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Temporal and spatial patterns of Taiwanese, Japanese and Korean Nominal Albacore CPUE distributions in the Indian Ocean

Yin Chang[1], Takayuki Matsumoto[2] and Sung- Il Lee[3]

[1]Numerical Modeling and GIS Division, Tainan Hydraulics Institute, National Cheng Kung University

[2]National Research Institute of Far Seas Fisheries, Shimizu

[3]Distant Water Fisheries Resources Research Division, National Institute of Fisheries Science, Busan

Summary

At the IOTC 17th WPTT (Working Party on Tropical Tunas), the WPTT NOTED: the updated CPUE analysis and encouraged to continue the analysis as part of the multi-nation collaborative effort to improve CPUE standardizations. While some progress has been made, additional joint analyses of Taiwanese, Japanese, and Korean operational level longline fishery data are needed. Also, at the IOTC 18th SC (Scientific Committee), the SC RECOMMENDED: that it is necessary to develop standardized CPUE series for Albacore including incorporation of changes in species targeting. Taiwanese, Japanese and Korean scientists and an independent scientist have agreed to conduct collaborative work on Albacore CPUE. Thus, the 1st joint meeting of CPUE standardization for Albacore was held in Taipei during April 4-8, 2016.

In the joint meeting, we developed a quick view technique to compare CPUE distributions by year and by area (5X5 degree), which are shown in Fig. 1 to Fig. 36. In the figures, CPUE is calculated by no. of catch/Hooks and divided into 12 classes. Table 1 lists the up and low boundaries of each CPUE class. Data from Taiwan, Japan and Korea are represented by green, red and blue colors, respectively. Frequency of CPUE distributions are in percentage and logarithmic scale are applied. Clear Figures in pdf format which can be zoon in to see details of every cell can be downloaded from: http://myweb.ncku.edu.tw/~yinchang/TW_JP_KR_ALB_CPUE_IOTC.pdf . And please email to: yinchang@mail.ncku.edu.tw , if you have any problem.

By the use of quick view technique, we observed two phenomena which unnoticed before:

(1). Different fishing area distribution would be the major source of conflicts between Taiwanese, Japanese and Korean CPUE trends.

(2). Within the same temporal (year) and spatial (5X5 degree) condition, the Nominal Albacore CPUE distribution of Taiwan, Japan and Korea would have a high probability of presenting similar.

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Table 1. Up and low boundaries of CPUE classes in Fig. 1 to Fig. 36.

CPUE (N/Hooks)		
Class Label	low	up
0.00	≧0.000	<0.005
0.01	≧0.005	<0.015
0.02	≧0.015	<0.025
0.03	≧0.025	<0.035
0.04	≧0.035	<0.045
0.05	≧0.045	<0.055
0.06	≧0.055	<0.065
0.07	≧0.065	<0.075
0.08	≧0.075	<0.085
0.09	≧0.085	<0.095
0.10	≧0.095	<0.105
0.11	≧0.105	<0.115

Scan QR code to download Fig1. to Fig 36. in pdf format

http://myweb.ncku.edu.tw/~yinchang/TW_JP_KR_ALB_CPUE_IOTC.pdf

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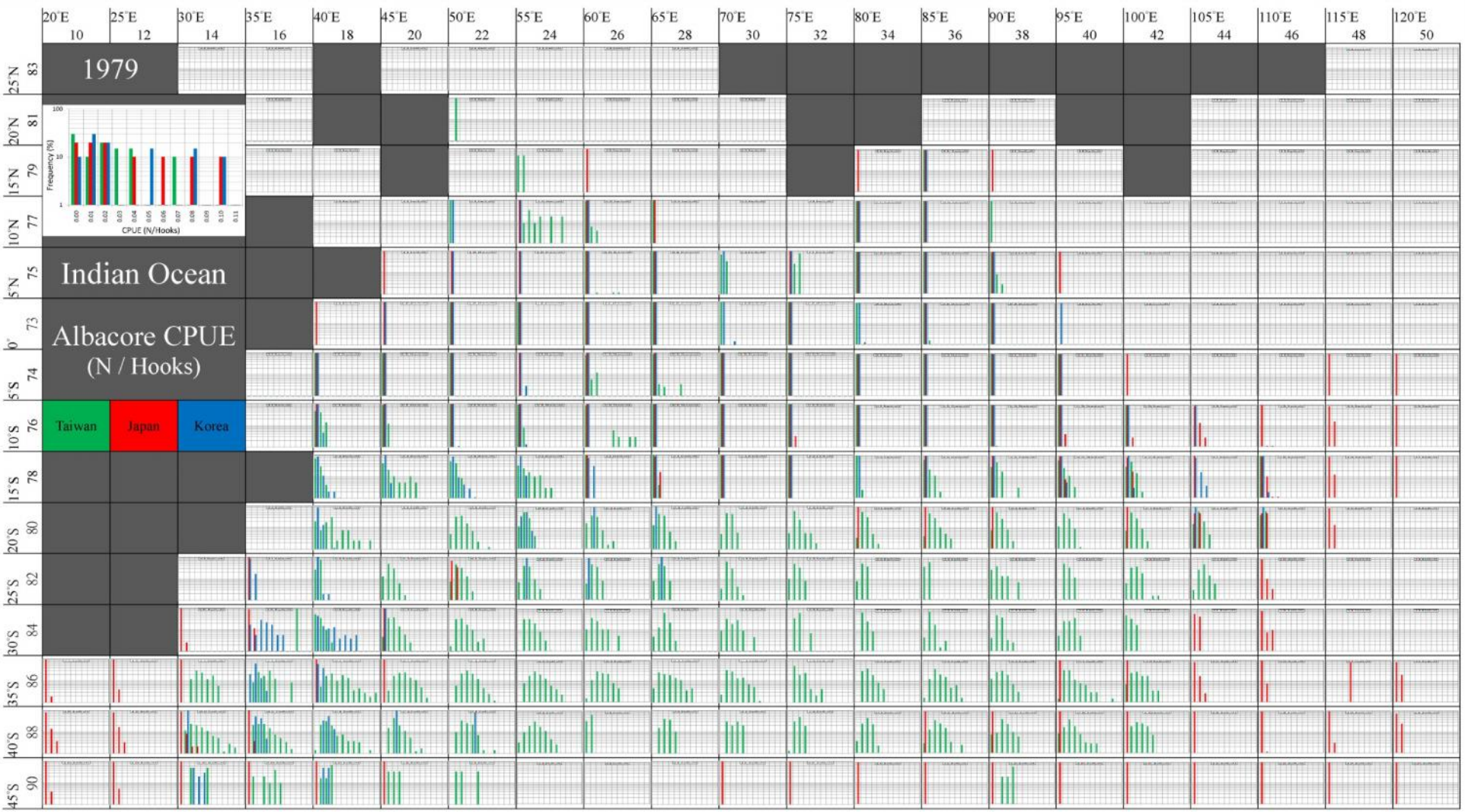

Fig. 1. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1979

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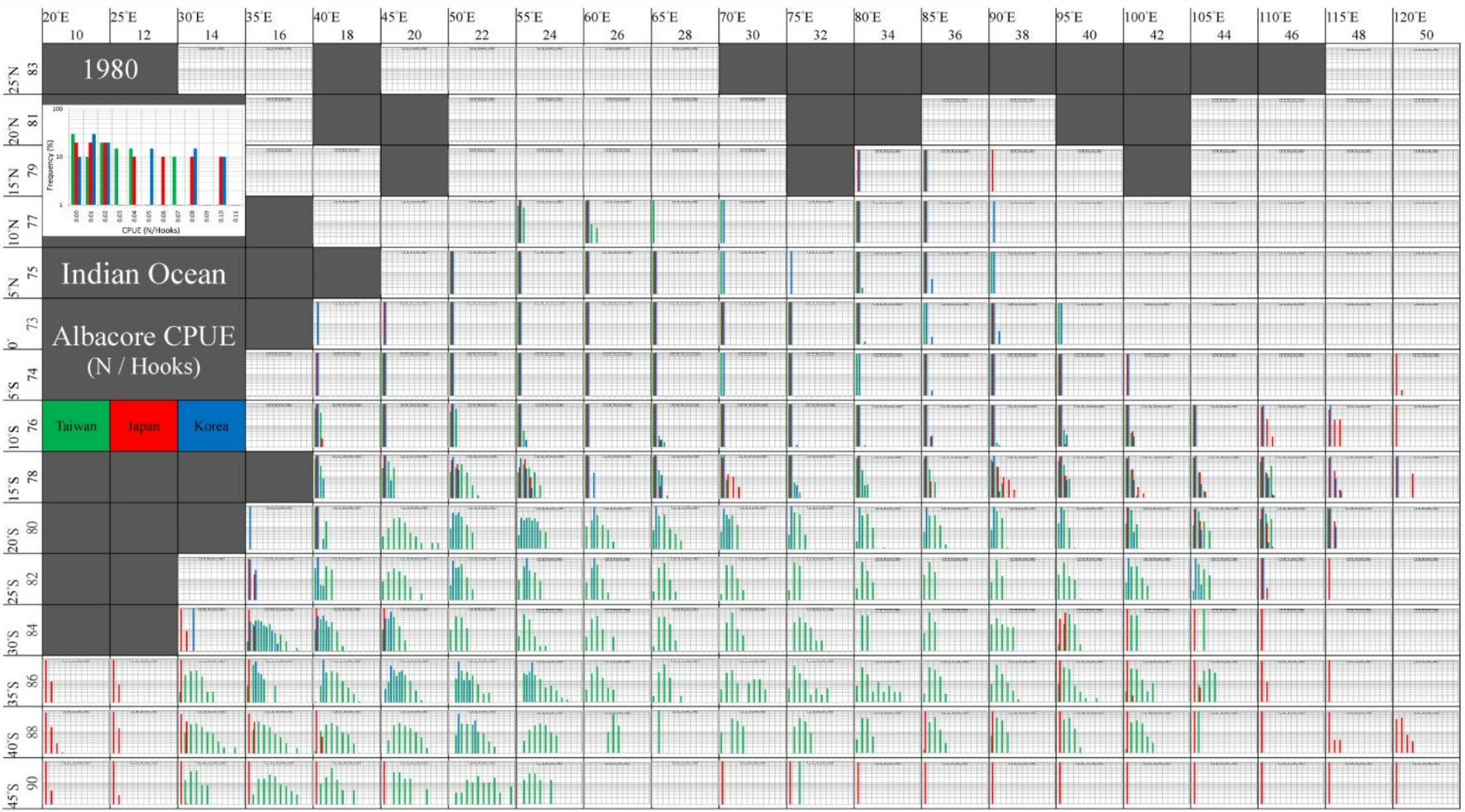

Fig. 2. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1980

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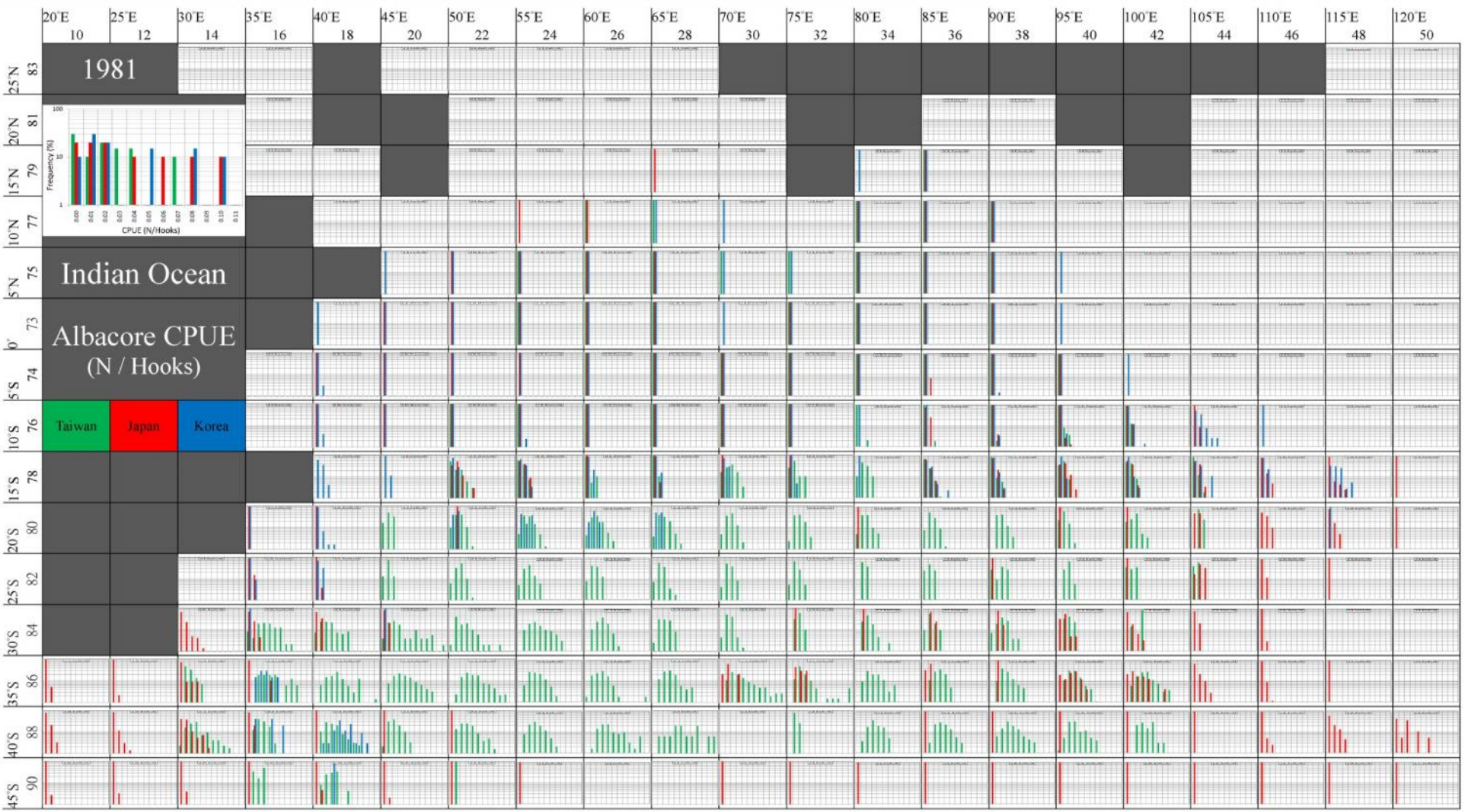

Fig. 3. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1981

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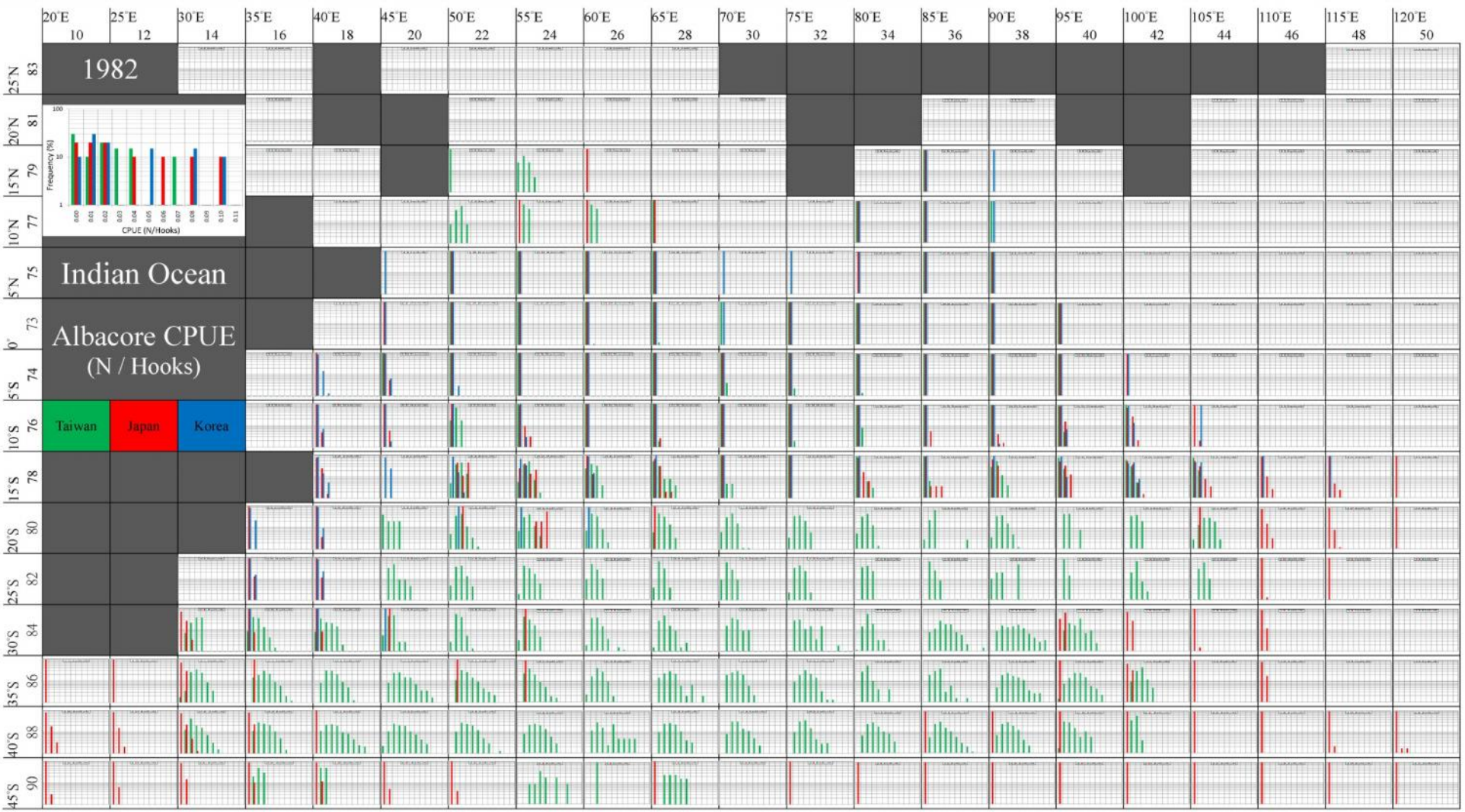

Fig. 4. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1982

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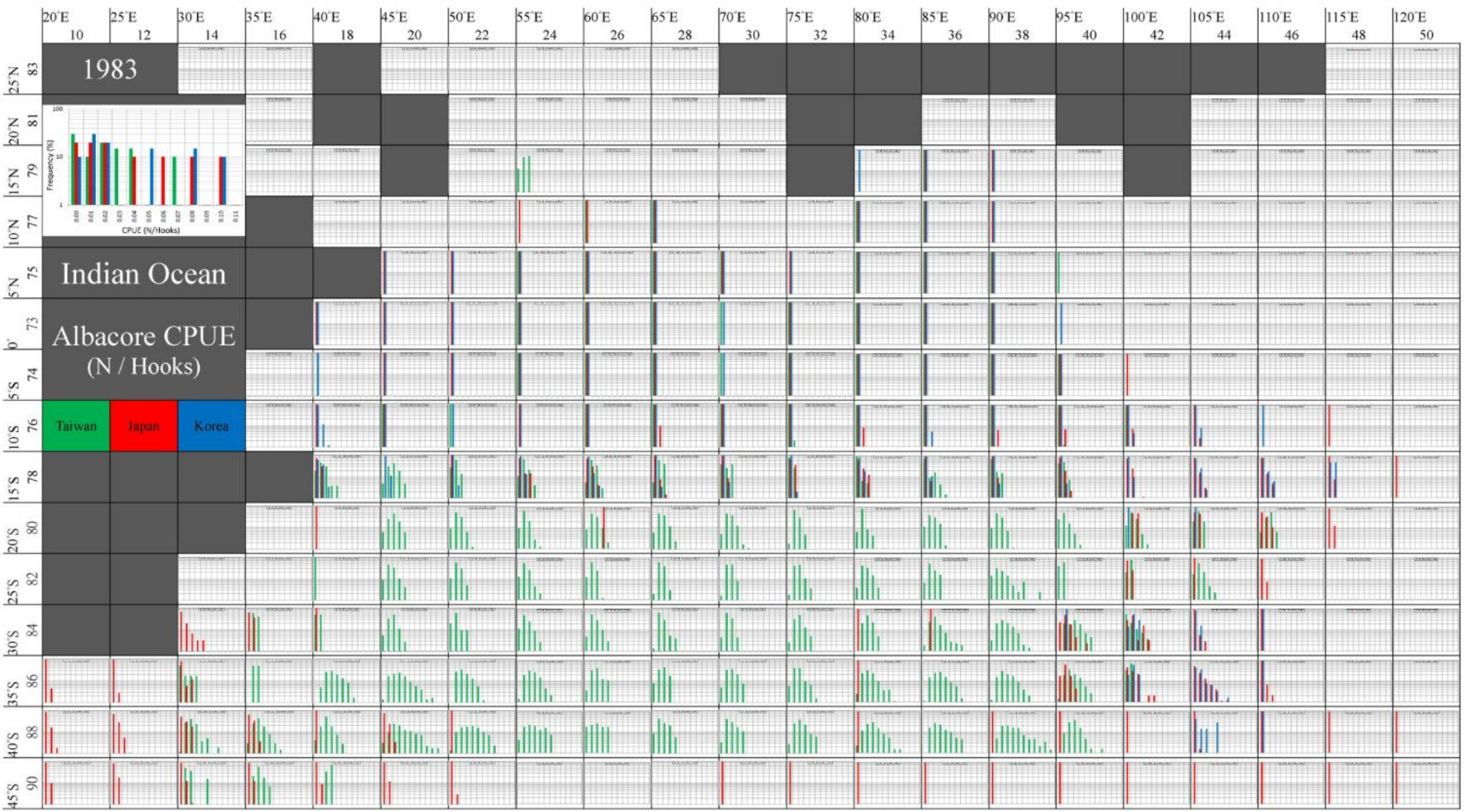

Fig. 5. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1983

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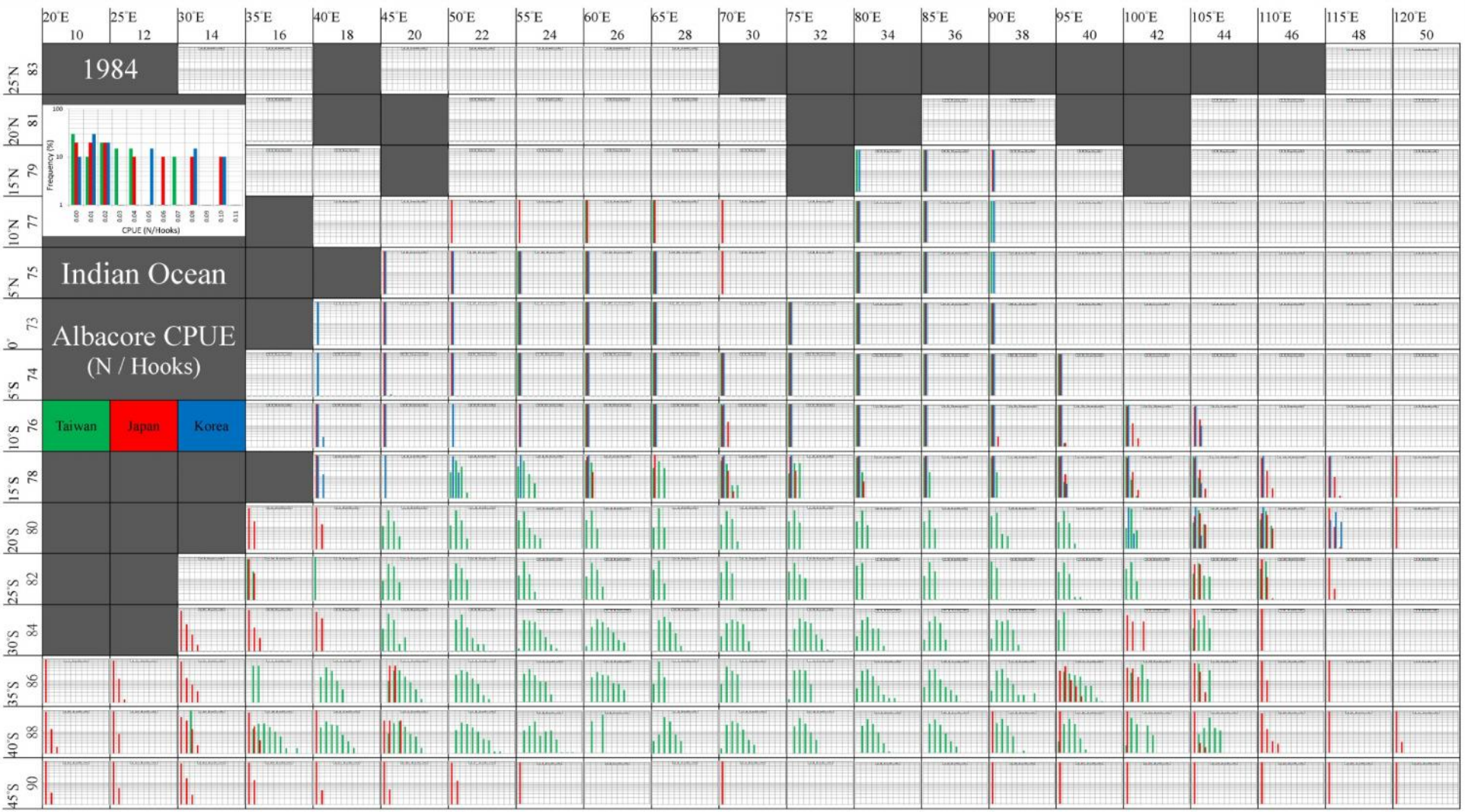

Fig. 6. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1984

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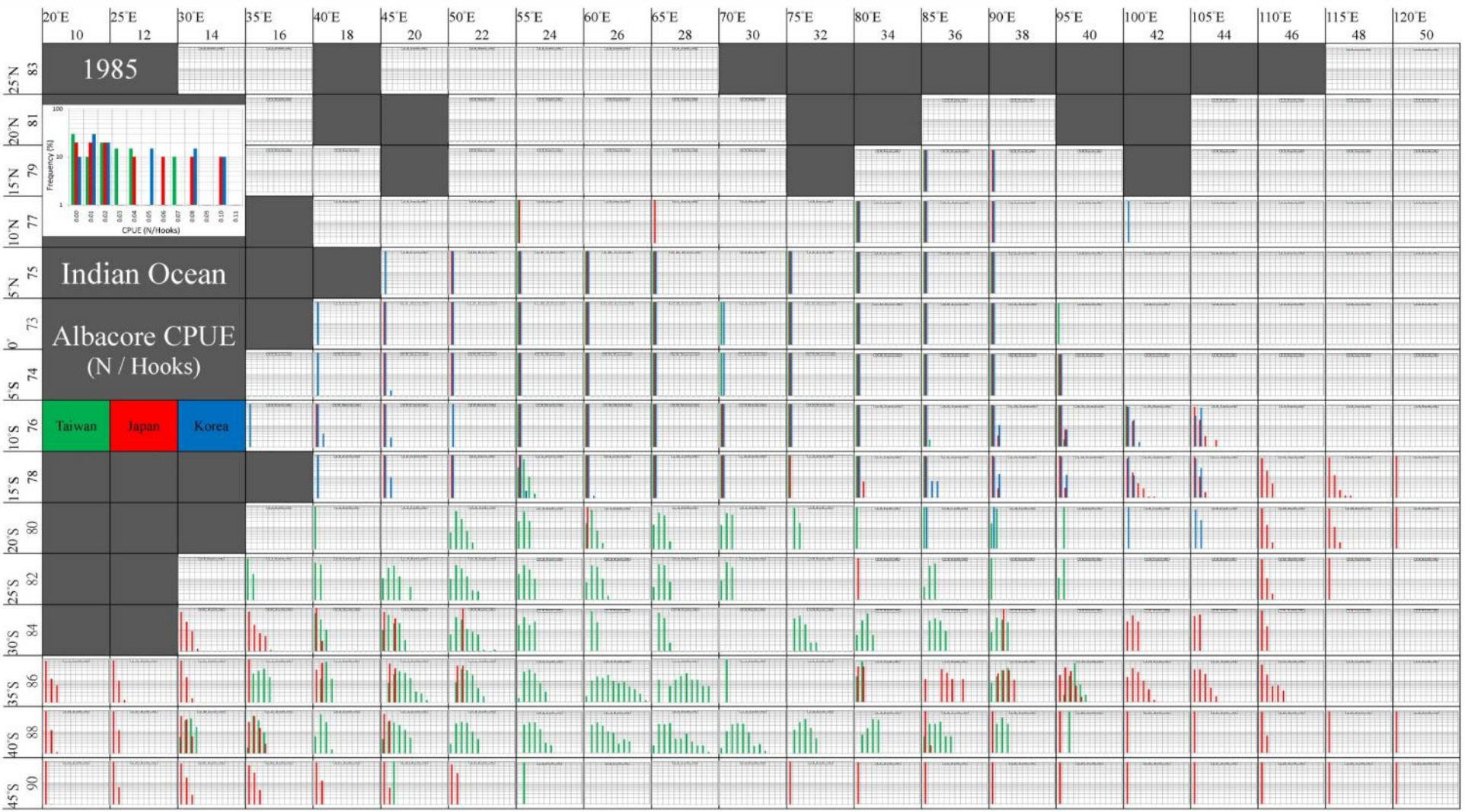

Fig. 7. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1985

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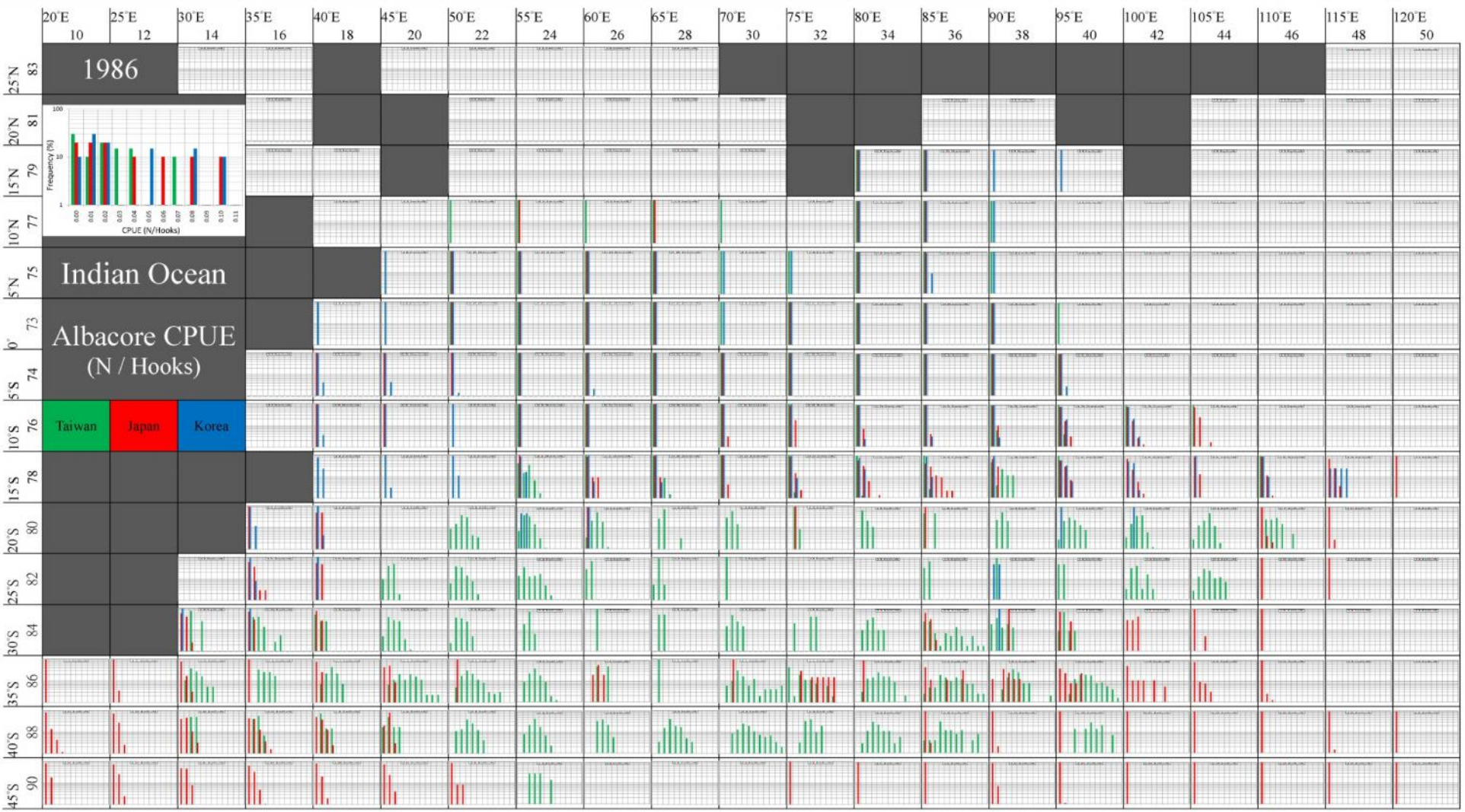

Fig. 8. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1986

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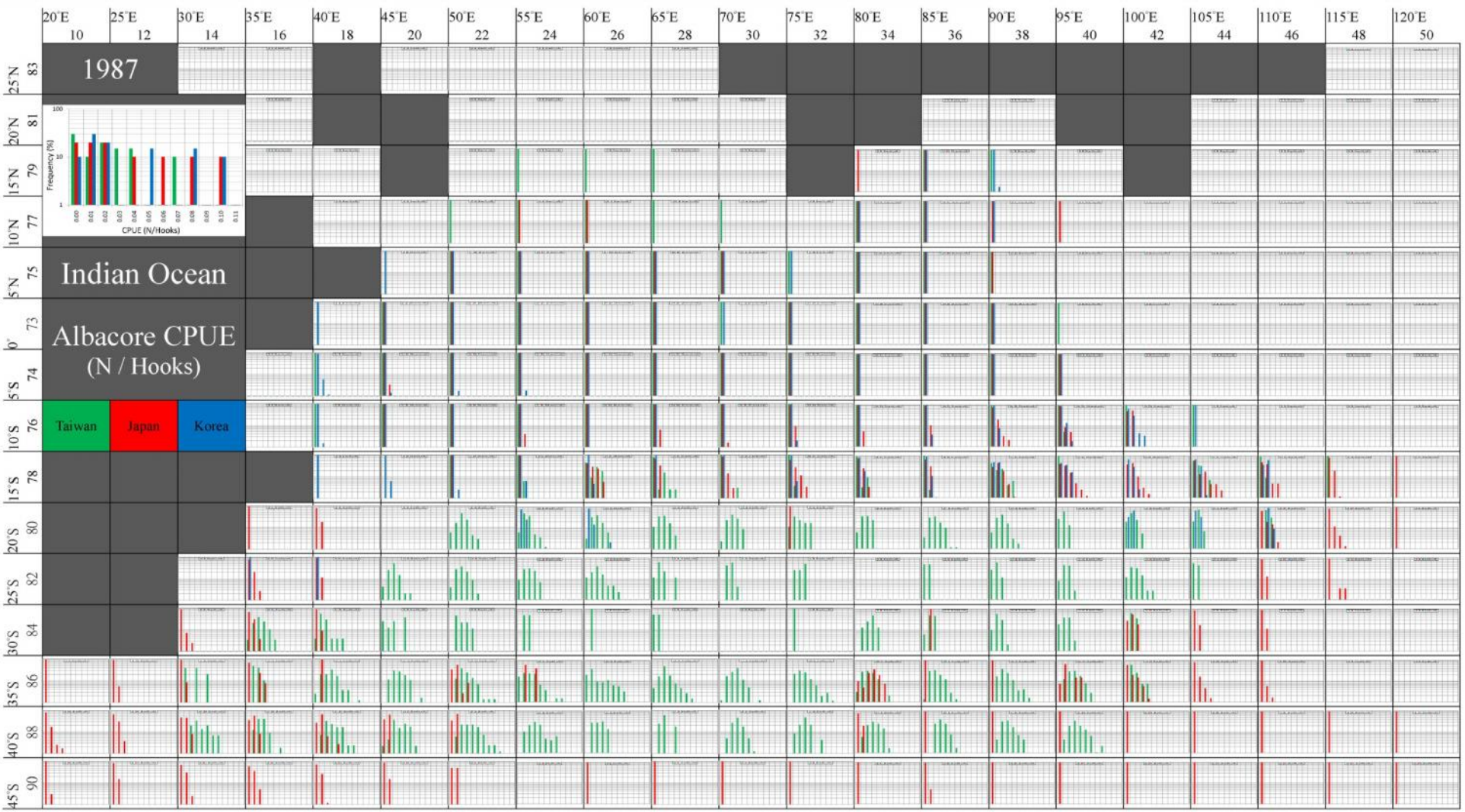

Fig. 9. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1987

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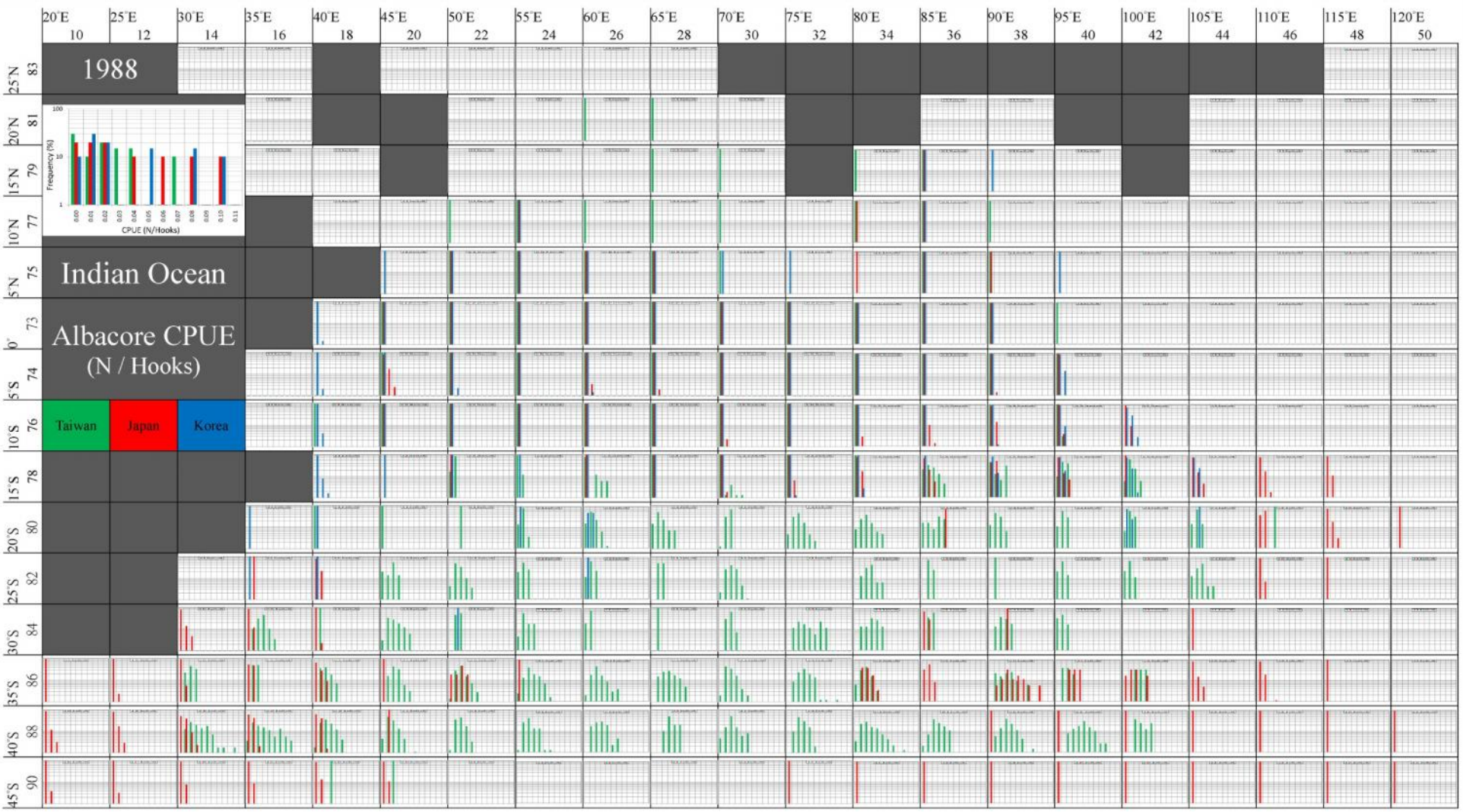

Fig. 10. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1988

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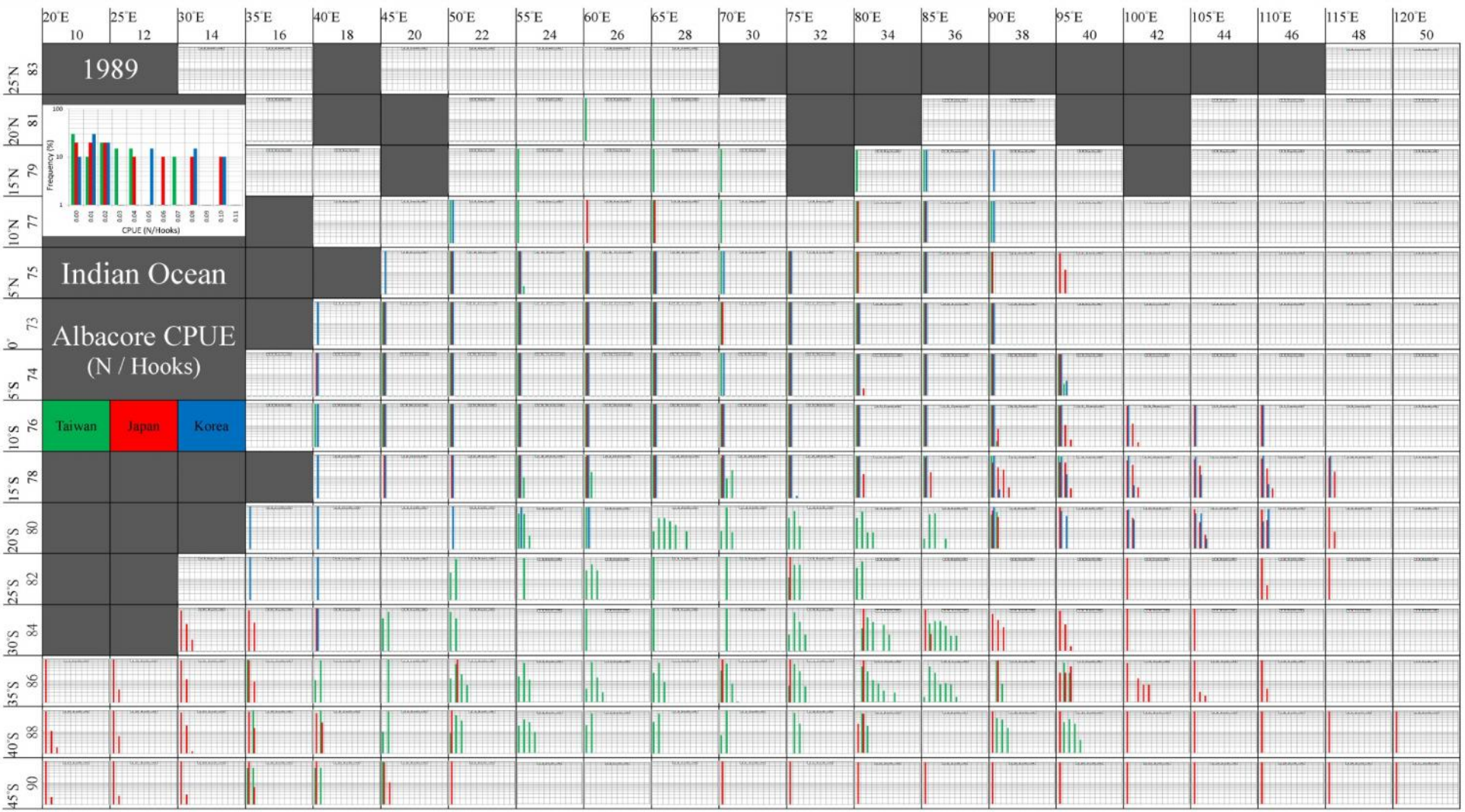

Fig. 11. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1989

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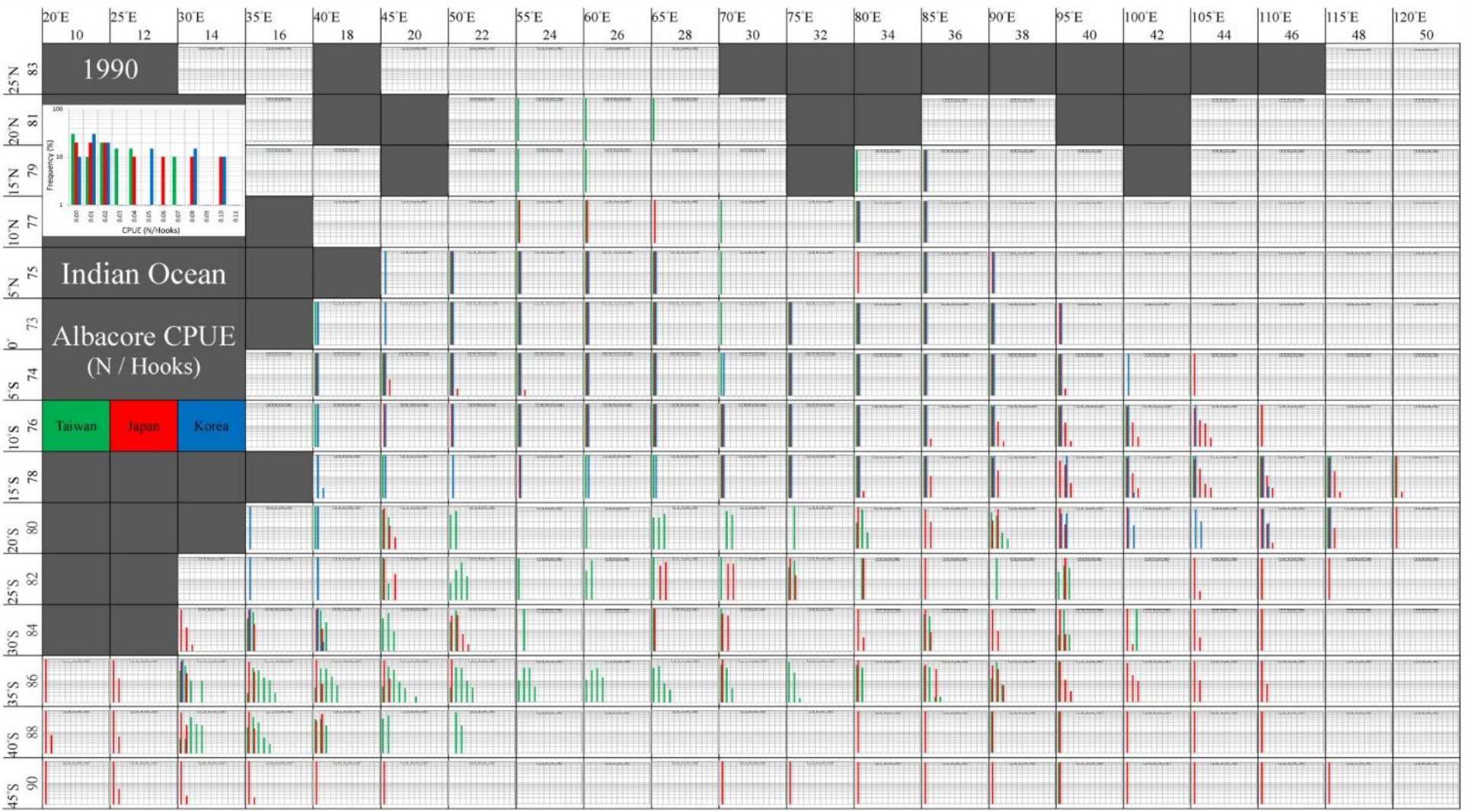

Fig. 12. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1990

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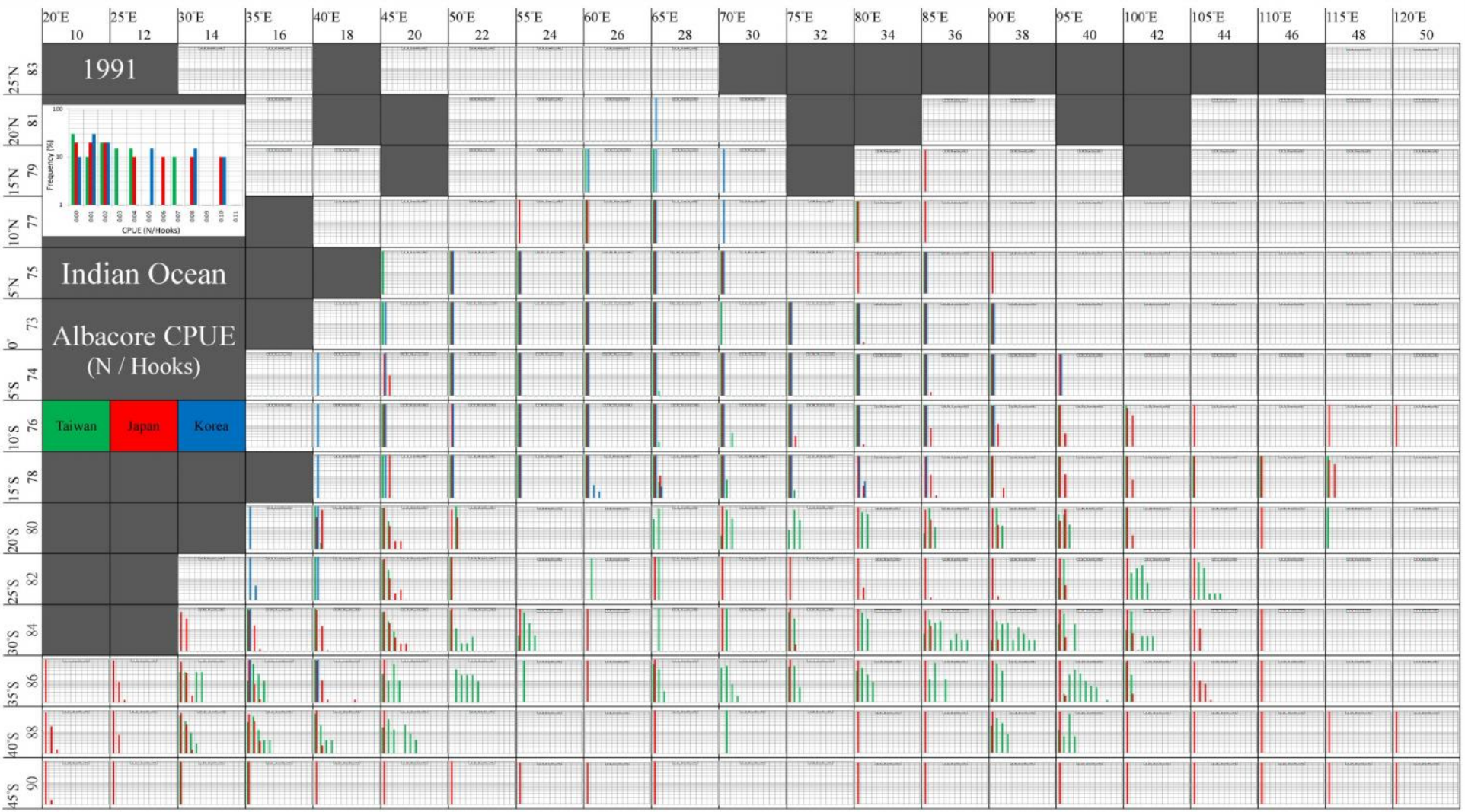

Fig. 13. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1991

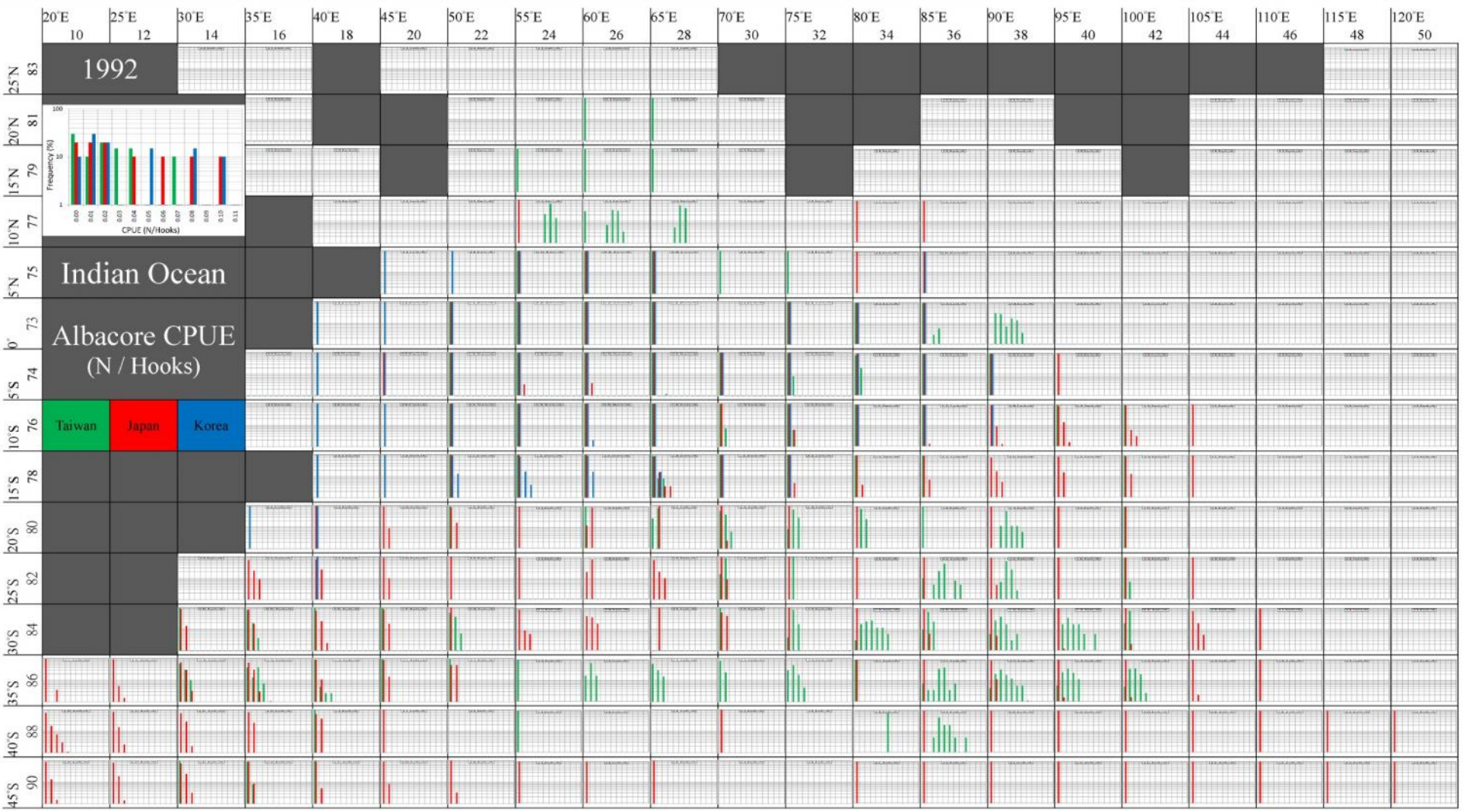

Fig. 14. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1992

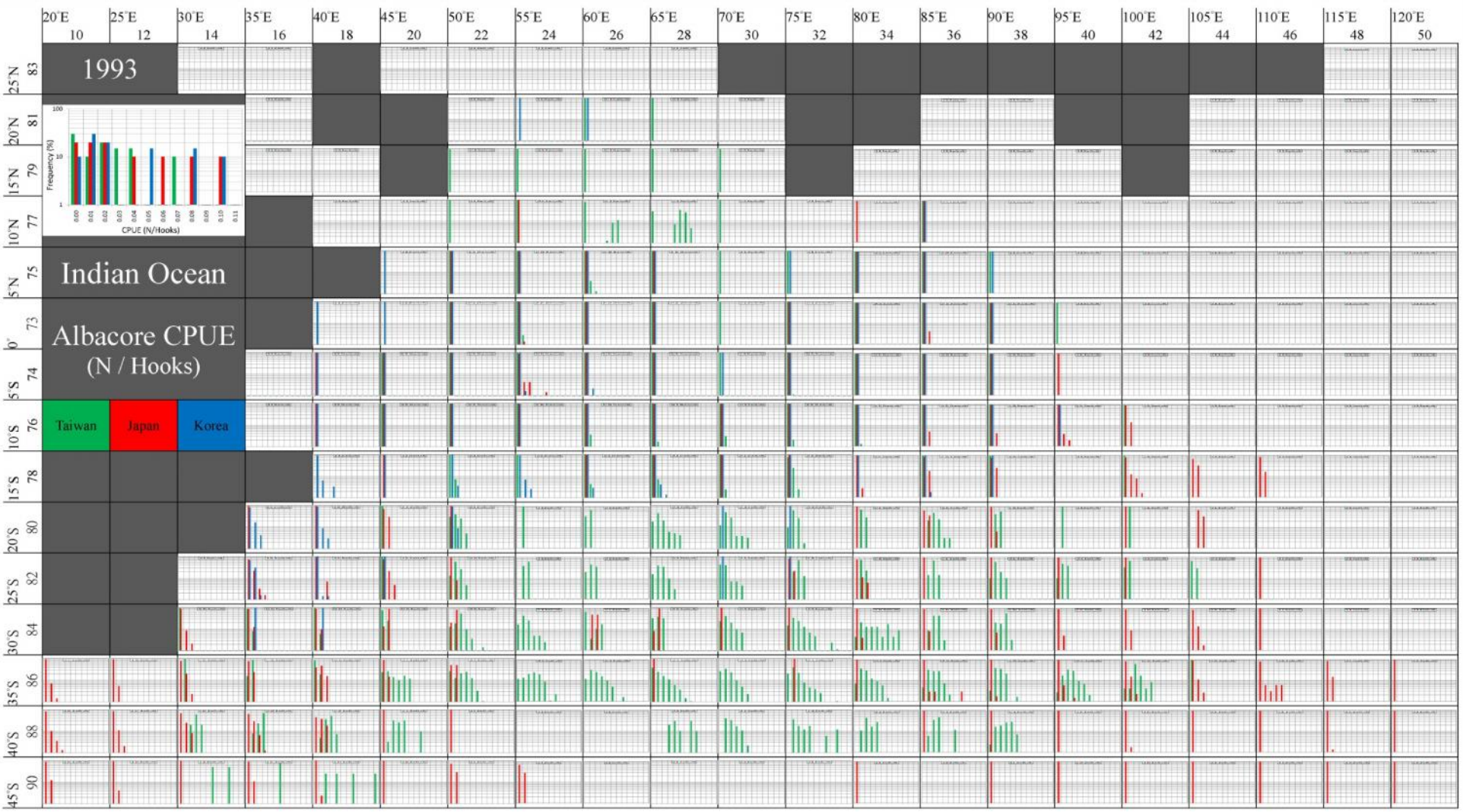

Fig. 15. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1993

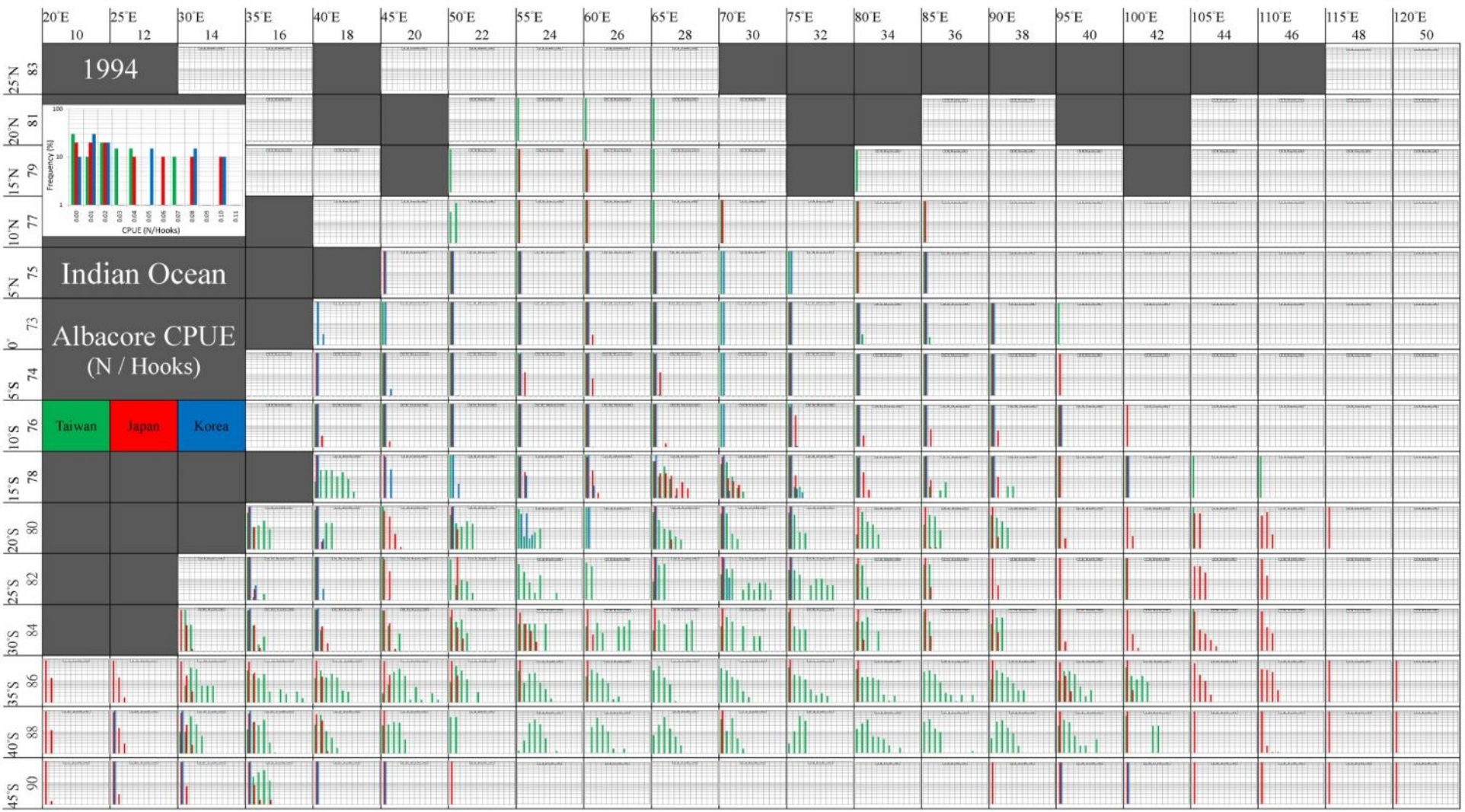

Fig. 16. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1994

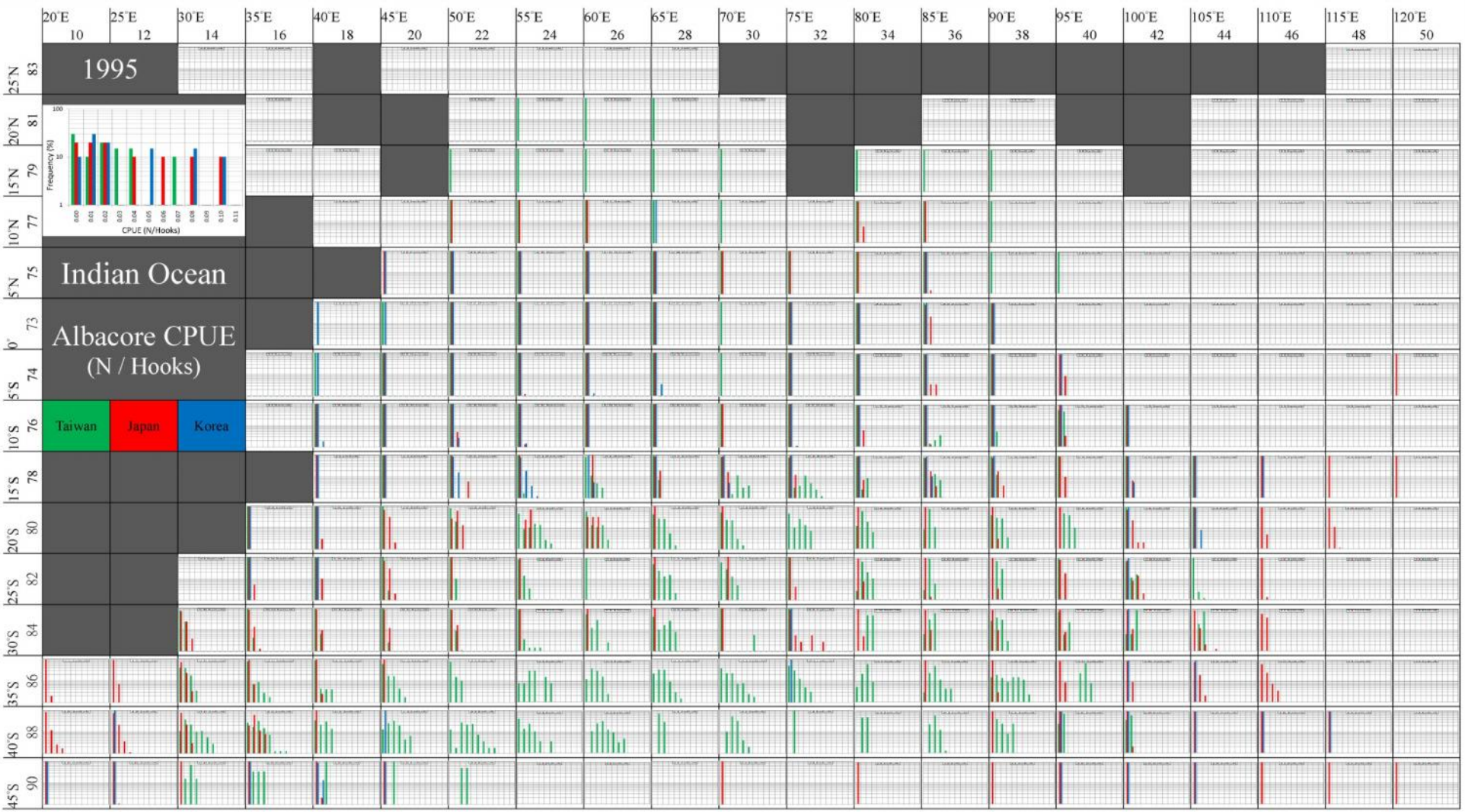

Fig. 17. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1995

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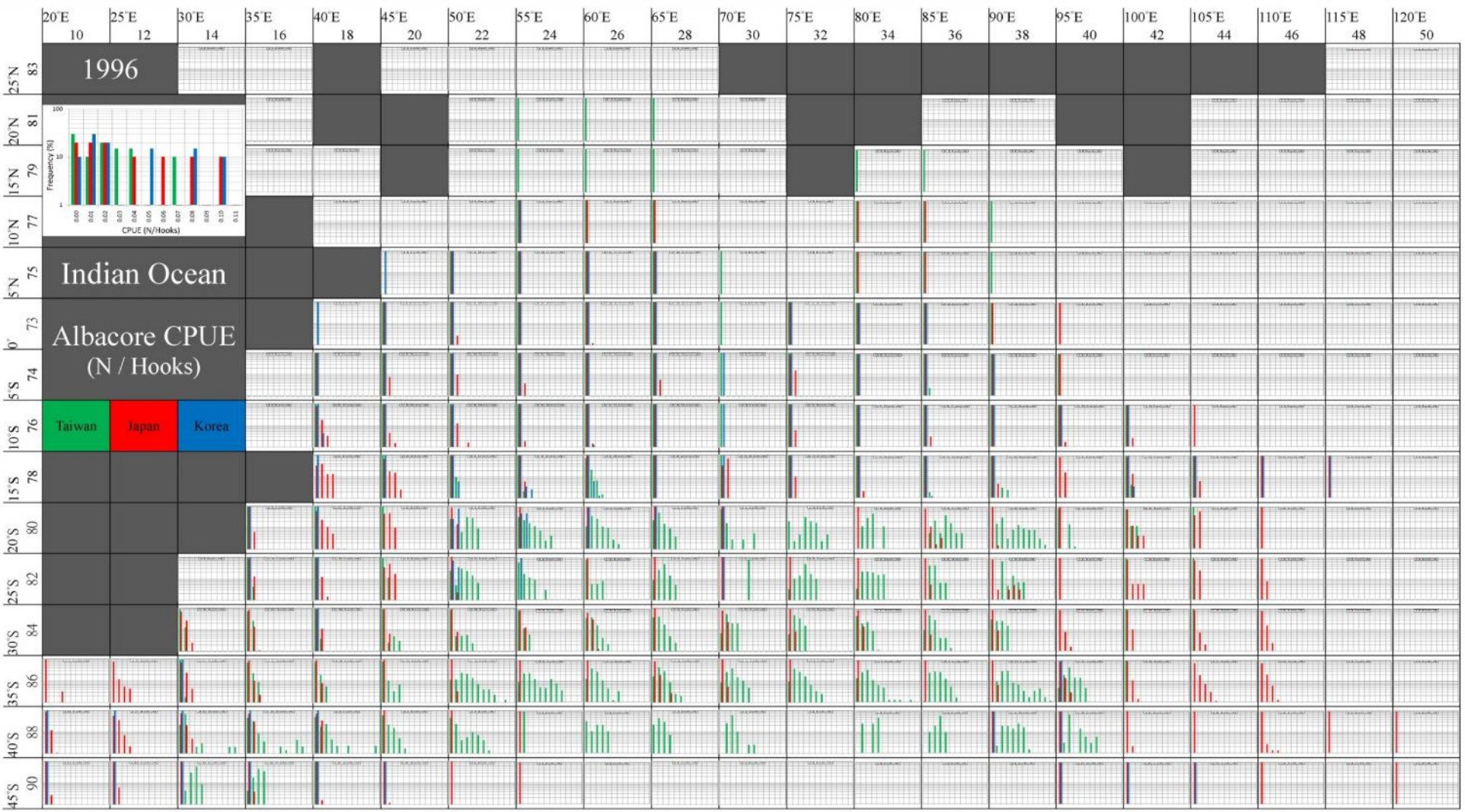

Fig. 18. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1996

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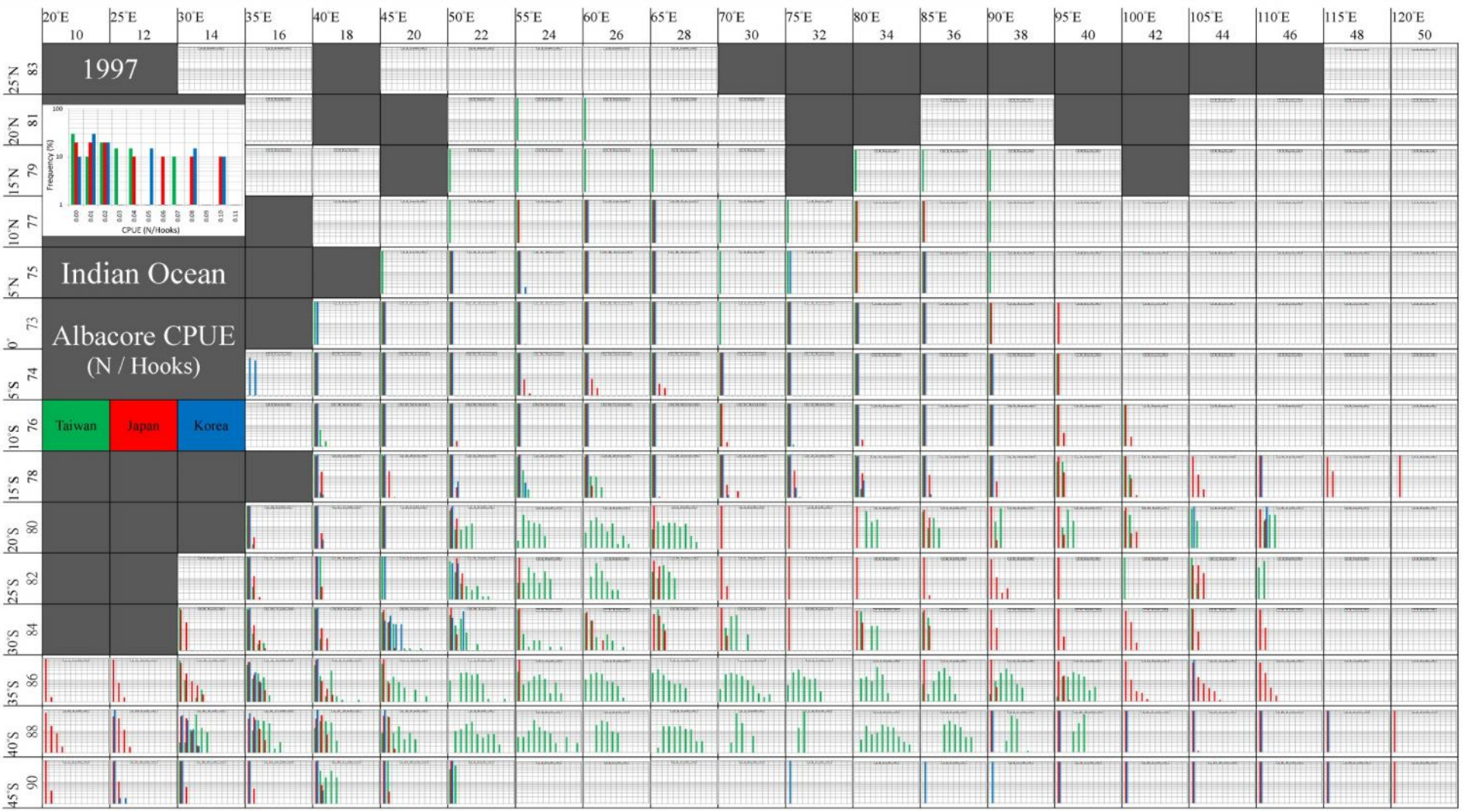

Fig. 19. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1997

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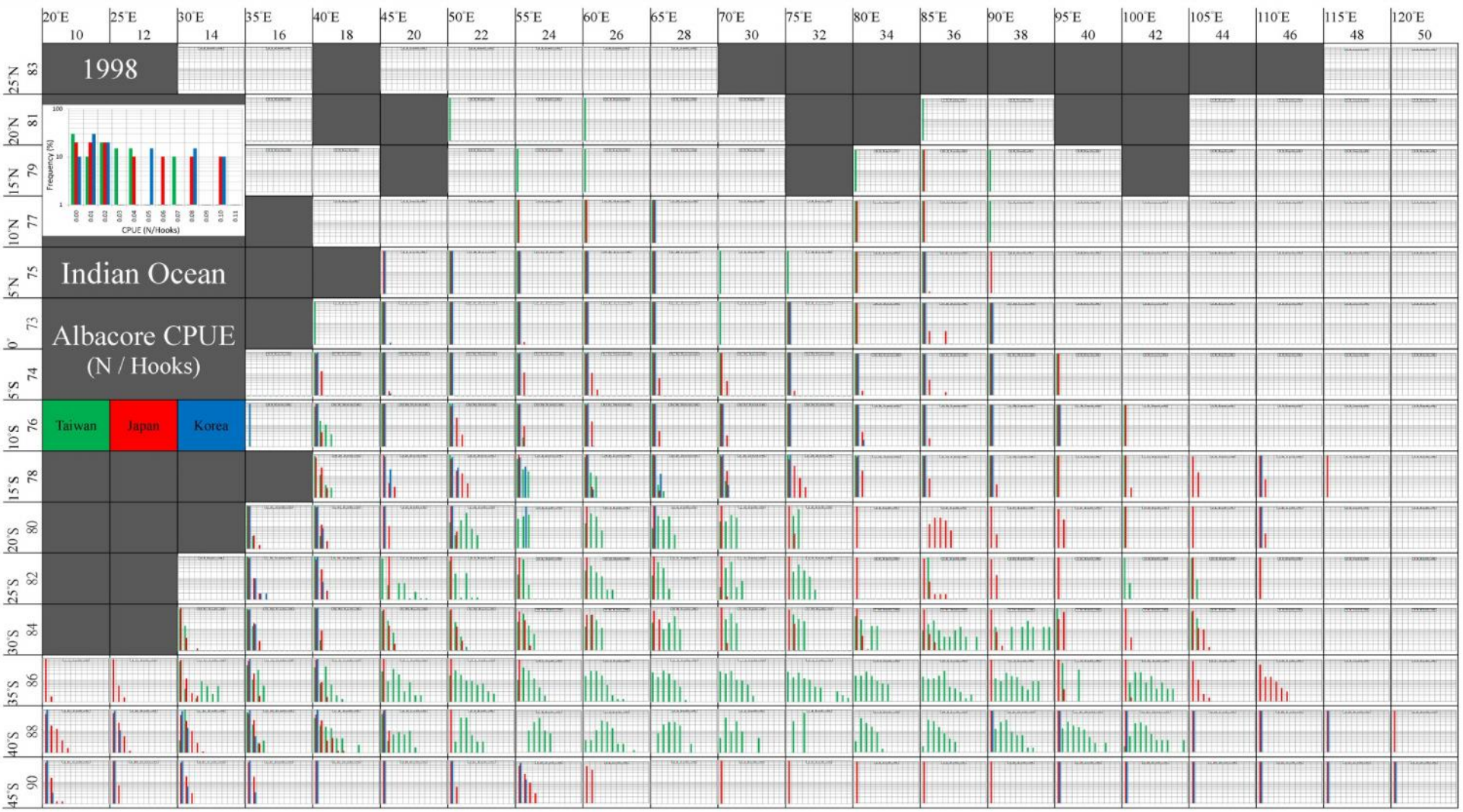

Fig. 20. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1998

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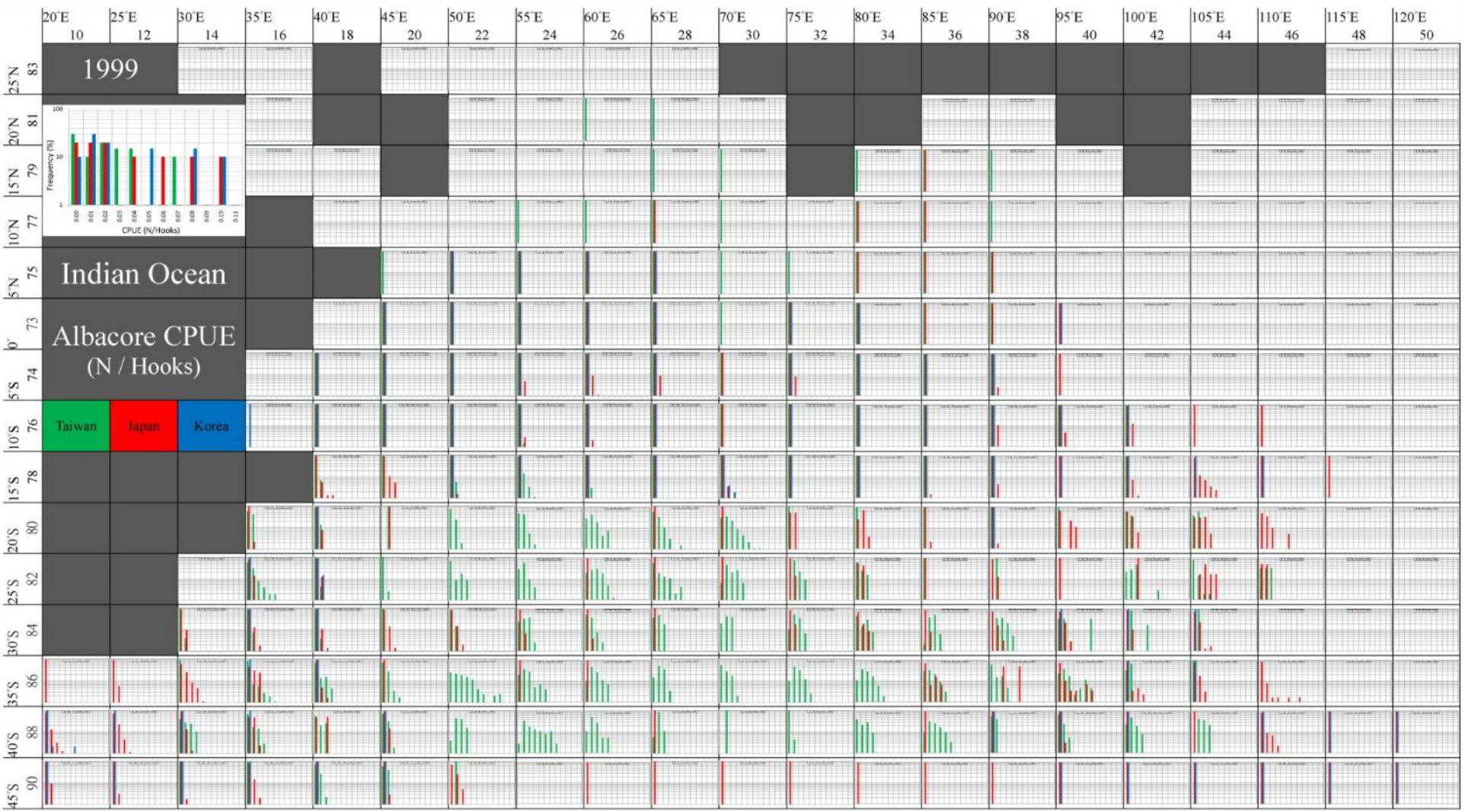

Fig. 21. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 1999

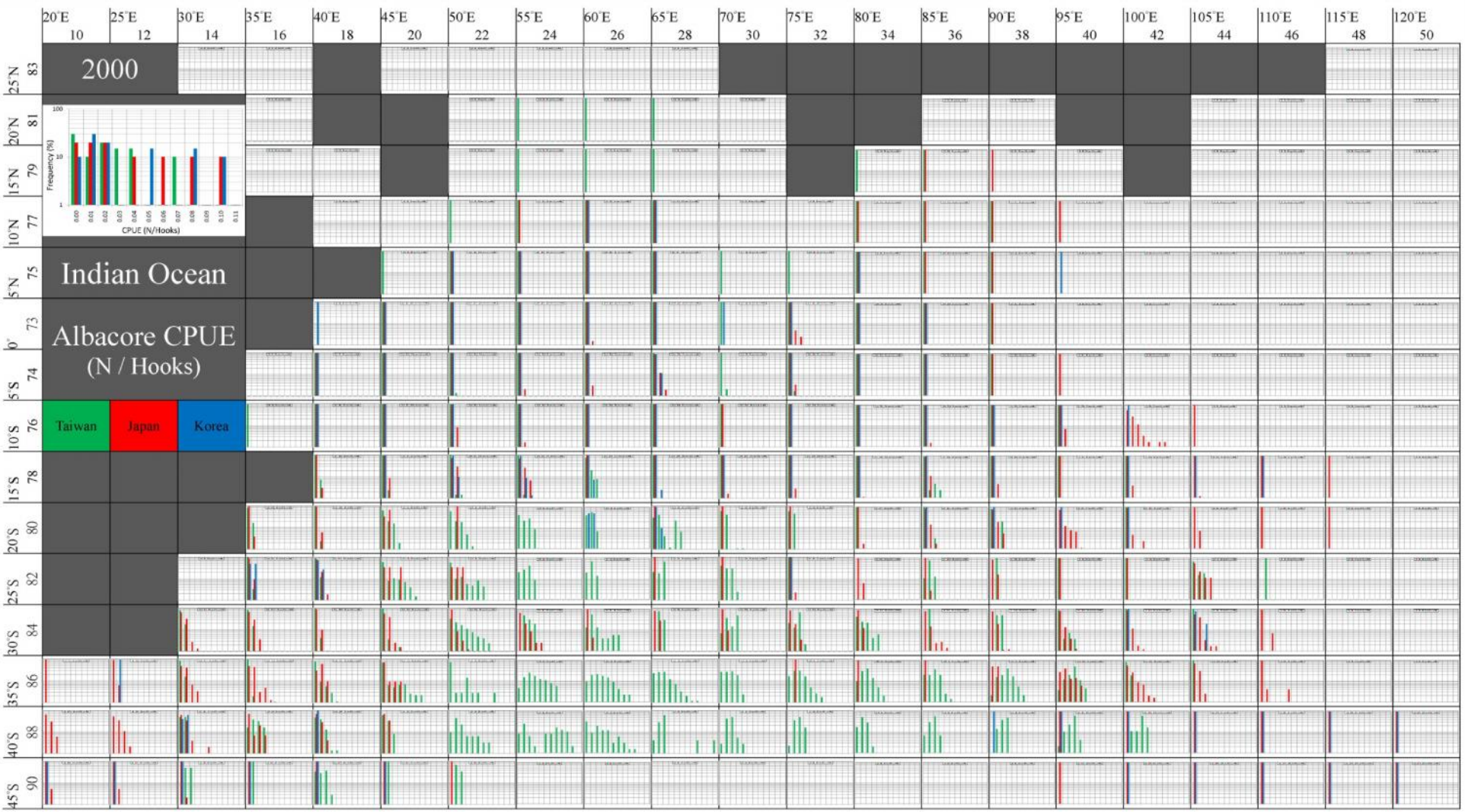

Fig. 22. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2000

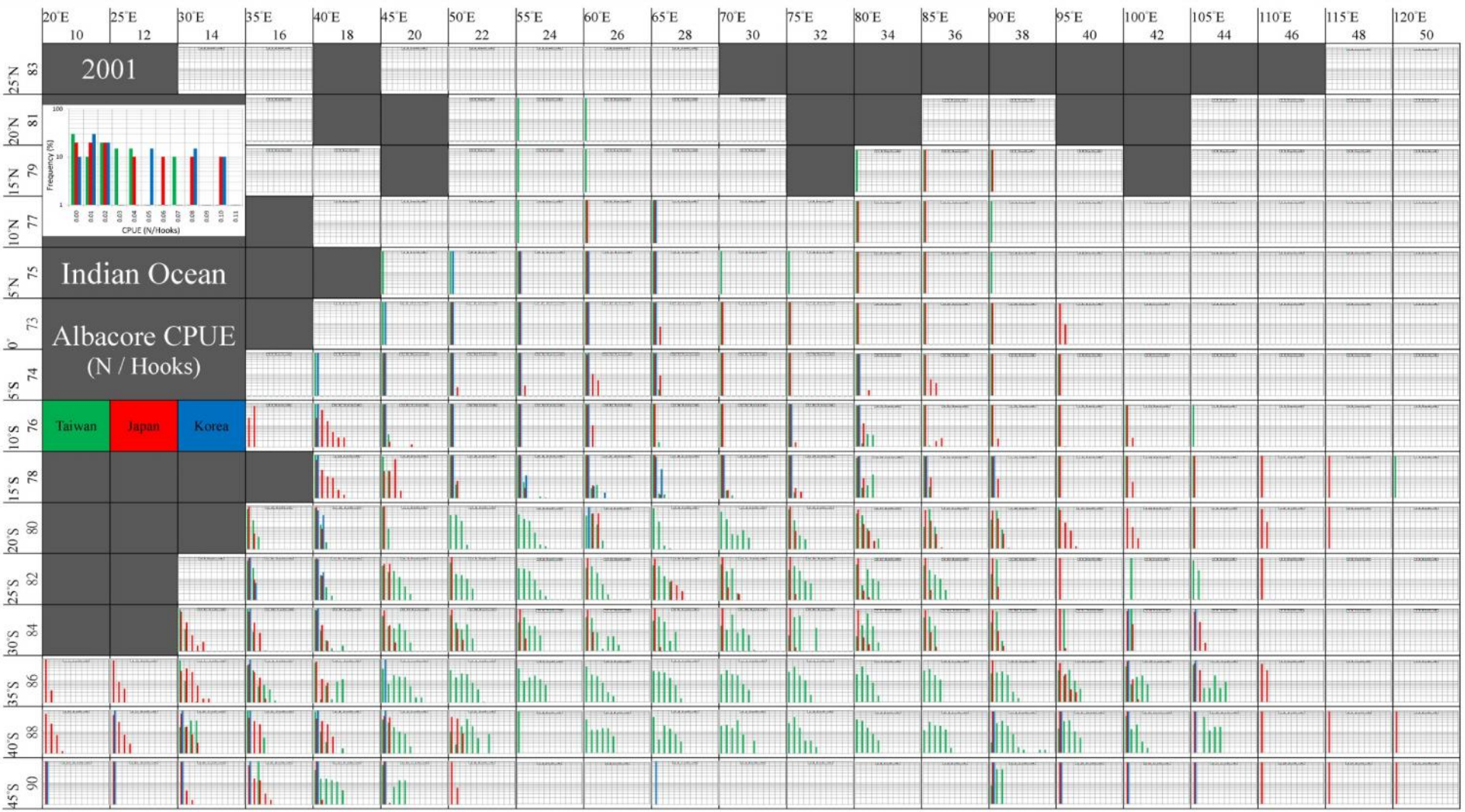

Fig. 23. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2001

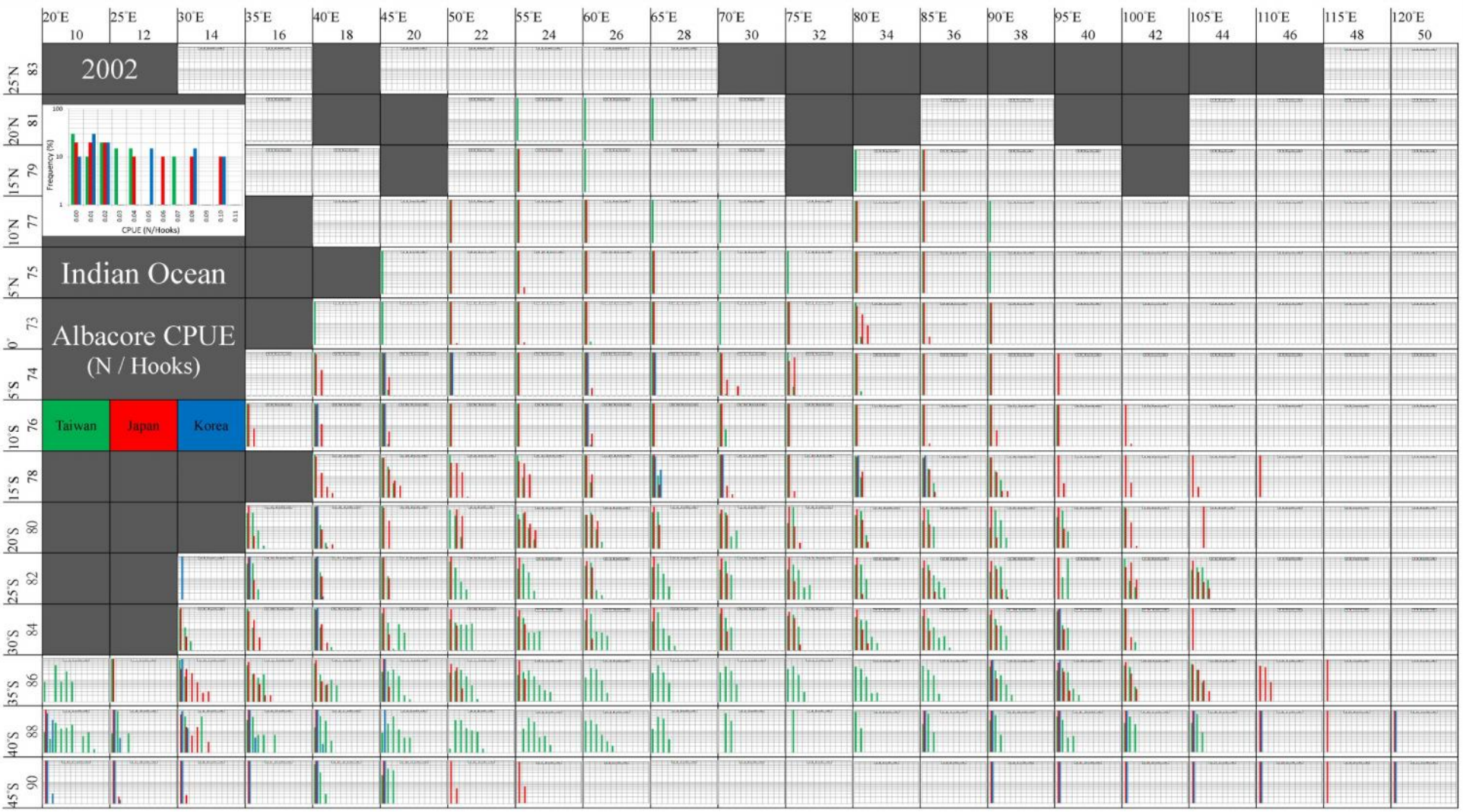

Fig. 24. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2002

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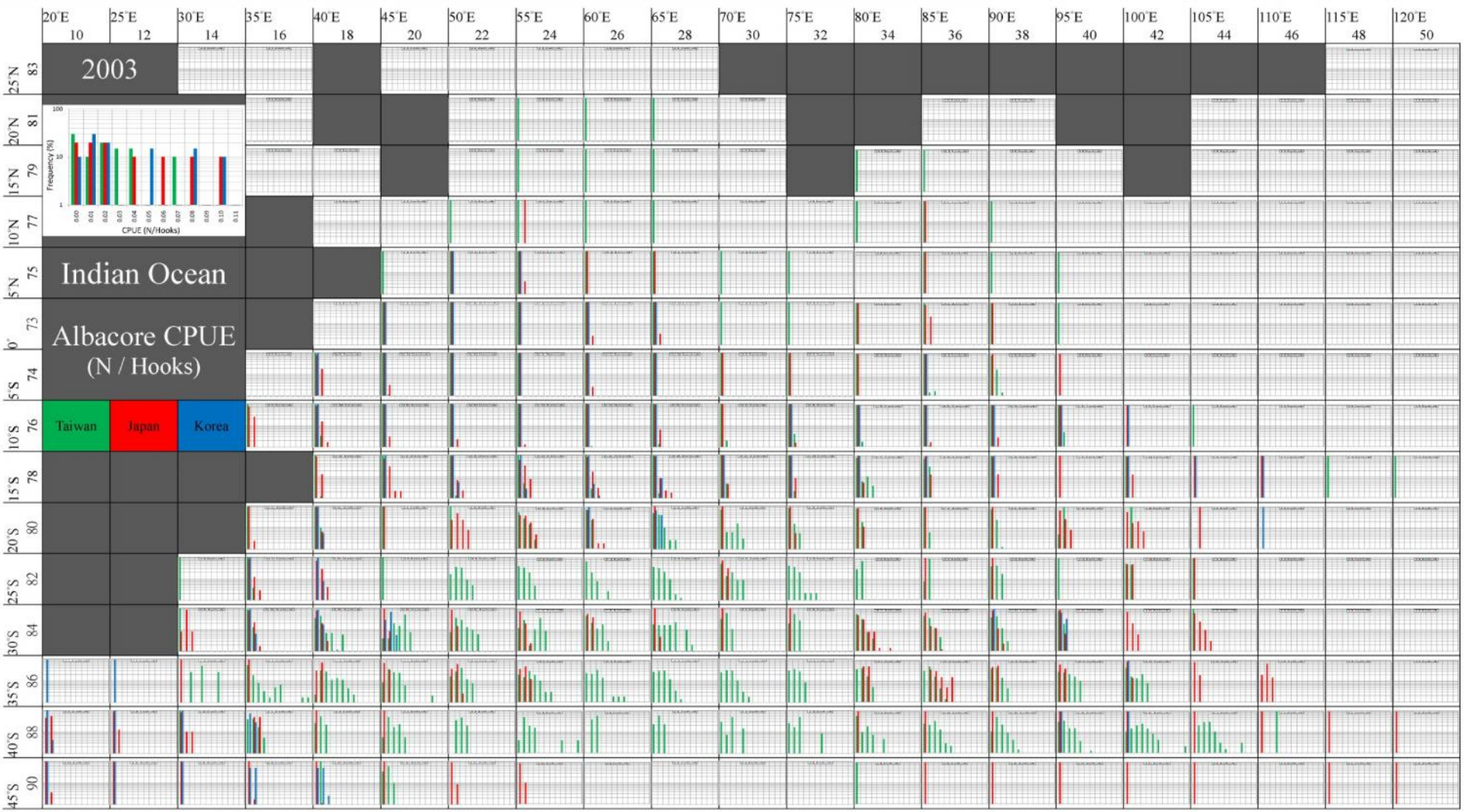

Fig. 25. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2003

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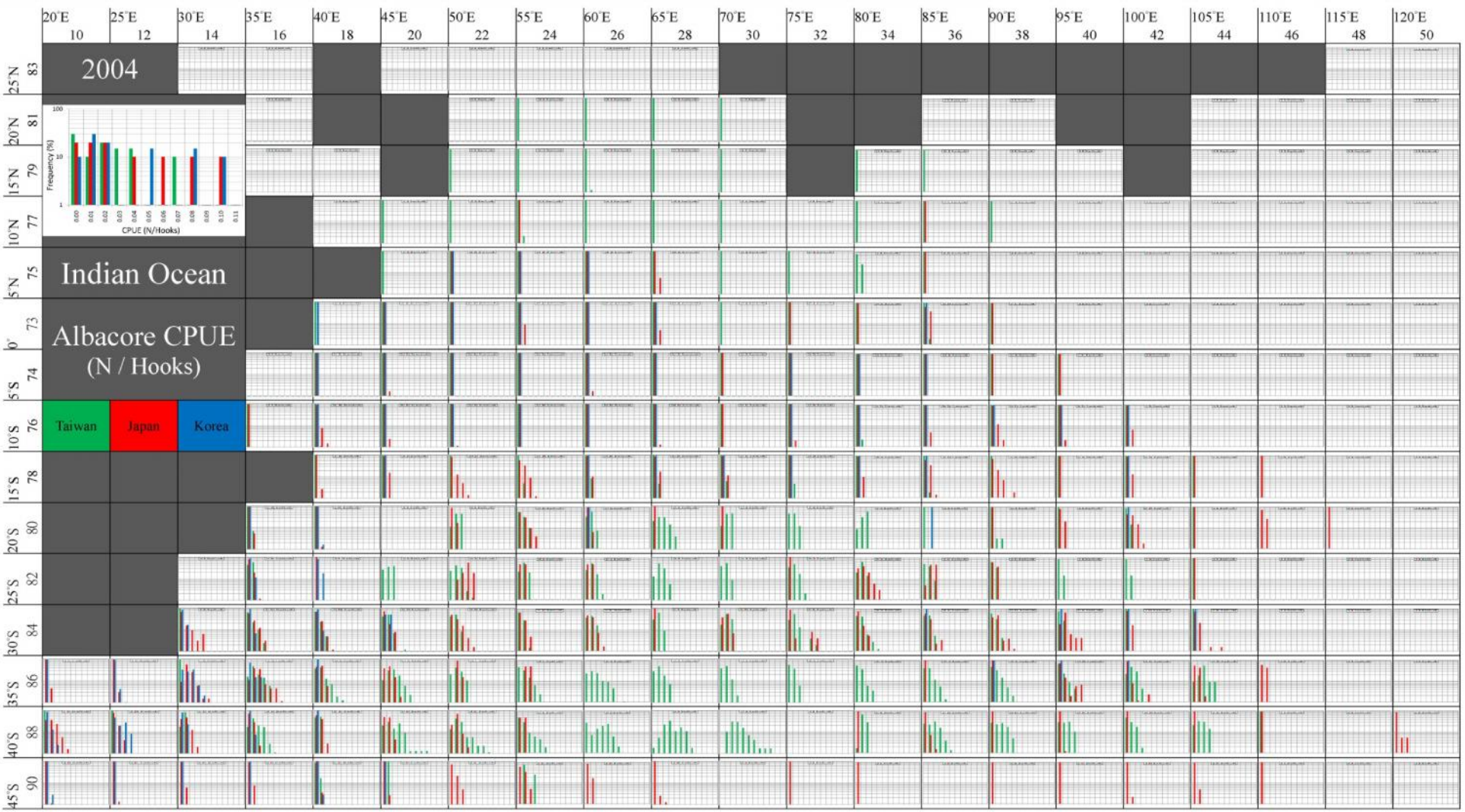

Fig. 26. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2004

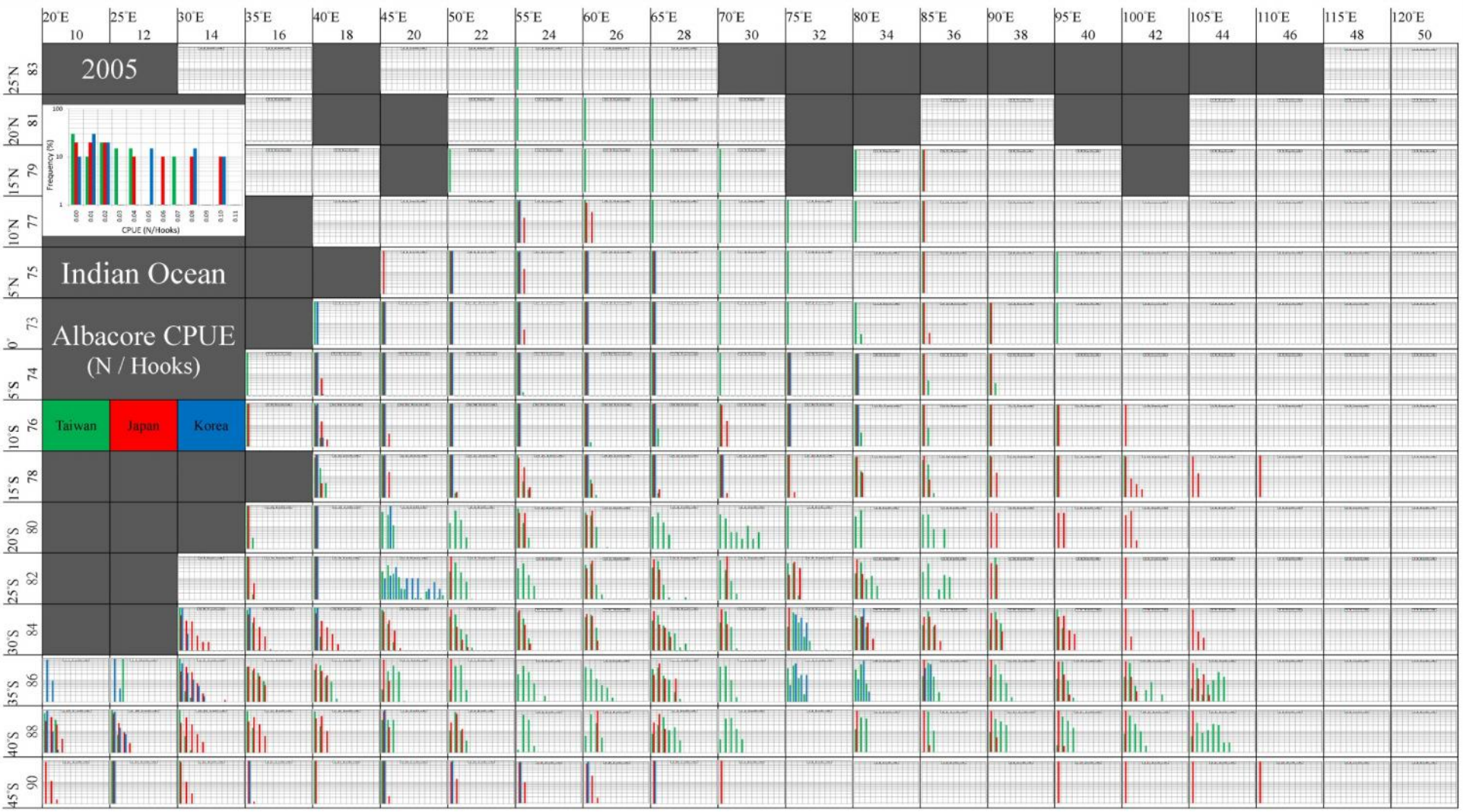

Fig. 27. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2005

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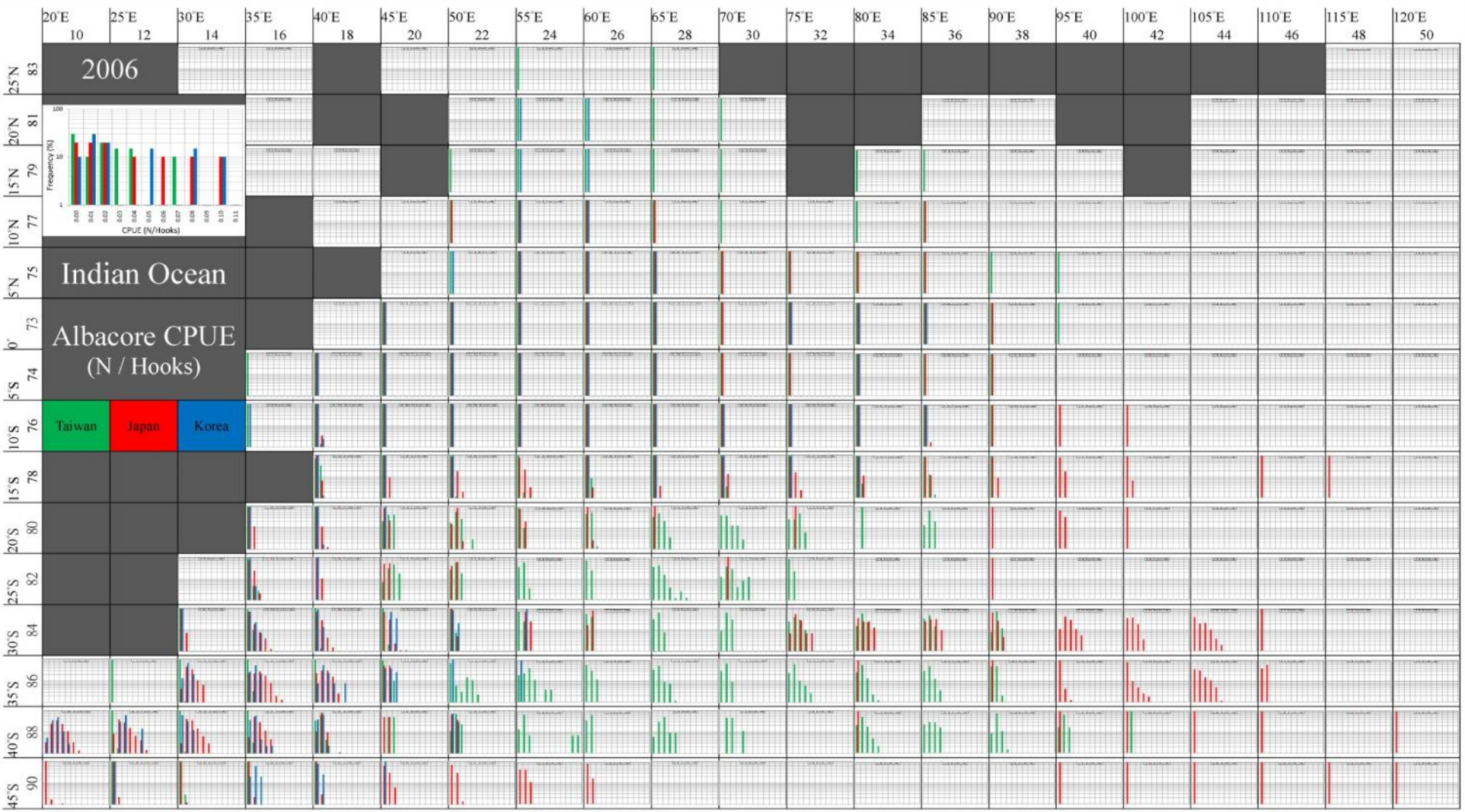

Fig. 28. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2006

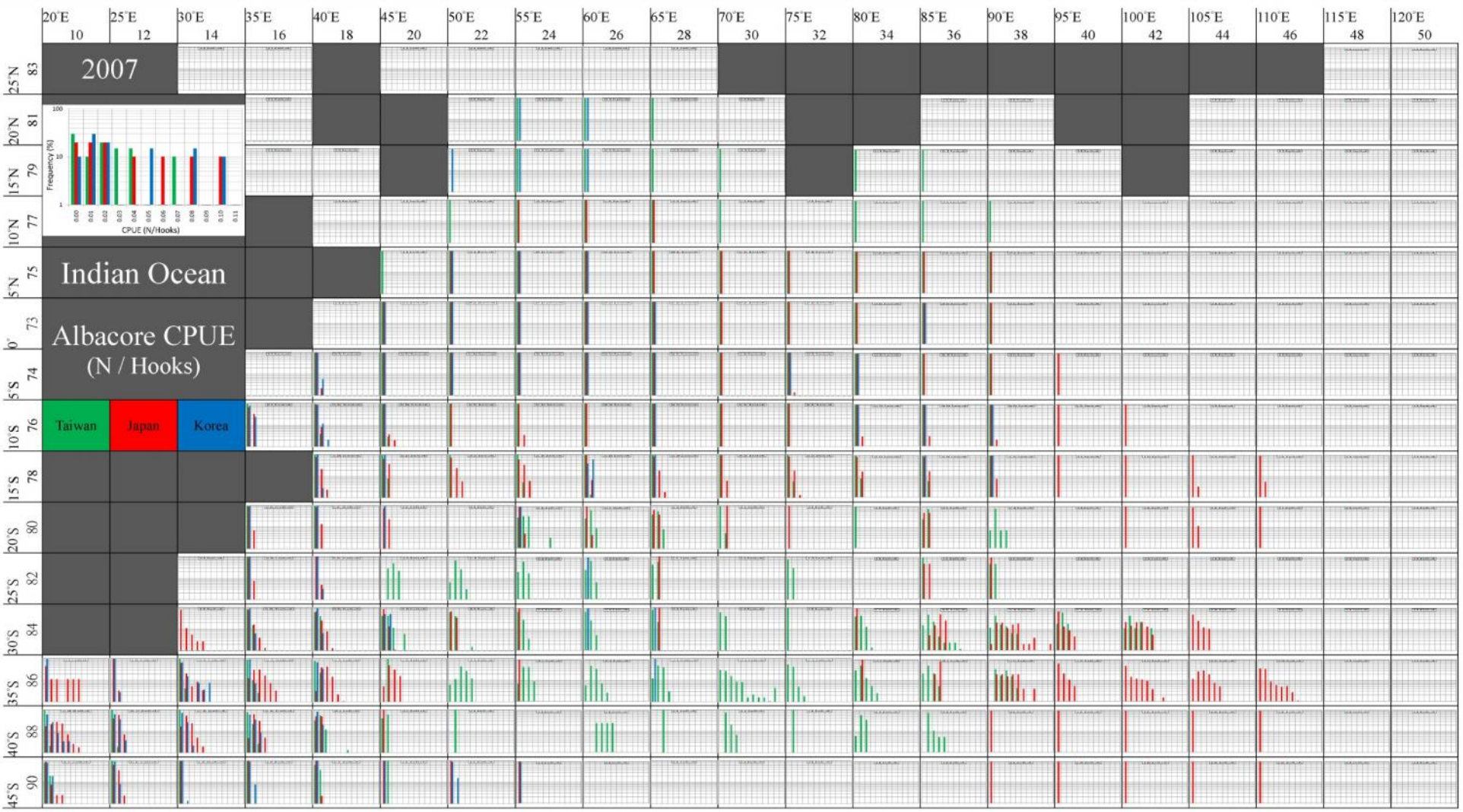

Fig. 29. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2007

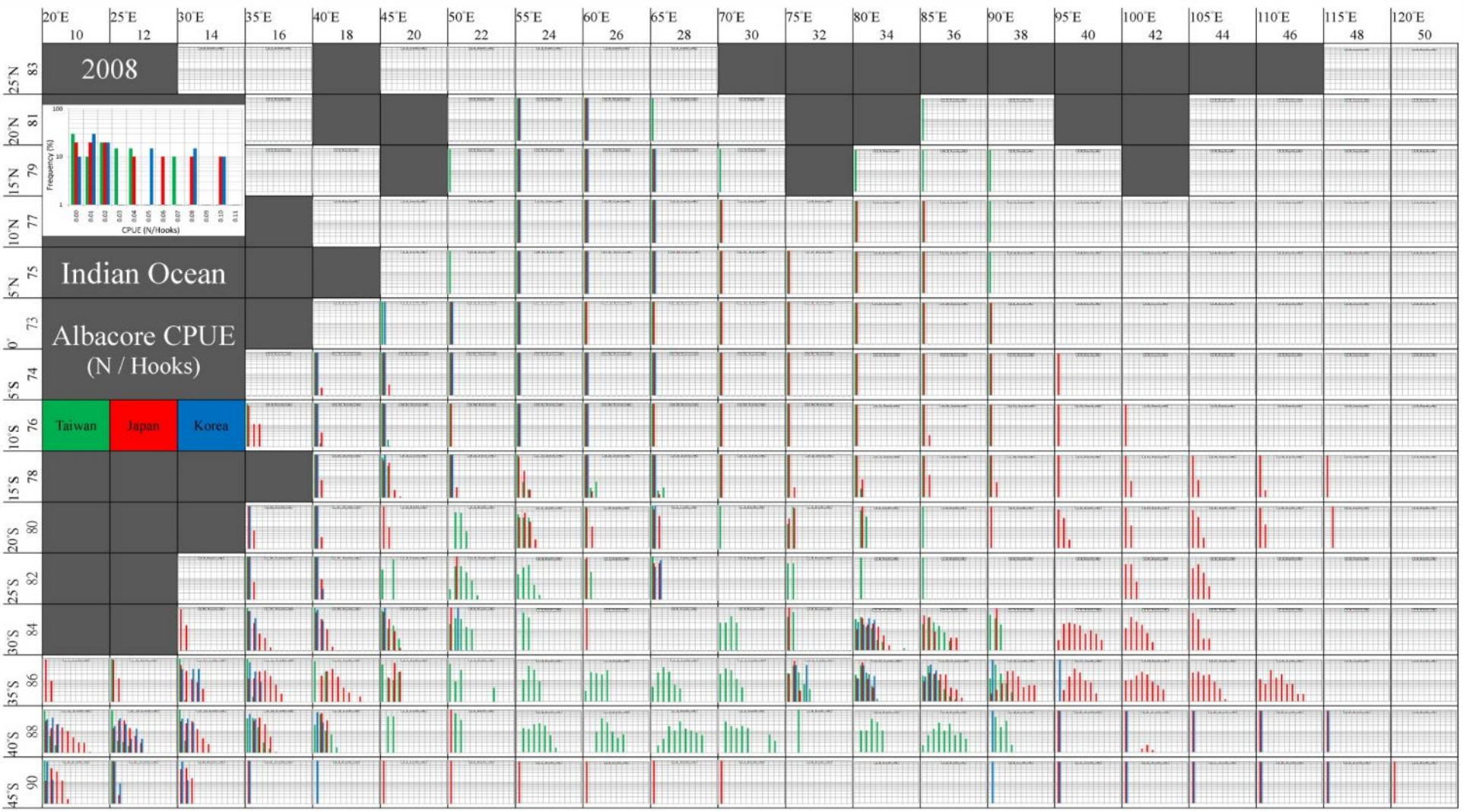

Fig. 30. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2008

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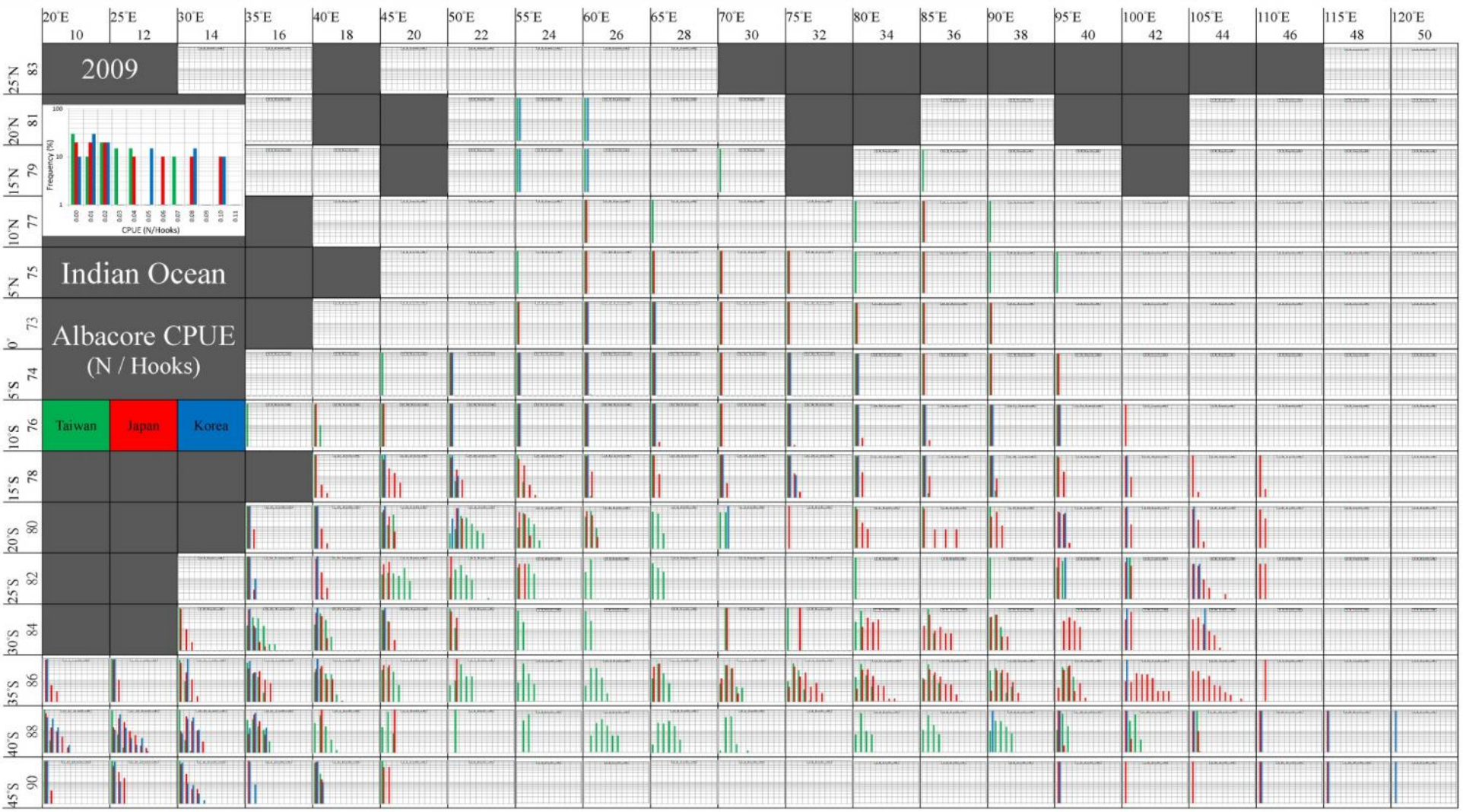

Fig. 31. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2009

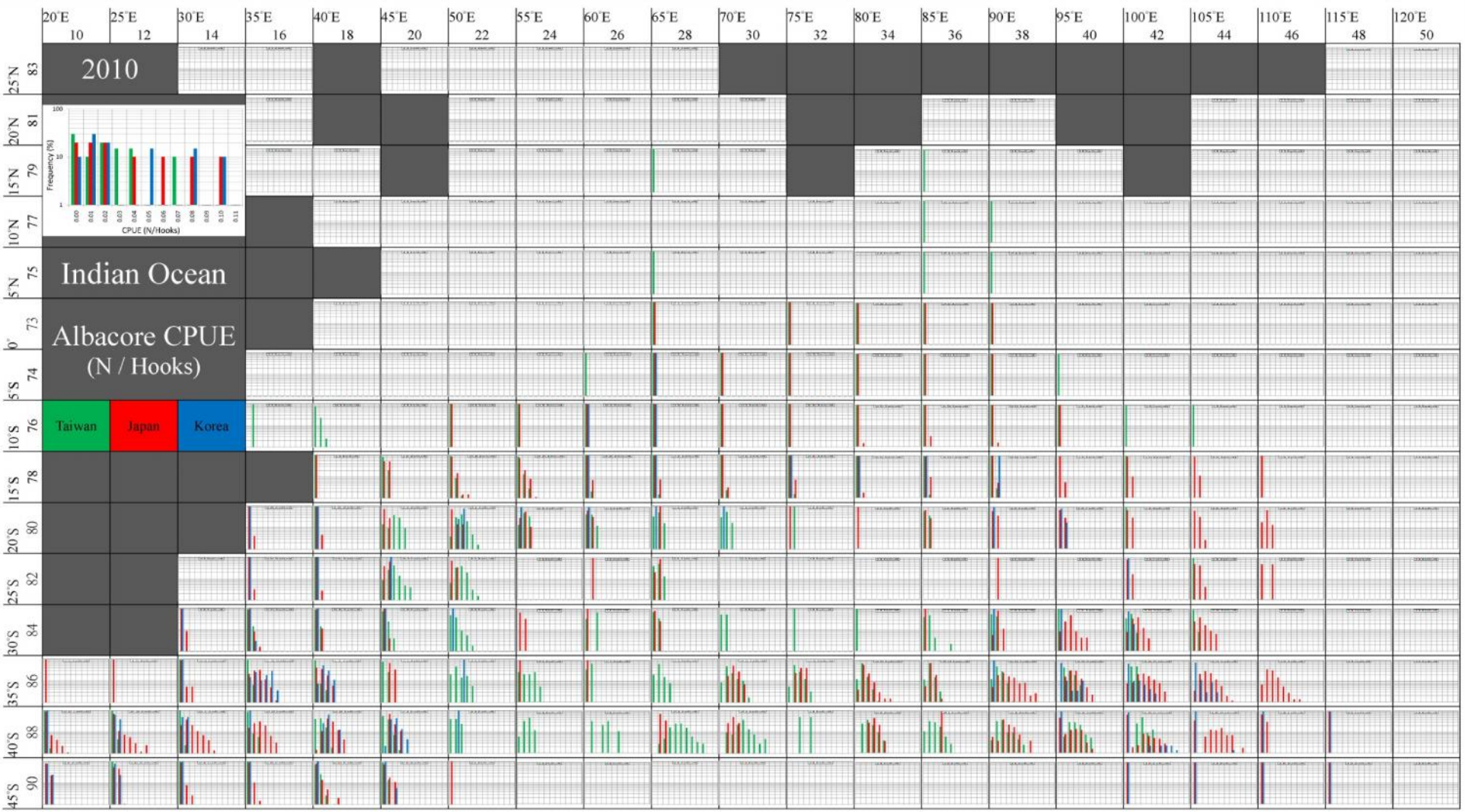

Fig. 32. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2010

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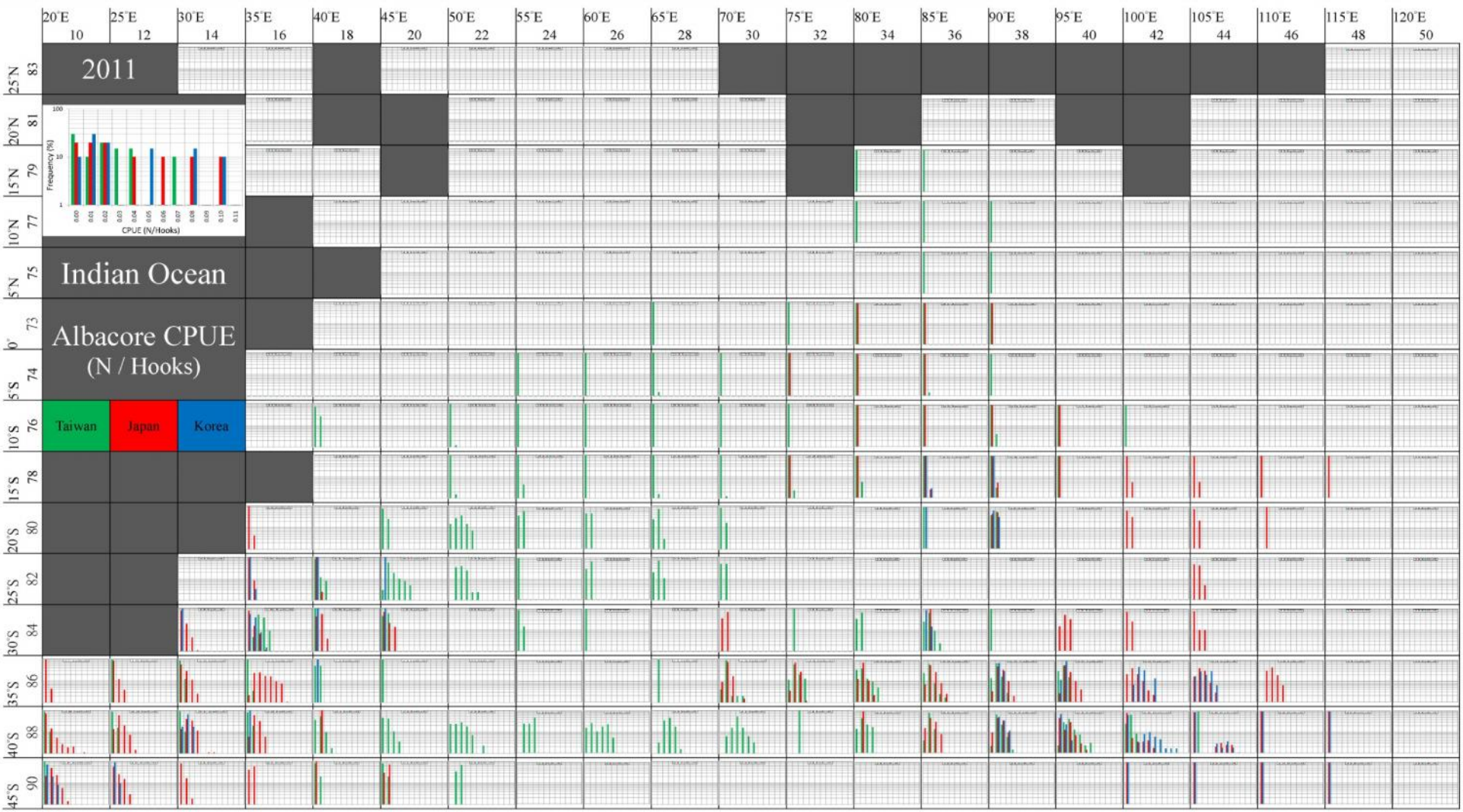

Fig. 33. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2011

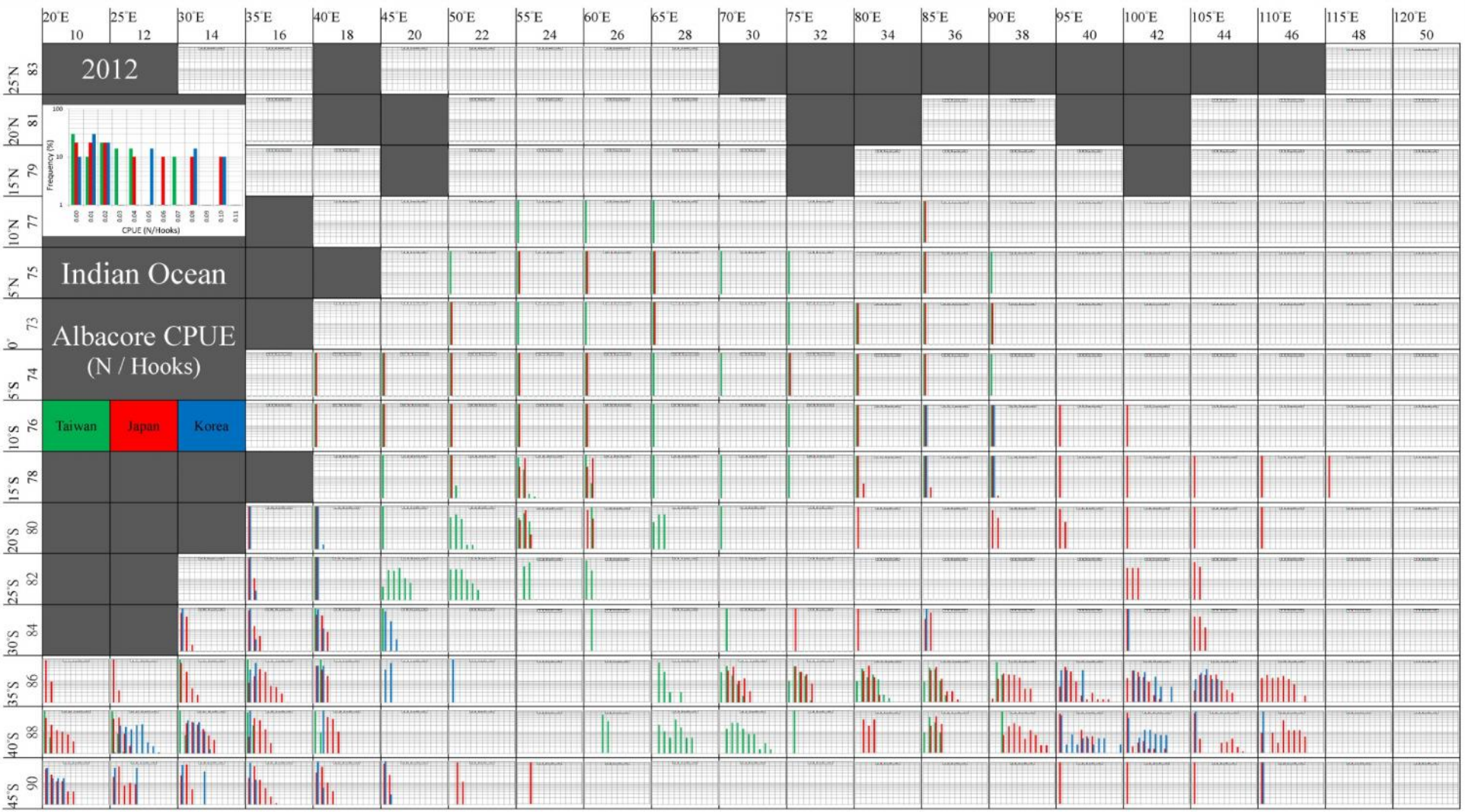

Fig. 34. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2012

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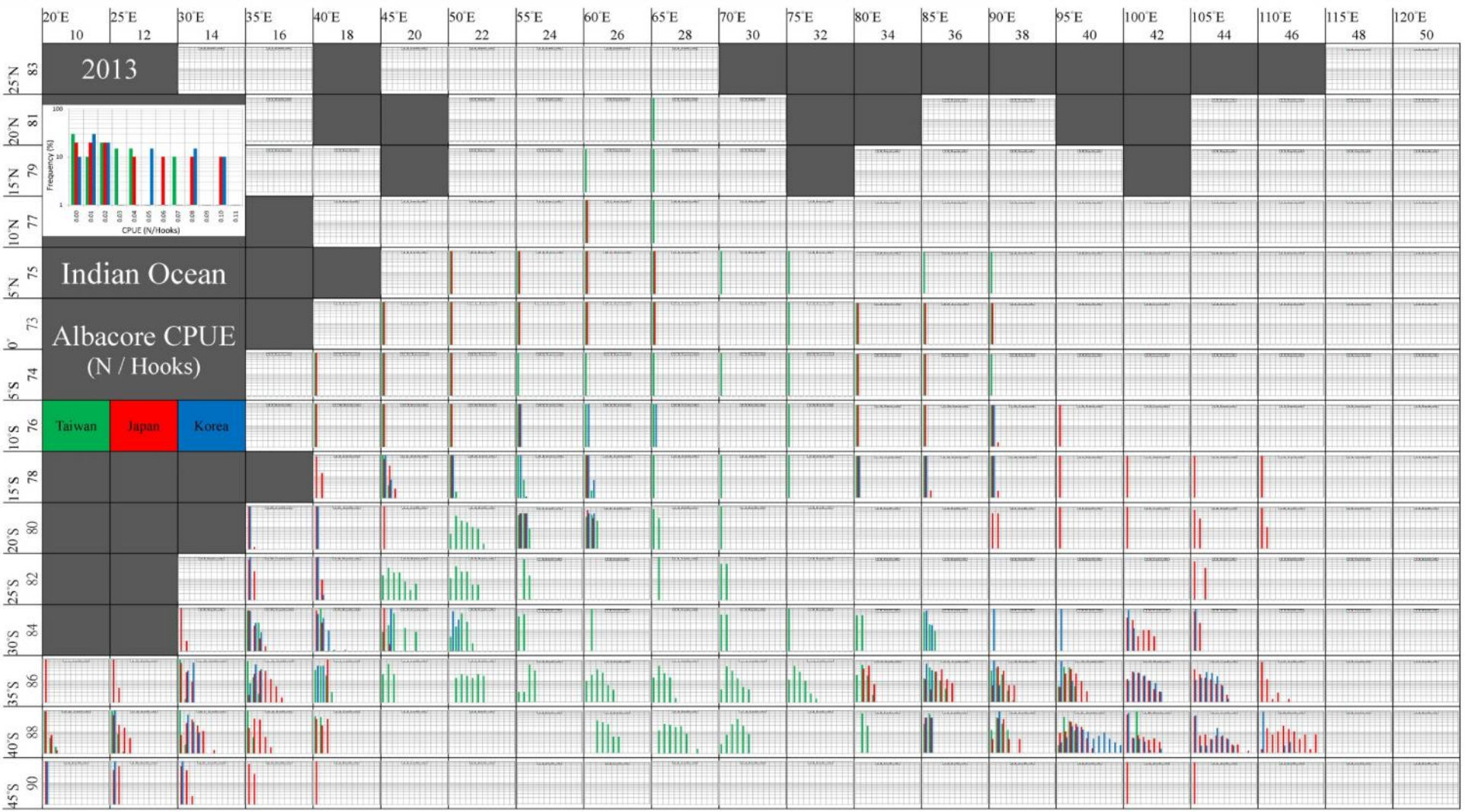

Fig. 35. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2013

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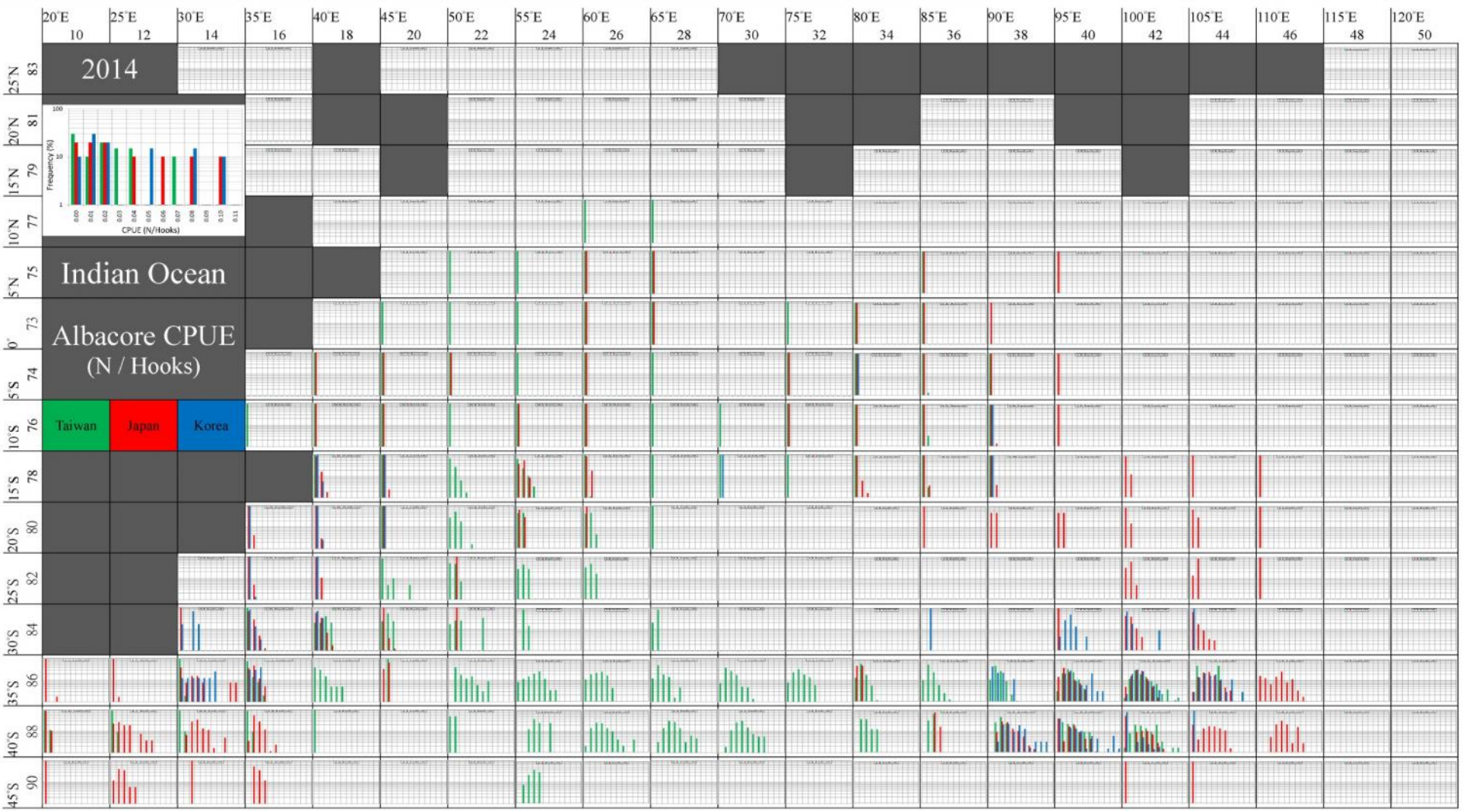

Fig. 36. Indian Ocean Nominal Albacore CPUE from Taiwan, Japan and Korea in 2014