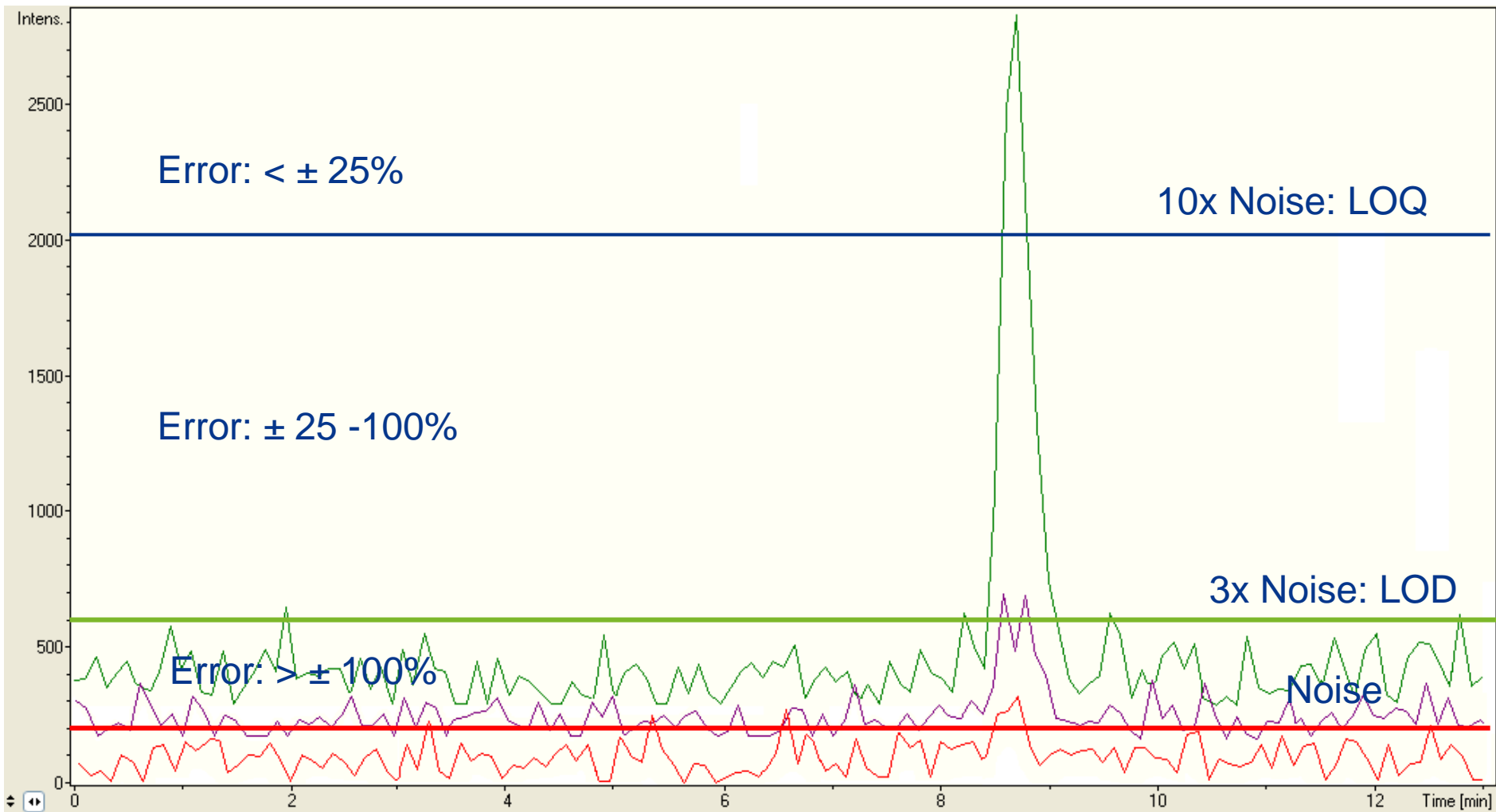
LOD - IUPAC definition

In broad terms, the limit of detection is the smallest amount or concentration of analyte in the test sample that can be reliably distinguished from zero

LOQ - Definition by Eurachem

The lowest concentration of analyte that can be determined with an acceptable repeatability and trueness

How to determine LOD and LOQ?

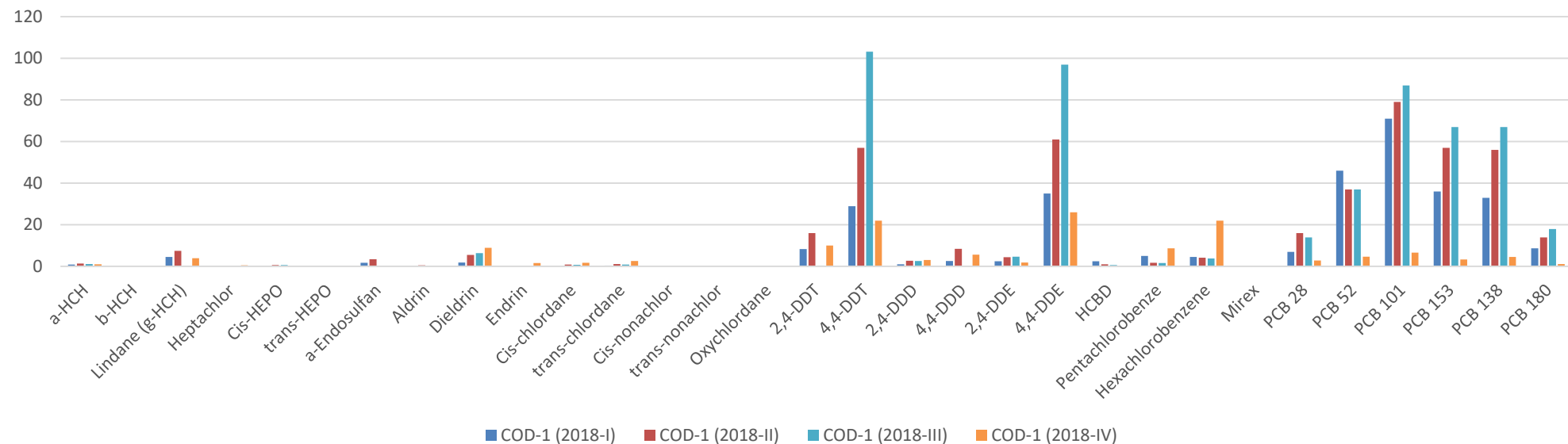


LOD and LOQ, examples

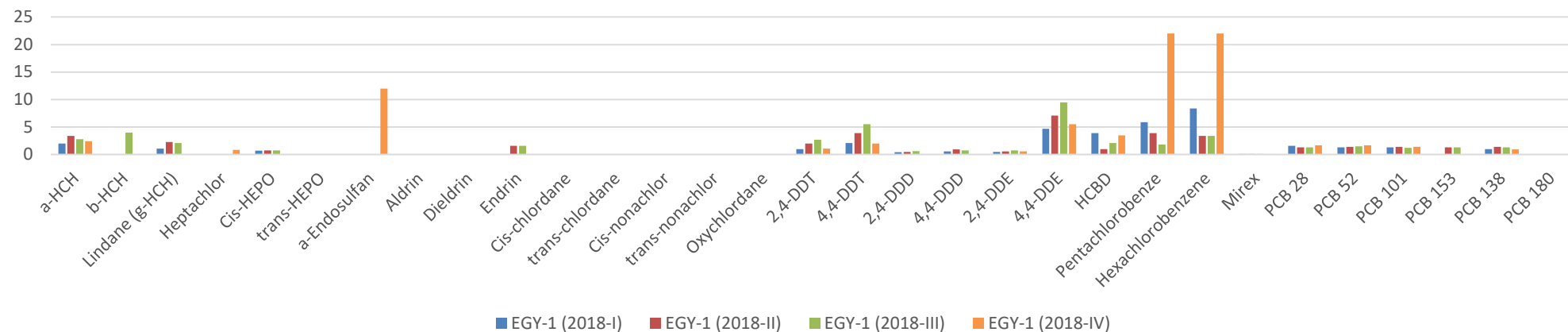
OCP	GHA-1 2017-I	GHA-1 2017-II	GHA-1 2017- III	GHA-1 2017- IV	GHA-1 2018-I	GHA-1 2018-II	GHA-1 2018- III	GHA-1 2018- IV
a-HCH	*0.33	*0.32	*0.34	*0.33	<0.25	<0.25	<0.25	*0.21
b-HCH	<0.81	<0.81	<0.81	<0.81	<0.83	<0.83	<0.83	<0.84
Lindane (g-HCH)	*1.2	*0.90	*0.67	*0.83	3.2	0.94	1.6	*1.1

DRC and Egypt – PCB/OCP

OCP & PCB ng/PUF

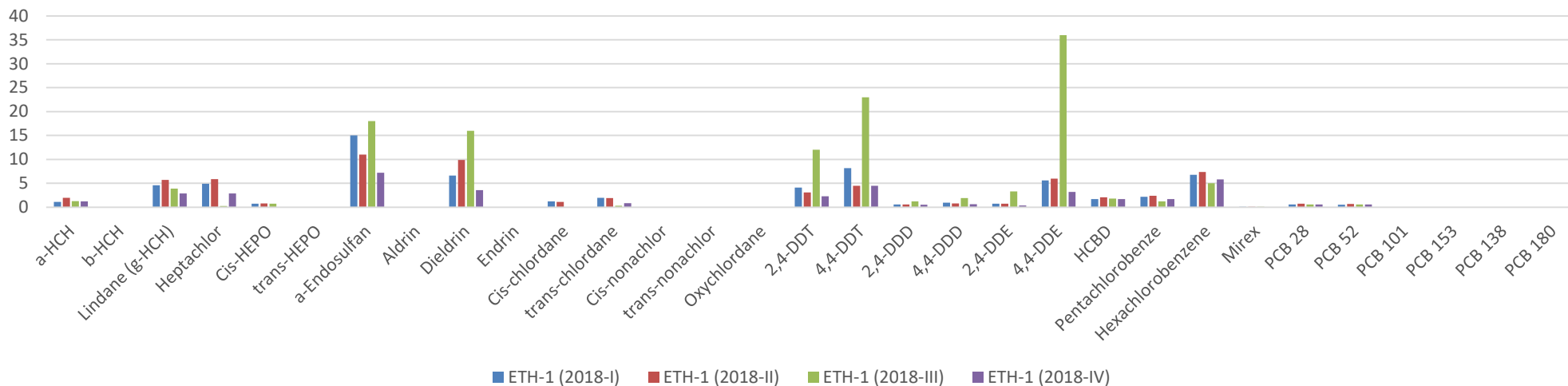


OCP & PCB ng/PUF

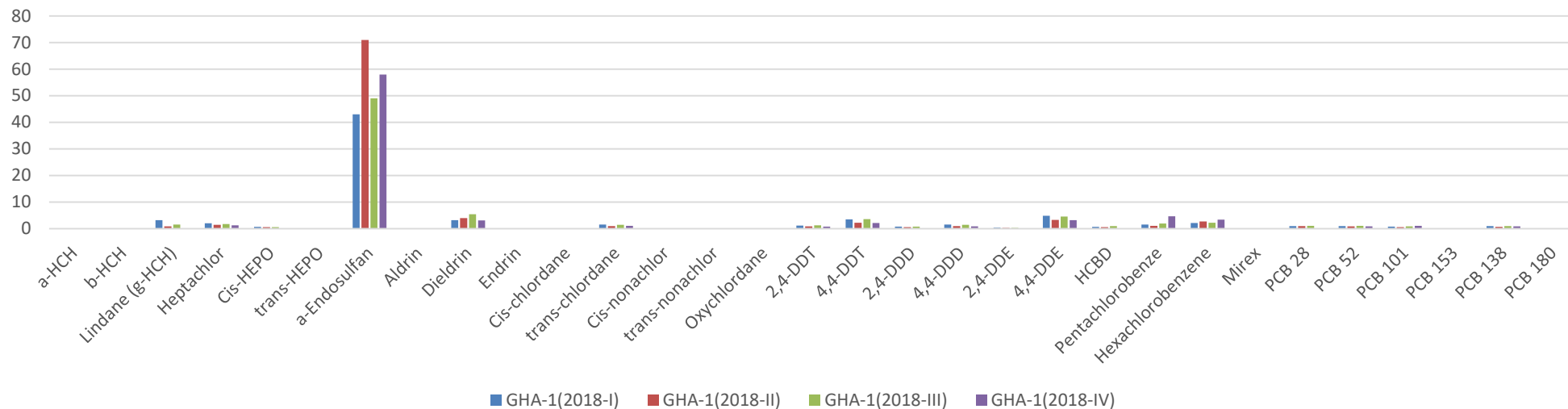


Ethiopia and Ghana - PCB/OCP

OCP & PCB ng/PUF

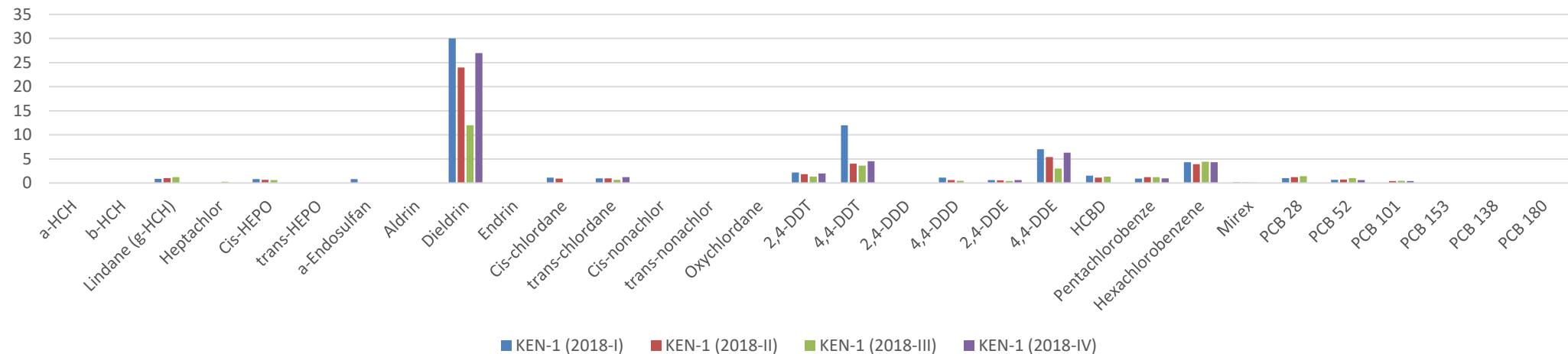


OCP & PCB ng/PUF

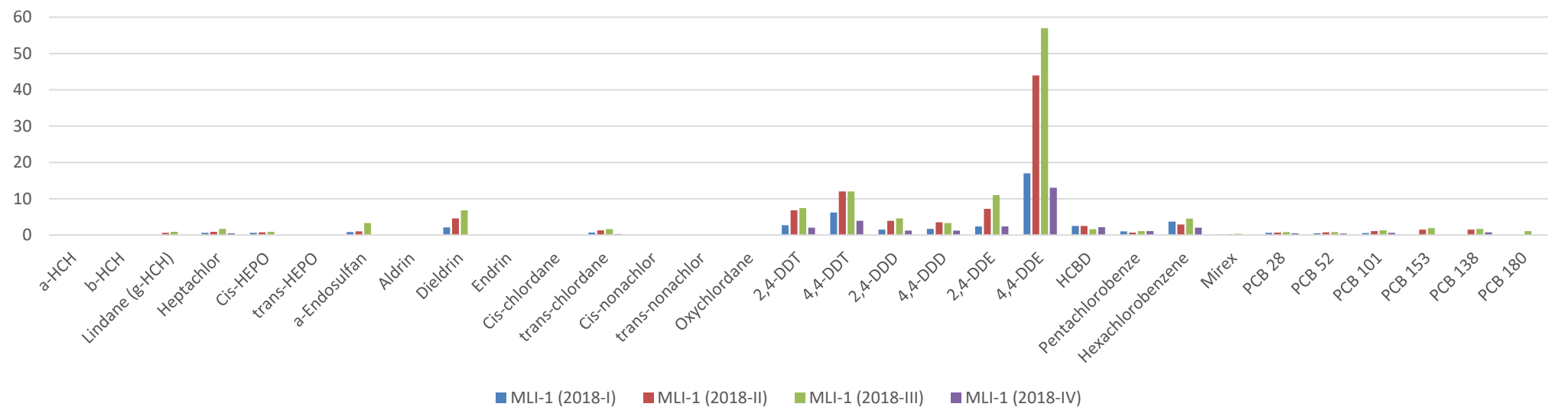


Kenya and Mali – PCB/OCP

OCP & PCB ng/PUF

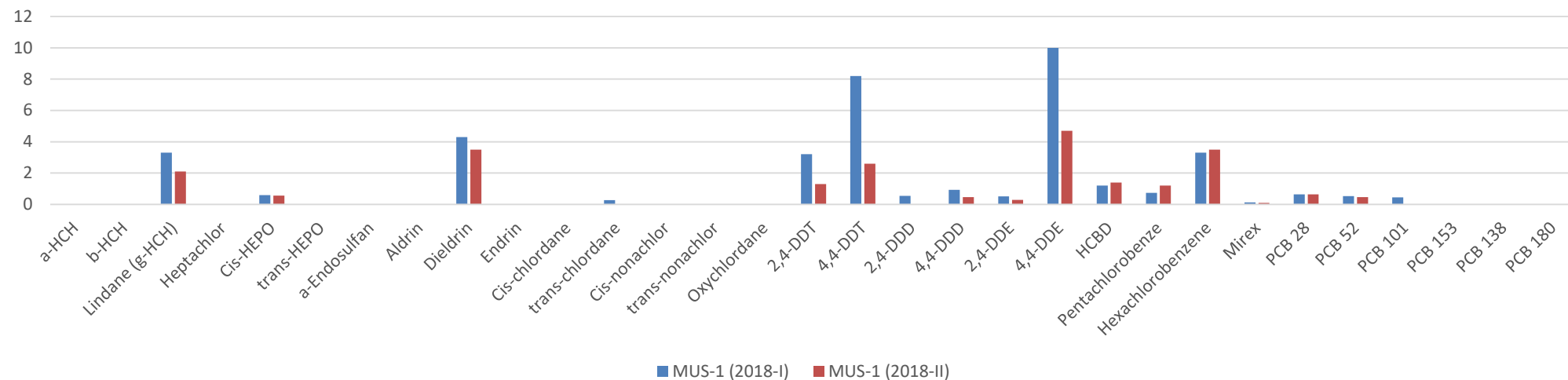


OCP & PCB ng/PUF

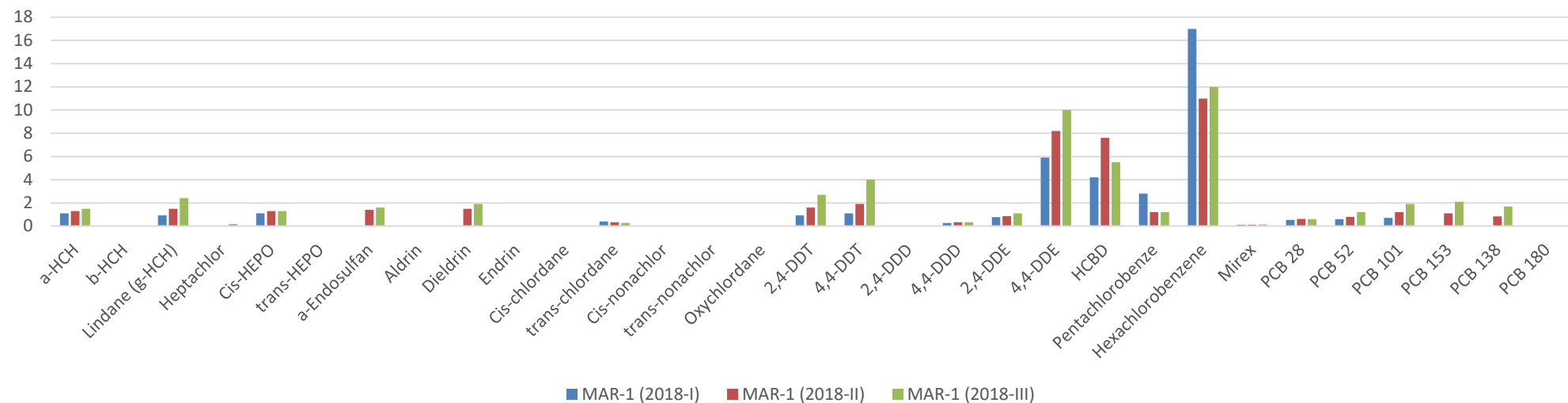


Mauritius and Morocco - PCB/OCP

OCP & PCB ng/PUF

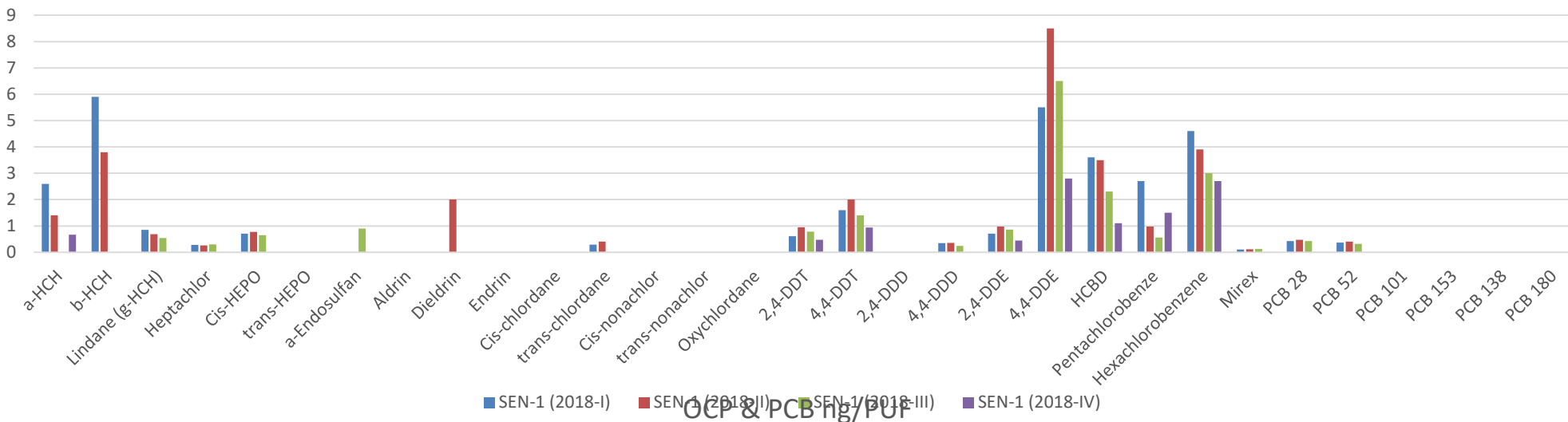


OCP & PCB ng/PUF

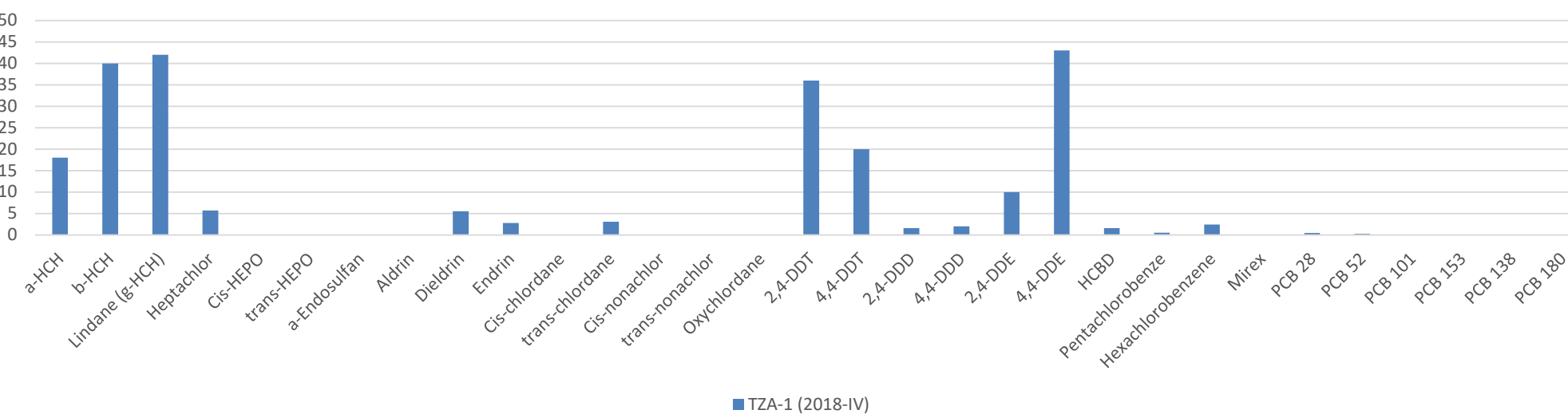


Senegal and Tanzania – PCB/OCP

OCP & PCB ng/PUF

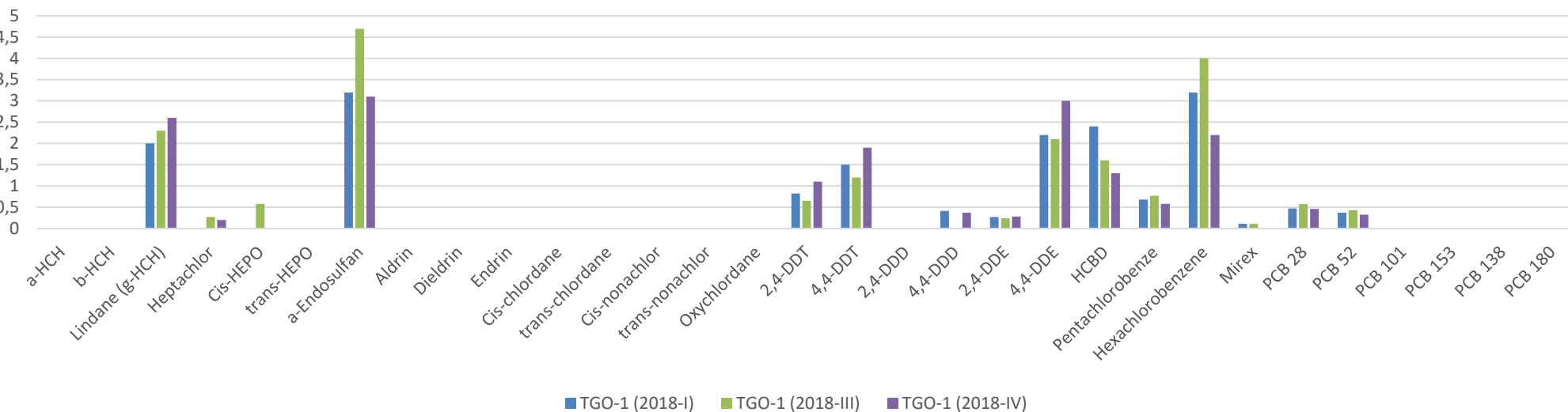


OCP & PCB ng/PUF

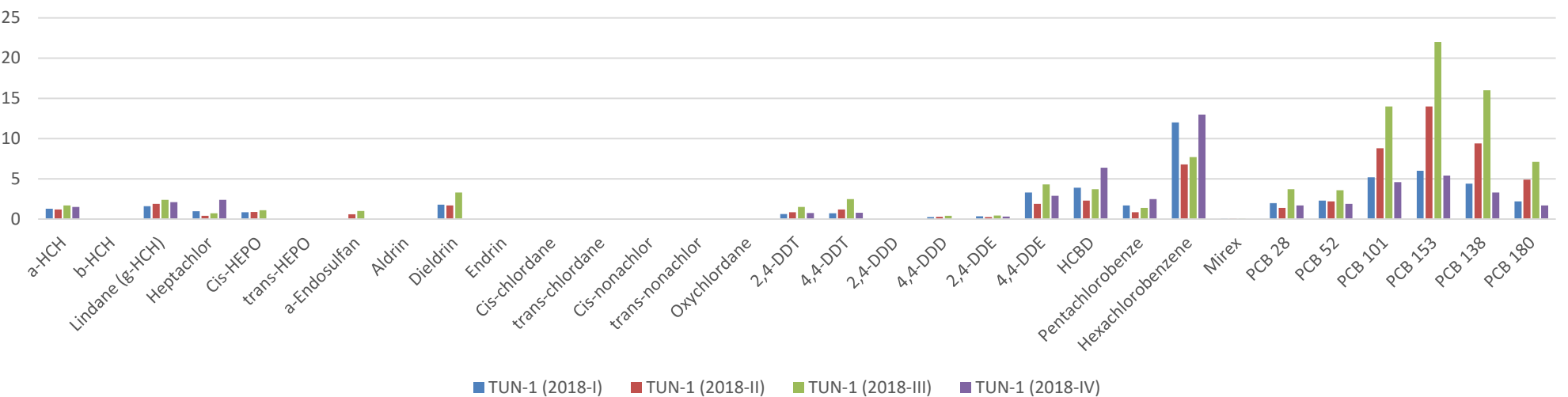


Togo and Tunisia - PCB/OCP

OCP & PCB ng/PUF

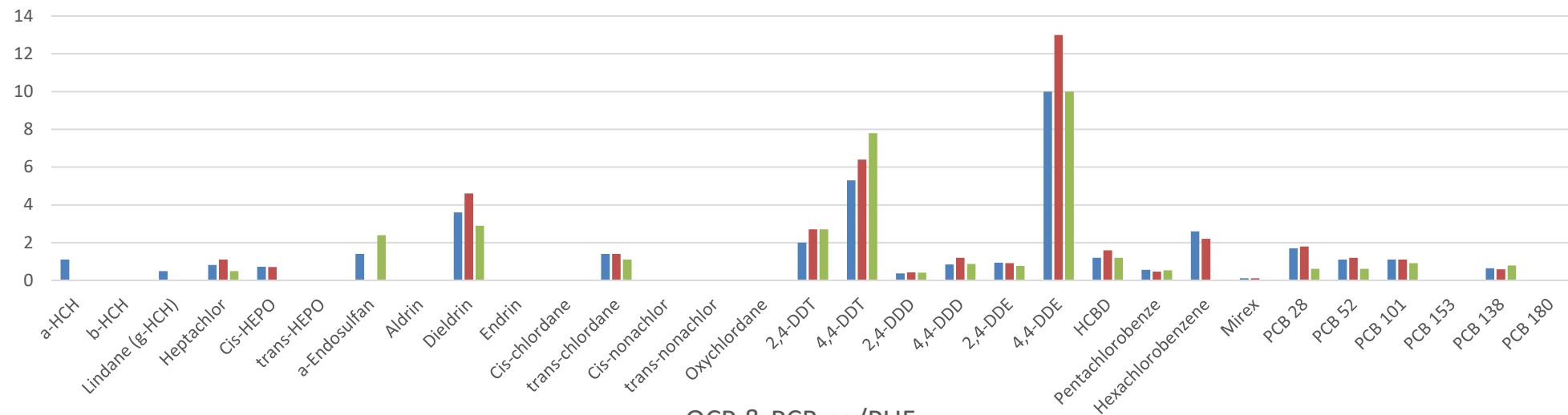


OCP & PCB ng/PUF

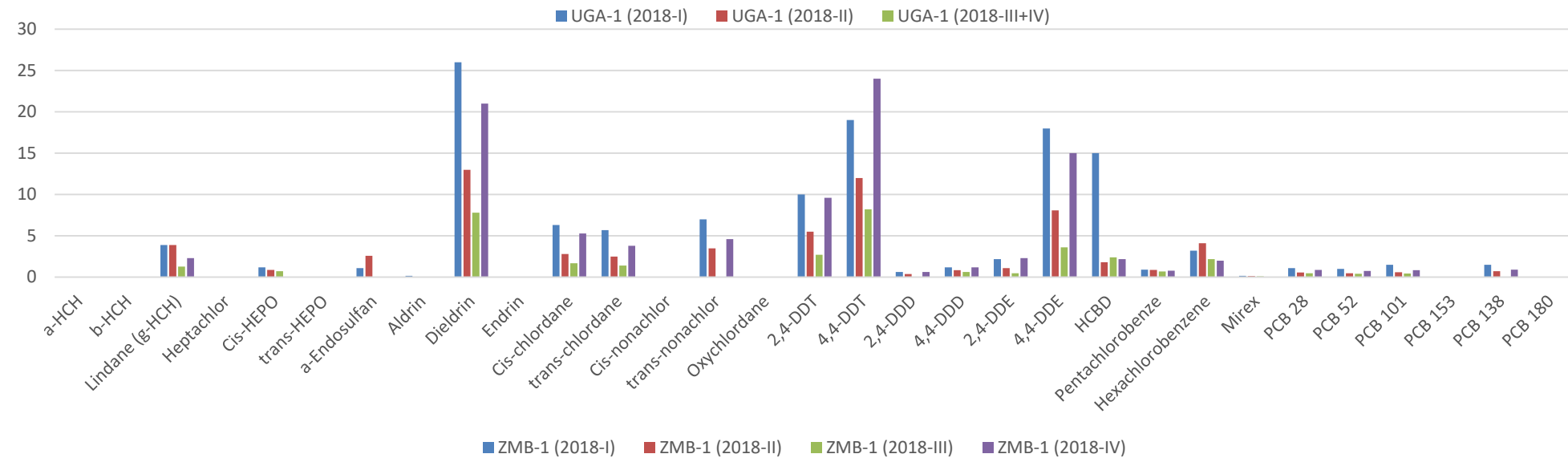


Uganda and Zambia - PCB/OCP

OCP & PCB ng/PUF

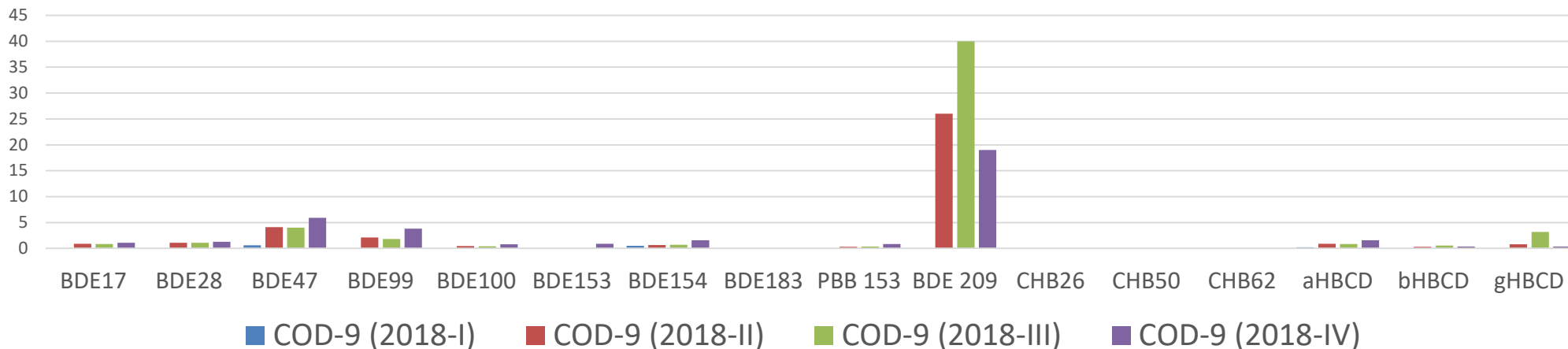


OCP & PCB ng/PUF

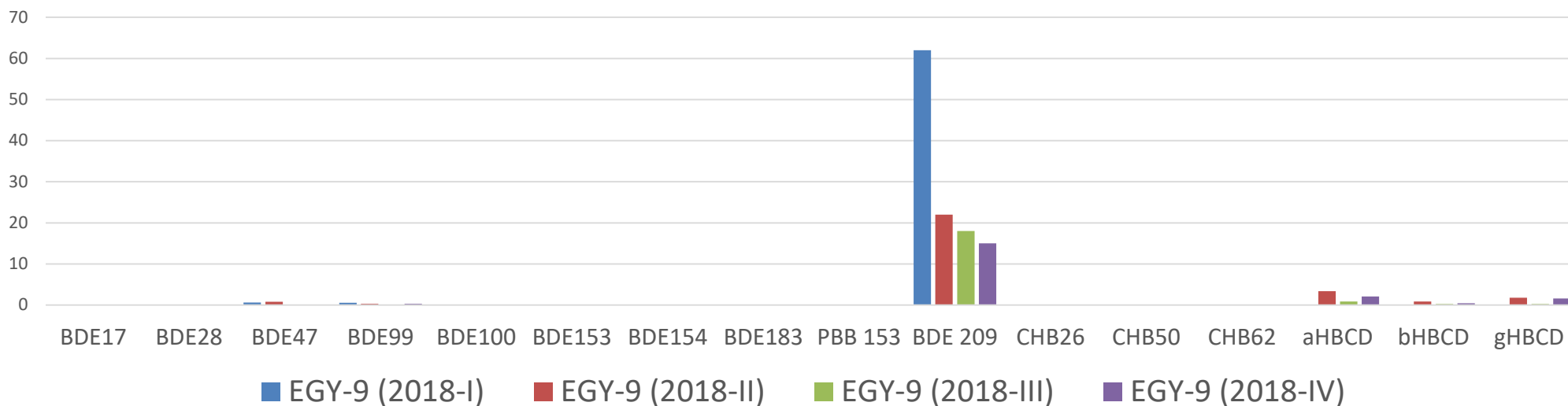


DRC and Egypt - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

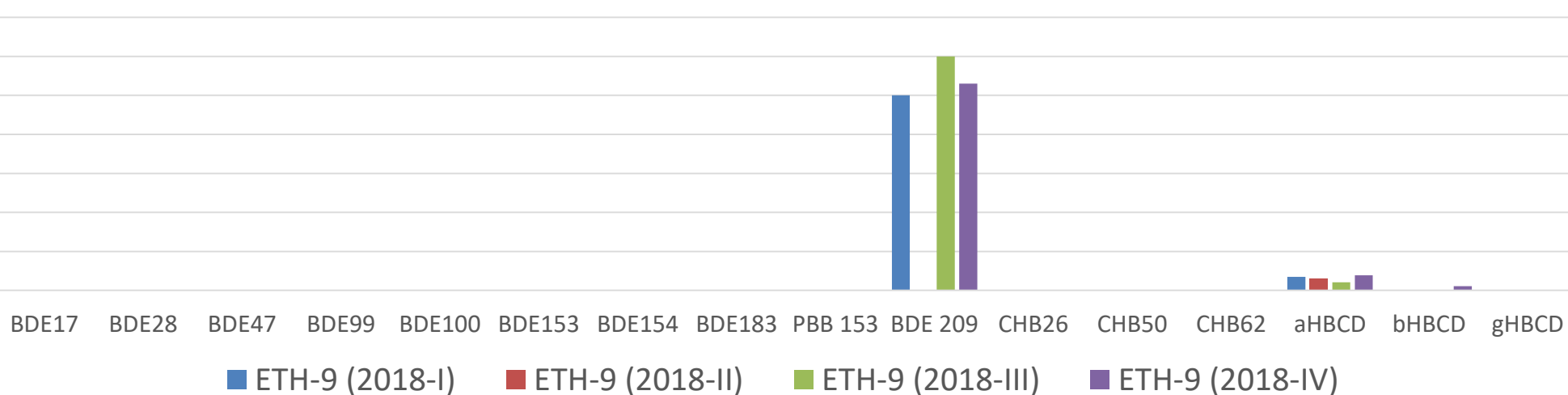


BFRs & toxaphene ng/PUF

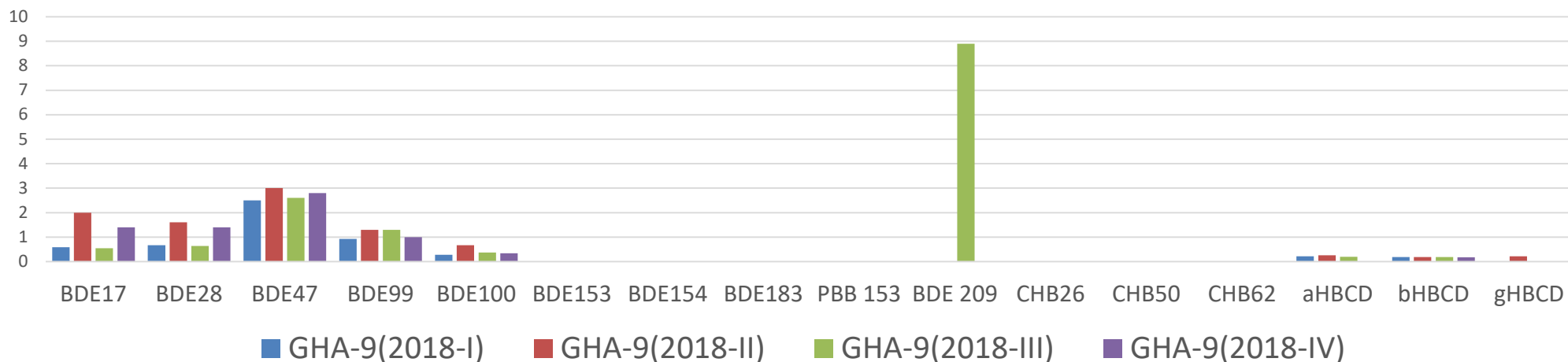


Ethiopia and Ghana - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

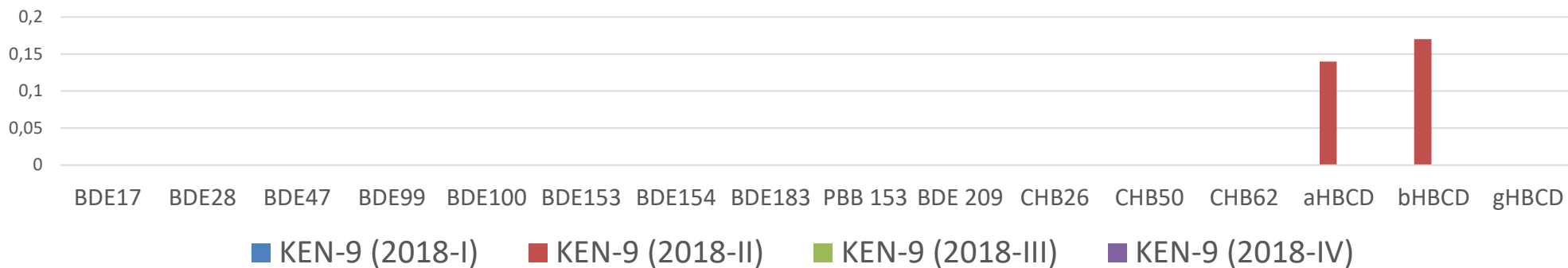


BFRs & toxaphene ng/PUF

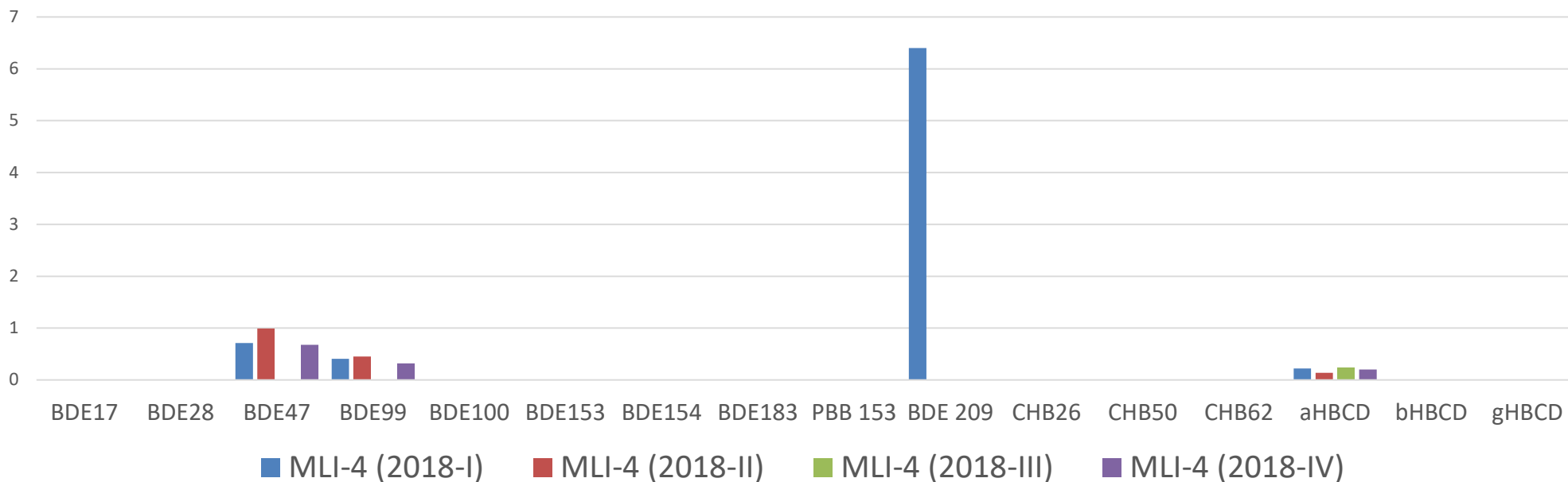


Kenya and Mali - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

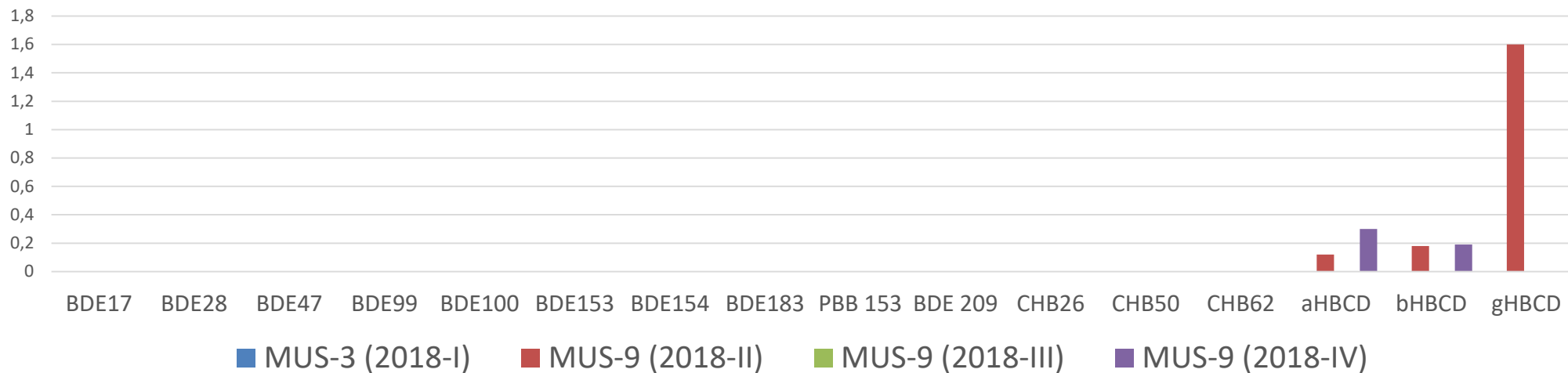


BFRs & toxaphene ng/PUF

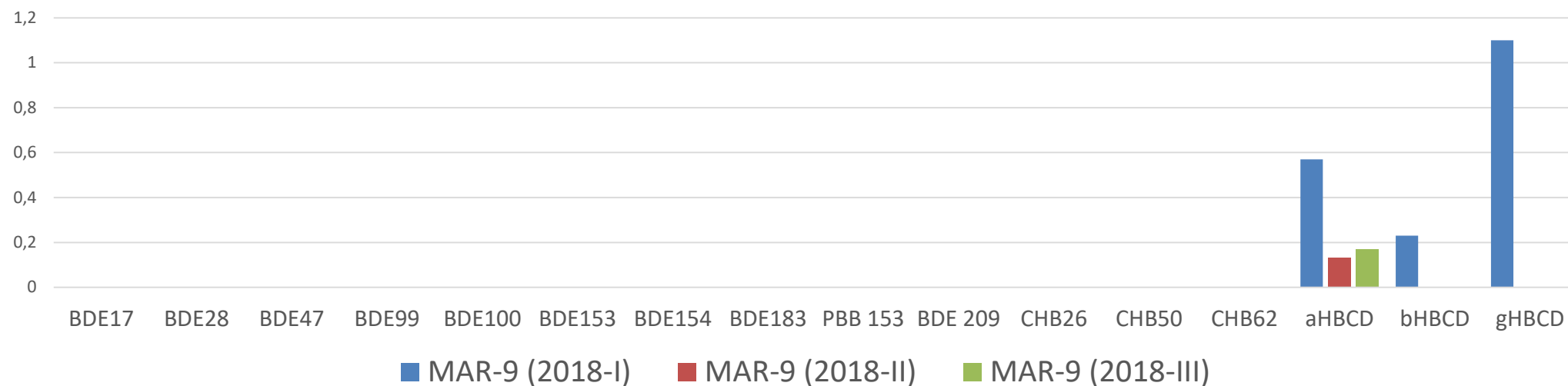


Mauritius and Morocco - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

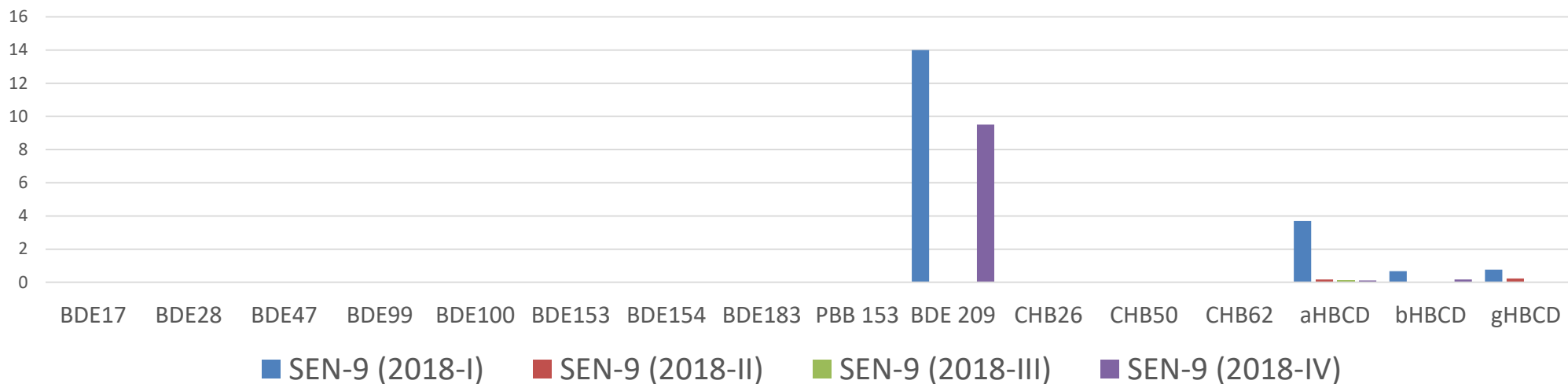


BFRs & toxaphene ng/PUF

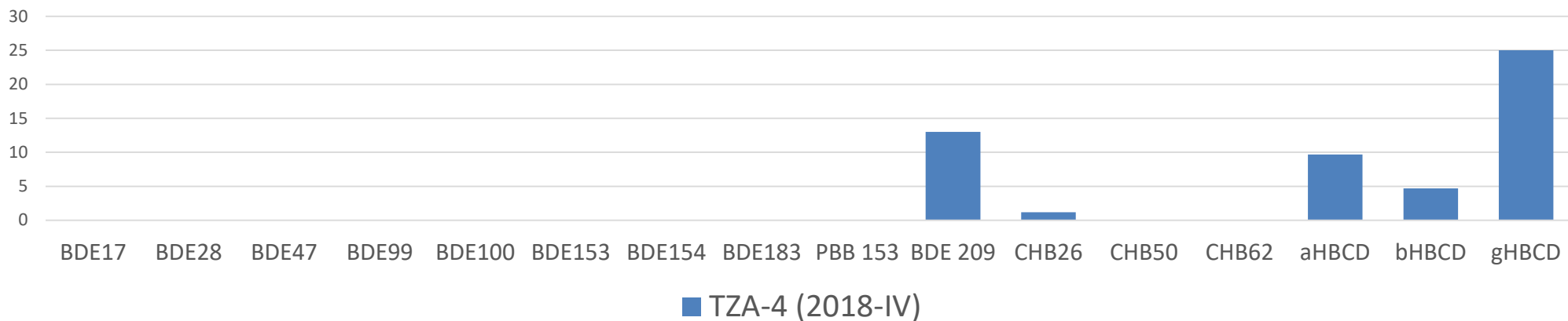


Senegal and Tanzania - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

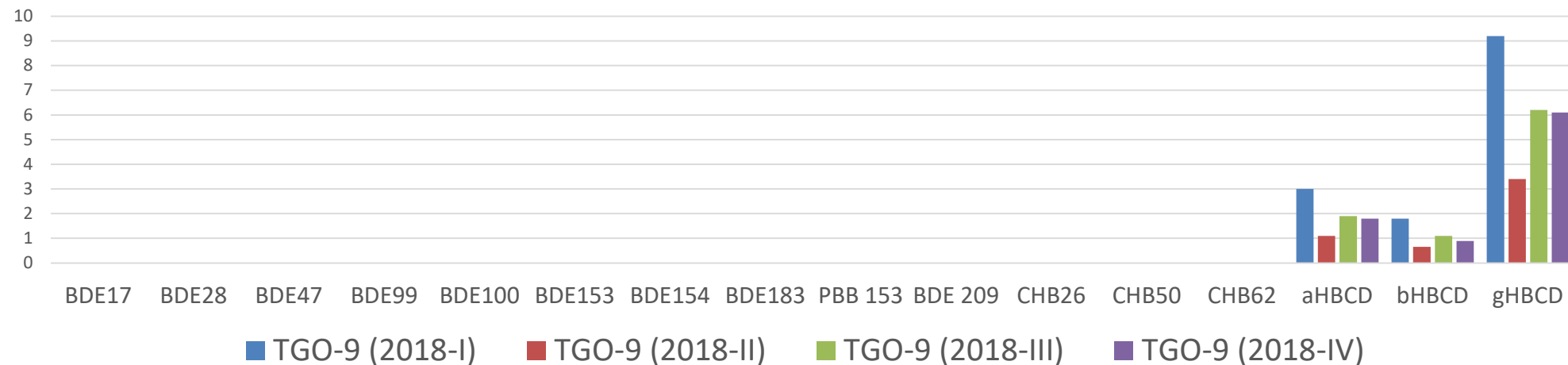


BFRs & toxaphene ng/PUF

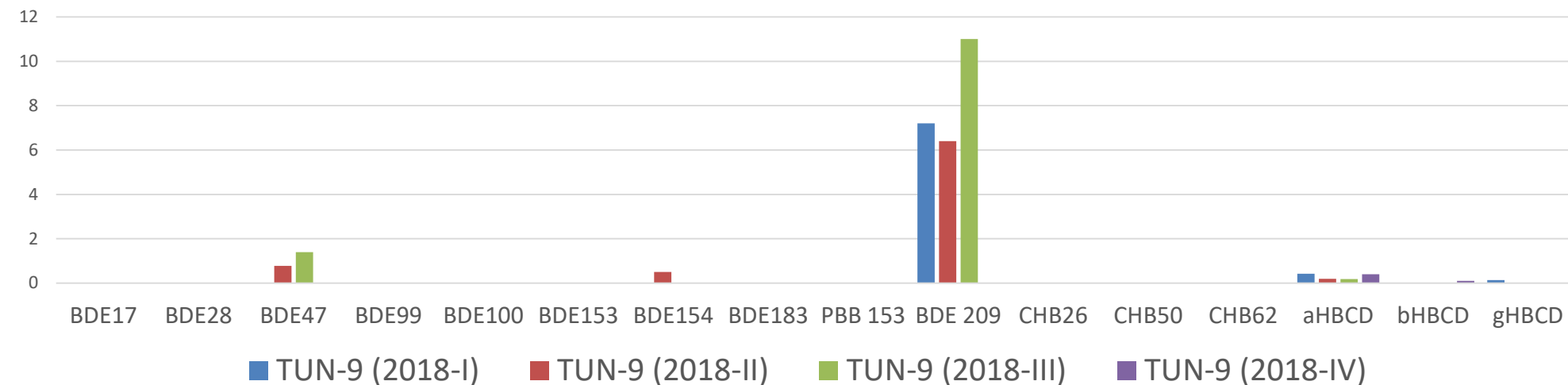


Togo and Tunisia - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

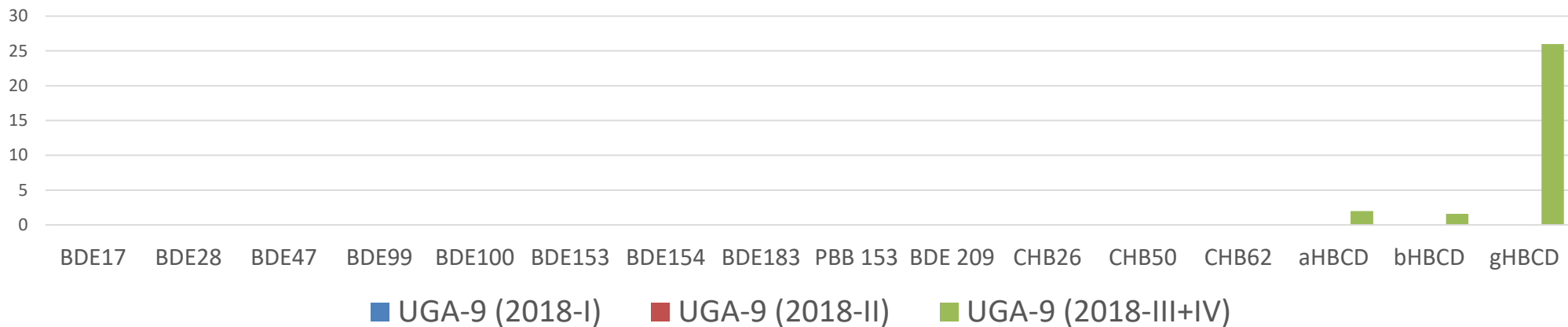


BFRs & toxaphene ng/PUF

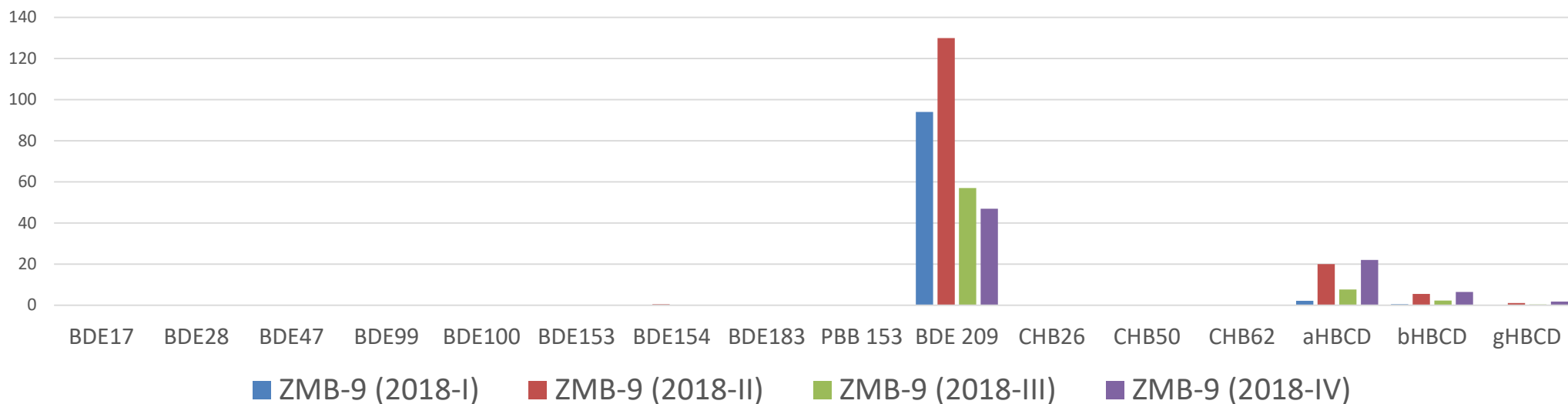


Uganda and Zambia - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

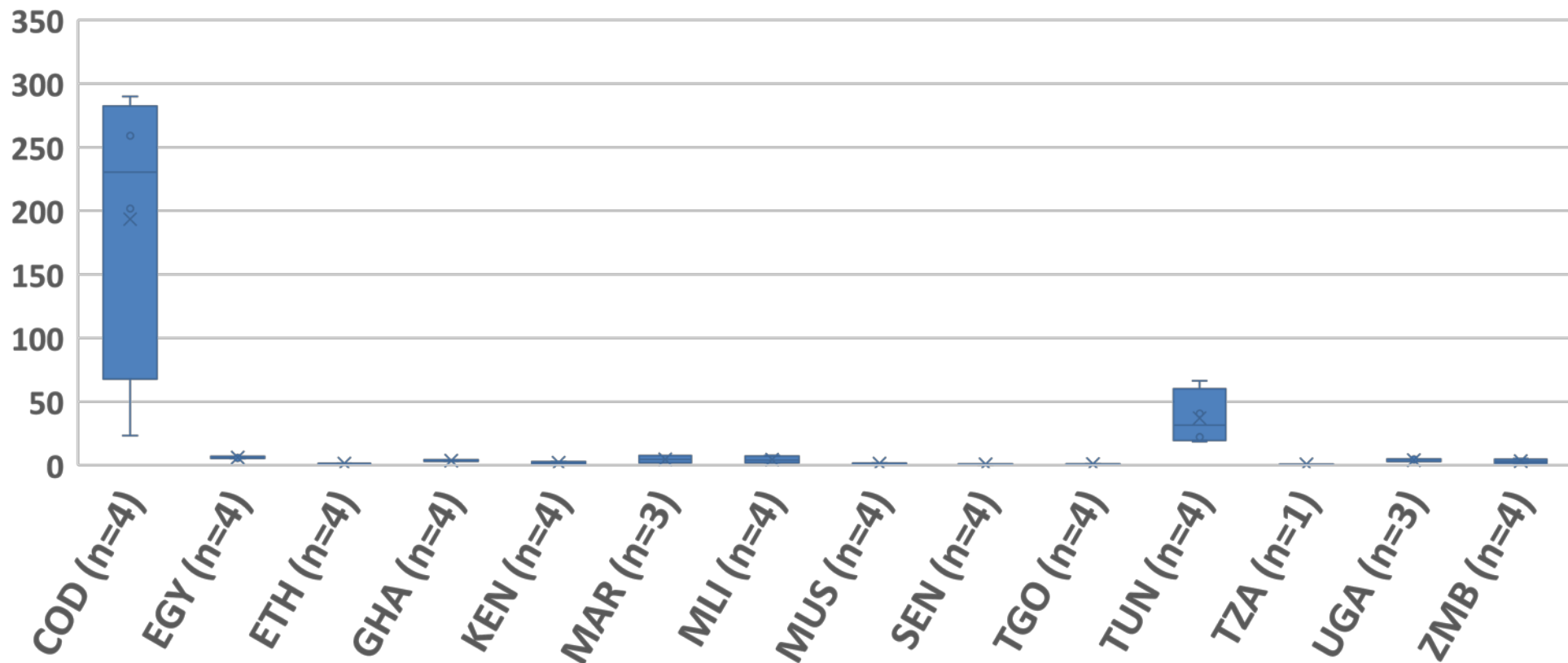


BFRs & toxaphene ng/PUF



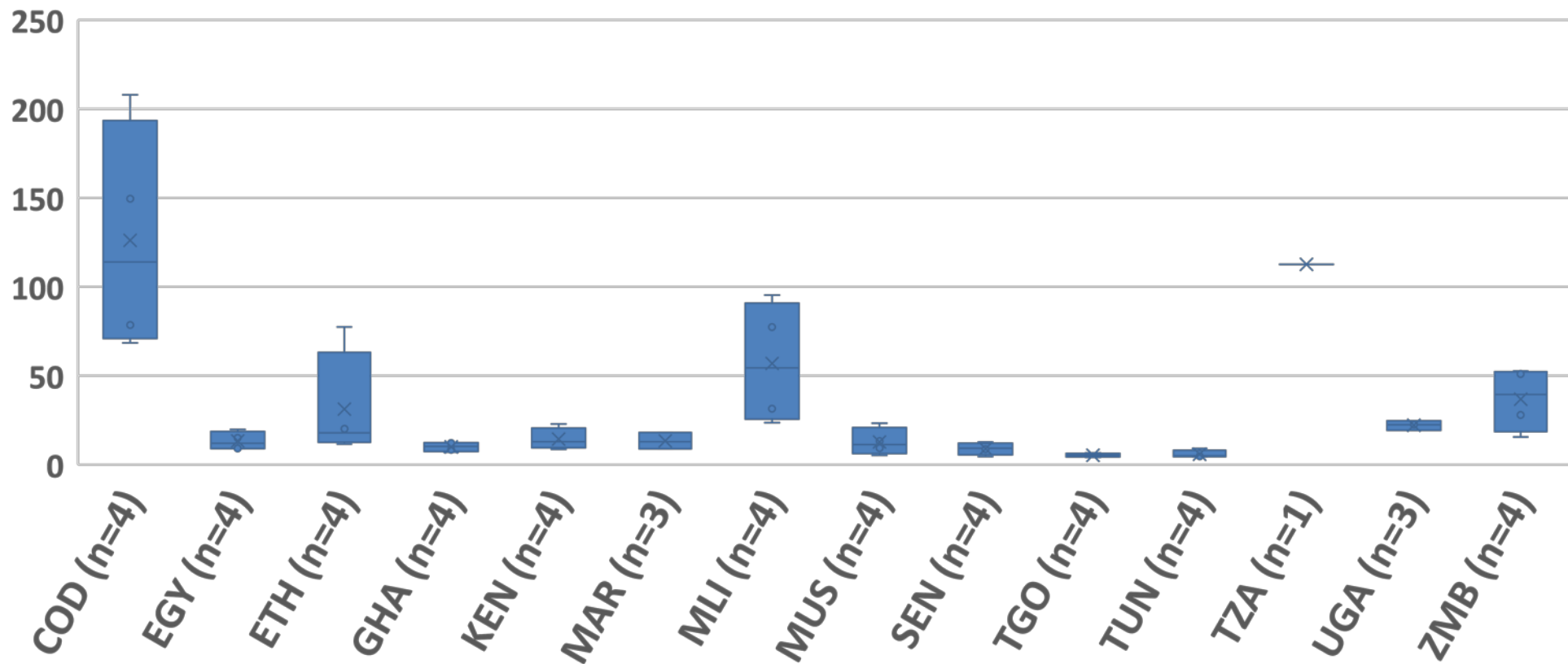
Africa, 2018 – Sum 6 PCBs

Sum 6 PCBs 2018 (ng/PUF)



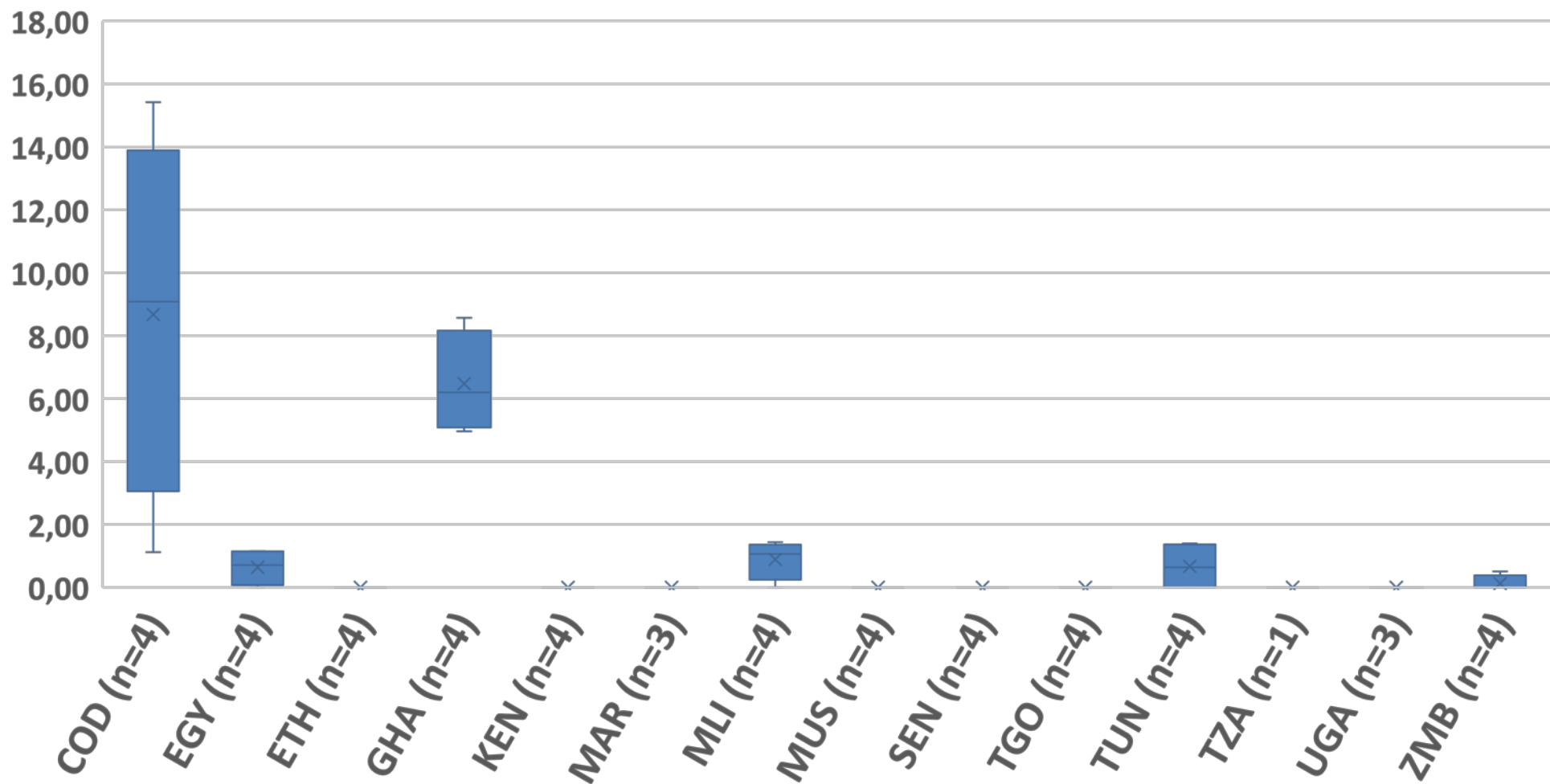
Africa, 2018, sum DDT

Sum DDTs 2018 (ng/PUF)



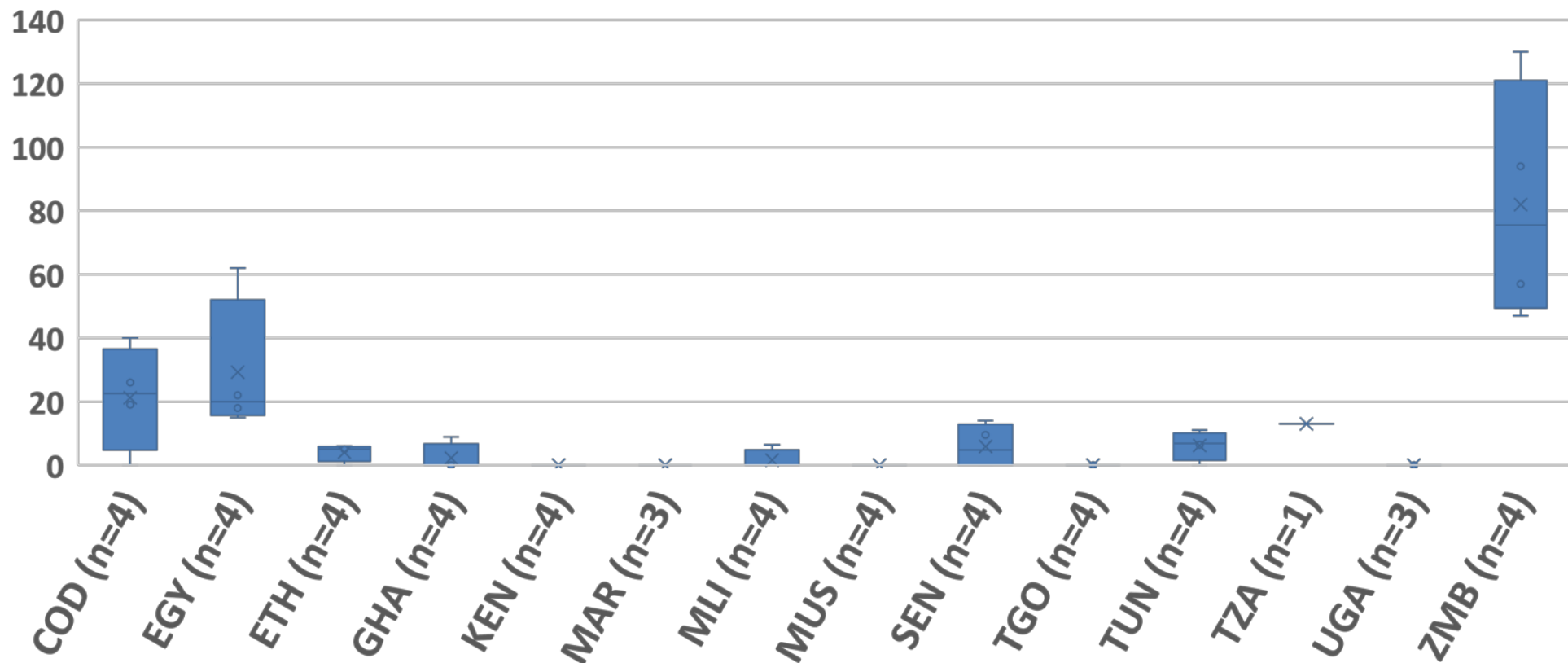
Africa, 2018 – Sum PBDEs

Sum PBDEs 2018 (ng/PUF)



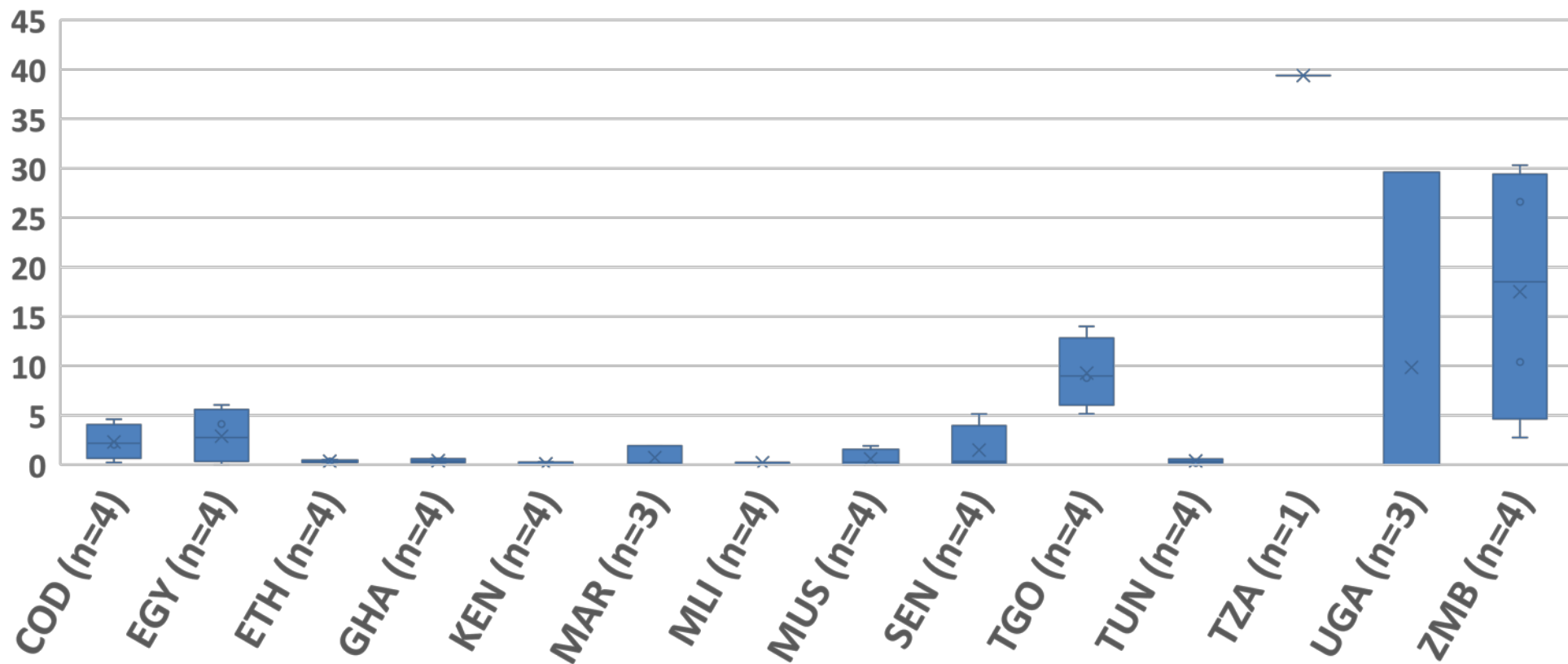
Africa, 2018 – DecaBDE

DecaBDE 2018 (ng/PUF)



Africa 2018, HBCD

Sum HBCDs 2018 (ng/PUF)



Serious contaminations, >> 10 ng/PUF

- Mongolia: PBDE, HBCD, HCB, PeCB
- Lao: Chlordane
- DRC: PCB, DDT, DDE, BDE209
- Egypt: HCB, PeCB, Endosulfan
- Ethiopia: Endosulfan, DDT, DDE
- Ghana: Endosulfan
- Kenya: Dieldrin
- Mali: DDE
- Tanzania: DDT, DDE, HCHs, HBCD
- Uganda: HBCD
- Zambia: BDE209, Dieldrin, DDT, DDE, HBCD
- Solomon Islands: DDT