In [1]:
```
import requests
import pandas as pd
from datetime import datetime, timedelta

# Define 1-year range
end_date = datetime.today().date()
start_date = end_date - timedelta(days=365)

url = f"https://api.frankfurter.app/{start_date}..{end_date}"

response = requests.get(url)
data = response.json()['rates']

# Convert to DataFrame
df = pd.DataFrame(data).T  # Transpose: dates become rows
df.index = pd.to_datetime(df.index)
df.sort_index(inplace=True)

# Save to CSV
df.to_csv("currency_rates.csv")
print("Currency rates for the past year saved to 'currency_rates.csv'.")
```

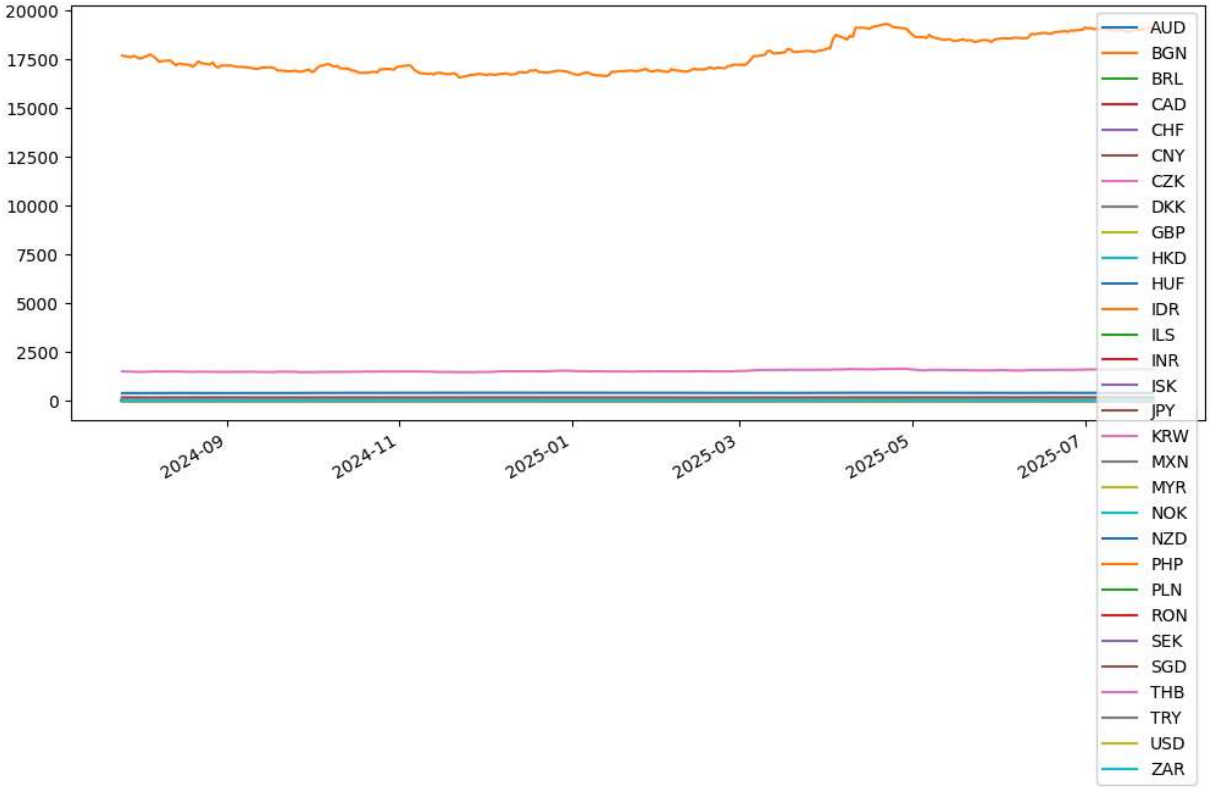
```
Currency rates for the past year saved to 'currency_rates.csv'.
```

In [2]:
```
print(df.head())
print(df.describe())
print(df.isna().sum())
df.plot(figsize=(12, 5))  # visualize trends
```

```
               AUD     BGN     BRL     CAD     CHF     CNY     CZK     DKK  \
2024-07-26  1.6559  1.9558  6.1170  1.5009  0.9594  7.8750  25.370  7.4626
2024-07-29  1.6534  1.9558  6.1165  1.4976  0.9578  7.8518  25.371  7.4625
2024-07-30  1.6560  1.9558  6.0843  1.4996  0.9592  7.8489  25.429  7.4619
2024-07-31  1.6635  1.9558  6.0874  1.4977  0.9533  7.8194  25.457  7.4621
2024-08-01  1.6501  1.9558  6.1120  1.4912  0.9467  7.8203  25.454  7.4613

               GBP     HKD  ...     NZD     PHP     PLN     RON      SEK  \
2024-07-26  0.84378  8.4782  ...  1.8427  63.377  4.2740  4.9718  11.7325
2024-07-29  0.84345  8.4490  ...  1.8418  63.343  4.2938  4.9725  11.7265
2024-07-30  0.84260  8.4558  ...  1.8386  63.502  4.2838  4.9766  11.6860
2024-07-31  0.84380  8.4589  ...  1.8289  63.218  4.2908  4.9749  11.6125
2024-08-01  0.84328  8.4320  ...  1.8140  62.912  4.2958  4.9756  11.5220

               SGD     THB     TRY     USD      ZAR
2024-07-26  1.4594  39.112  35.798  1.0860  19.8121
2024-07-29  1.4540  38.914  35.710  1.0817  19.9041
2024-07-30  1.4554  38.961  35.820  1.0824  19.8815
2024-07-31  1.4491  38.629  35.908  1.0828  19.7400
2024-08-01  1.4437  38.409  35.706  1.0789  19.6134

[5 rows x 30 columns]
              AUD           BGN         BRL          CAD          CHF  \
count  255.000000  2.550000e+02  255.00000  255.000000  255.000000
mean     1.691848  1.955800e+00    6.25702    1.525851    0.939991
std      0.062210  2.224813e-16    0.16861    0.040447    0.007581
min      1.601800  1.955800e+00    5.95260    1.456100    0.924200
25%      1.644500  1.955800e+00    6.12120    1.494700    0.935150
50%      1.662900  1.955800e+00    6.23970    1.506300    0.938900
75%      1.755100  1.955800e+00    6.39490    1.564400    0.942850
max      1.839100  1.955800e+00    6.68750    1.607600    0.964100

              CNY         CZK         DKK         GBP         HKD  ...  \
count  255.000000  255.000000  255.000000  255.000000  255.000000  ...
mean     7.885805   25.065773    7.460396    0.842118    8.529620  ...
std      0.276618    0.197766    0.002172    0.011032    0.350291  ...
min      7.450000   24.539000    7.456000    0.824280    7.941200  ...
25%      7.646300   24.947000    7.458850    0.833390    8.196200  ...
50%      7.844100   25.091000    7.460200    0.840850    8.500100  ...
75%      8.131350   25.213500    7.461500    0.849925    8.790850  ...
max      8.458400   25.457000    7.469000    0.871500    9.270900  ...

              NZD         PHP         PLN         RON         SEK         SGD  \
count  255.000000  255.000000  255.000000  255.000000  255.000000  255.000000
mean     1.852538   62.646137    4.261544    4.996581   11.266225    1.443554
std      0.056042    1.694335    0.048402    0.039410    0.248726    0.029905
min      1.754800   59.769000    4.130800    4.967400   10.720500    1.396600
25%      1.802000   61.706000    4.244050    4.975600   11.027400    1.416550
50%      1.840200   62.479000    4.269000    4.976900   11.321000    1.442800
75%      1.901450   63.256000    4.289150    4.977800   11.482500    1.461450
max      1.987800   66.972000    4.358000    5.118800   11.732500    1.502000

              THB         TRY         USD         ZAR
count  255.000000  255.000000  255.000000  255.000000
mean    36.842184   39.784157    1.094420   19.819219
std      1.029981    3.649212    0.042224    0.718351
```

```
min     34.915000   35.706000    1.019800   18.562700
25%     36.026000   36.928500    1.053050   19.242050
50%     36.846000   37.839000    1.091800   19.695100
75%     37.754500   43.463500    1.128900   20.331000
max     39.112000   47.585000    1.181000   21.879000

[8 rows x 30 columns]
AUD    0
BGN    0
BRL    0
CAD    0
CHF    0
CNY    0
CZK    0
DKK    0
GBP    0
HKD    0
HUF    0
IDR    0
ILS    0
INR    0
ISK    0
JPY    0
KRW    0
MXN    0
MYR    0
NOK    0
NZD    0
PHP    0
PLN    0
RON    0
SEK    0
SGD    0
THB    0
TRY    0
USD    0
ZAR    0
dtype: int64
```

Out[2]: <Axes: >


20000
17500
15000
12500
10000
7500
5000
2500
0
2024-09
2024-11
2025-01
2025-03
2025-05
2025-07
AUD
BGN
BRL
CAD
CHF
CNY
CZK
DKK
GBP
HKD
HUF
IDR
ILS
INR
ISK
JPY
KRW
MXN
MYR
NOK
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