

# China's Leading Cyber Security Firms Reveal Advanced Foreign Threat Groups; Identify Little Known Actors

Fusion (FS)

Cyber Espionage (CE)

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## Executive Summary

- Two China-based prominent cyber security firms recently revealed 60 foreign threat actors in public reporting.
- A combination of the two reports identified 18 advanced persistent threat (APT) groups that are either unknown or have limited coverage in Western reporting.
- Mandiant researched indicators of compromise (IOCs) associated with the groups (when available) to provide a partial Rosetta Stone between Qihoo 360 and Qi-ANXIN's naming conventions and Mandiant's tracked threat groups.

## Threat Detail

Mandiant is providing a Rosetta Stone mapping internal, tracked espionage threat groups to open source reported advanced persistent threats (APTs) publicized by two China-based anti-virus and cyber security companies, [Qihoo 360](#) and [Qi-ANXI](#). These companies maintain threat intelligence divisions through the integration of security and incident response data to track global cyber threats primarily targeting China and their geographic locations. Of the total amount of threat actors revealed in public reporting, we identified 18 that are either unknown or have limited coverage in Western reporting.

## Summary of Qihoo 360 and Qi-ANXIN Reports

In an online report for the first half of 2021, Qihoo 360 [describes](#) the foreign APT landscape as follows (summary):

- Overseas APT organizations continued to be active against China, increasing significantly compared with the same period last year. Qihoo 360 discovered 46 APT organizations from other countries and monitored more than 3,600 national-level cyberattacks against China.
- Twelve organizations were identified as being involved in attacks on China, two of which were discovered for the first time: APT-C-59 (Wuqiong Cave) and APT-C-60 (Pseudo Hunter).
- China's government, scientific research, and defense and military industries were the top-targeted industries. Among the most active against China are APT organizations from East Asia, South Asia, and Southeast Asia.
- Analysis of attacks on colleges and universities demonstrates that overseas APT groups are using the educational targets as a peripheral means to infiltrate China's defense industrial base and scientific and technology research institutes.

- During the rebound of the COVID-19 epidemic in South Asia and Southeast Asia, attacks on the medical, healthcare, and media industries became prominent.
- The attack surface of smart cities continues to expand, and the threat of APTs intensifies under the digital transformation of cities. The threat of ICT supply-chain attacks has further escalated.

Qihoo 360 identifies the top 10 cyber espionage threats to China, ranked by frequency of intrusions, the number of organizations and devices affected, as well as the sophistication of the intrusion group. One surprising revelation was North Korean "Kimsuky" appearing in the number seven position. The possibility exists that this is a [Fallout Team](#).

| Ranking | 360 Named APT                           | Country of origin | Mandiant Name           | Industries Targeted in China                                   |
|---------|---|-------------------|-------------------------|--|
| 1       | APT-C-01<br>Poison Ivy<br>☐☐☐           | Taiwan            | Unknown                 | Government, Education, Scientific Research                     |
| 2       | APT-C-08<br>Creeping Vine Flower<br>☐☐☐ | India             | Hangover                | Education, Military Industrial Base, Scientific Research       |
| 3       | APT-C-00<br>Ocean Lotus<br>☐☐☐          | Vietnam           | APT32                   | Information and Communications Supplier, Government, Education |
| 4       | APT-C-06<br>Dark Hotel                  | South Korea       | Fallout                 | Trade, Scientific Research, Media                              |
| 5       | APT-C-59<br>Wuqiong Cave<br>☐☐☐         | Unknown           | Unknown                 | Media, Scientific Research, Healthcare                         |
| 6       | APT-C-48<br>CNC                         | India             | Unknown                 | Education, Scientific Research                                 |
| 7       | APT-C-55<br>Kimsuky                     | North Korea       | Kimsuky                 | Government   |
| 8       | APT-C-60<br>Pseudo Hunters<br>☐☐☐       | Unknown           | Unknown                 | Trade, Government  |
| 9       | APT-C-24<br>Sidewinder<br>☐☐☐           | India             | <a href="#">UNC1687</a> | Government, Healthcare,  |
| 10      | APT-C-47<br>Wang Thorn<br>☐☐            | Korean Peninsula  | Unknown                 | Trade, Manufacturing, Construction                             |

Table 1: Top 10 threats targeting China



Figure 1: Qihoo 360's geographic distribution of nation-state threat groups

The following is a partial Rosetta Stone that matches Qihoo 360 and Qi-ANXIN's IOCs to Mandiant tracked threat groups when the information was available. It should be noted that Mandiant does not track the IOCs attributed to these groups as a one-for-one match.

| Qihoo 360<br>APT<br>Designation | Qi-ANXIN | APT<br>Country<br>of Origin | APT English<br>and Chinese<br>Name | Mandiant APT<br>Designator           |
|---------------------------------|----------|-----------------------------|------------------------------------|--------------------------------------|
| APT-C-00                        | APT-Q-31 | Vietnam                     | Ocean Lotus<br>海洋花                 | <a href="#">APT32</a>                |
| APT-C-01                        | APT-C-20 | Taiwan                      | Poison Cloud Ivy<br>毒云             | Unknown                              |
| APT-C-03                        | None     | North<br>Korea              | Onion Dog<br>洋葱狗                   | South Korean                         |
| APT-C-06                        | APT-Q-10 | South<br>Korea              | Dark Hotel<br>黑暗酒店                 | <a href="#">Fallout</a><br>UNC1136   |
| APT-C-07                        | APT-Q-61 | Middle<br>East              | Mermaid<br>美人鱼                     | UNC722<br><a href="#">TEMPI.Lice</a> |
| APT-C-08                        | APT-Q-37 | India                       | Creeping Vine<br>飞藤                | <a href="#">Hangover</a>             |
| APT-C-09                        | APT-Q-36 | India                       | Moist Grass<br>潮湿草                 | Hangover                             |
| APT-C-11                        | Fin-7    | Russia                      | Carbanak                           | <a href="#">Fin-7</a>                |
| APT-C-12                        | APT-Q-21 | Taiwan                      | Blue Mushroom<br>蓝蘑菇               | Unknown                              |
| APT-C-13                        | APT-Q-79 | Russia                      | Worm<br>蠕虫                         | <a href="#">Sandworm</a>             |
| APT-C-15                        | APT-Q-62 | Middle<br>East              | Sphinx<br>狮身人面像                    | Unknown, deploying<br>NJRAT          |
| APT-C-16                        | APT-Q-93 | U.S.                        | Sauron's<br>Eye/Equation           |                                      |

|          |                  |                  |  |  |
|----------|------------------|------------------|--|--|
|          |                  | NSA              | Group<br>□□□□  |  |
| APT-C-17 | Unknown          | India            | Flying Shark<br>□□   | <a href="#">UNC2464</a><br>UNC2155<br>UNC1586                    |
| APT-C-20 | APT-Q-76         | Russia           | Fancy Bear<br>□□□  | <a href="#">APT28</a>  |
| APT-C-23 | Unknown          | Middle East      | Double Tailed Scorpion<br>□□□                                  | <a href="#">Molerats</a><br>Hamas                                |
| APT-C-24 | APT-Q-39         | India            | Sidewinder<br>□□□  | <a href="#">UNC1687</a>  |
| APT-C-25 | APT29            | Russia           | APT29  | <a href="#">APT29</a>  |
| APT-C-26 | APT-Q-1<br>APT38 | North Korea      | Lazarus  | <a href="#">APT38</a>  |
| APT-C-27 | APT-Q-64         | Middle East      | Golden Rat<br>□□□  | UNC1124  |
| APT-C-28 | APT-Q-3          | Korean Peninsula | Scarcraft Group123   | <a href="#">APT37</a>  |
| APT-C-29 | APT-Q-78         | Russia           | Turla  | <a href="#">Turla</a>  |
| APT-C-30 | APT -Q-32        | Southeast Asia   | Stalker<br>□□□   | Unknown  |
| APT-C-31 |                  | Kazakhstan       | Poison Needle<br>□□  | UNC1298  |
| APT-C-32 | Sandcat          | Israel           | Sandcat<br><br>Qi-ANXIN attributes this activity to Uzbekistan | Unknown  |
| APT-C-33 | Unknown          | Middle East      | ArmaRat  | Unknown  |
| APT-C-34 | APT-Q-90         | Kazakhstan       | Golden Flacon<br>□□□   | Unknown  |
| APT-C-35 | APT-Q-38         | India            | Stomach Worm<br>□□□  | <a href="#">Hangover</a>   |
| APT-C-36 | APT-Q-98         | South America    | Blind Eagle<br>□□□   | UNC1080  |
| APT-C-37 | APT-Q-67         | Middle East      | Papa Bear<br>□□□   | Likely <a href="#">Syrian Electronic Army</a> (mobile operation) |
| APT-C-38 | APT-Q-66         | Middle East      | Saber Lion (Mobile malware)                                    | Unknown  |
| APT-C-39 | Unknown          | U.S. CIA         | Vault7/Lamberts  |  |
| APT-C-40 | APT-Q-91         | U.S.             | Equation<br>□□□  |  |

|          |                        |                     |  |  |
|----------|------------------------|---------------------|--|--|
| APT-C-41 | Promethium             | Turkey              | Magic Blue Eye<br>Evil Eye<br>████     | Promethium,<br>Strongpity<br><a href="#">Deploys RUDEBOY</a> |
| APT-C-42 | WellMess<br>APT29      | Russia              | Wellmess<br>Magic/Devil<br>Mouse<br>██ | APT29  |
| APT-C-43 | APT-Q-99               | South<br>America    | Machete                                | UNC856<br>UNC3862  |
| APT-C-44 | North<br>African Fox   | Algeria             | North African<br>Fox<br>███            | Unknown<br>Mobile Operation                                  |
| APT-C-45 | Unknown                | India               | Baby Elephant<br>██                    | UNC1502<br><a href="#">UNC2800</a>                           |
| APT-C-46 | LPR                    | Ukraine             | Luhansk<br>████                        | Unknown  |
| APT-C-47 | Wang Thorn             | Korean<br>Peninsula | Wang Thorn<br>██                       | Unknown  |
| APT-C-48 | Unknown                | India               | CNC                                    | unknown  |
| APT-C-50 | Unknown                | Iran                | Domestic Kitten                        | UNC2104  |
| APT-C-51 | Unknown                | Iran                | APT35                                  | <a href="#">APT35</a>  |
|          | APT-Q-52               | Iran                | APT33                                  | <a href="#">APT33</a>  |
| APT-C-53 | InvisiMole<br>APT-Q-82 | Russia              | Gamaredon                              | <a href="#">TEMPI.]Armageddon</a>                            |
| APT-C-54 | Unknown                | Russia              | UNC2452                                | APT29  |
| APT-C-55 | APT-Q-2                | Korean<br>Peninsula | Kimsuky                                | <a href="#">UNC1130</a>                                      |
| APT-C-56 | Unknown                | India               | Transparent<br>Tribe                   | <a href="#">APT36</a>  |
| APT-C-58 | Unknown                | Pakistan            | Gorgon                                 | Deploys FORMBOOK<br>and NANOCORE                             |
| APT-C-59 | Unknown                | unknown             | Wuqiong Cave<br>███                    | Unknown  |
| APT-C-60 | Unknown                | Unknown             | Pseudo Hunters<br>███                  | Unknown  |
| APT-C-61 | Unknown                | Southeast<br>Asia   | Tengyun Snake<br>███                   | Unknown  |
| Unknown  | APT-Q-54               | Iran                | Muddywater<br>██                       | <a href="#">TEMPI.]Zagros</a>                                |
| Unknown  | APT-Q-55               | Iran                | Charming Kitten                        | <a href="#">APT42</a>  |
| Unknown  | Stealth<br>Falcon      | UAE                 | Stealth Falcon                         | Unknown  |
| Unknown  | APT-Q-57               | Iran                | Oilrig                                 | <a href="#">APT34</a>  |
| Unknown  | APT-Q-80               | Russia              | Energetic Bear                         | UNC2186/ <a href="#">Koala</a>                               |
| Unknown  | GhostWriter            | Russia              | GhostWriter                            | <a href="#">UNC1151</a>                                      |
| Unknown  | Triton                 | Russia              | Triton                                 | <a href="#">TEMPI.]Veles</a>                                 |
| Unknown  | SlingShot              | US                  | SlingShot                              | Unknown  |

|         |  |       |                                      |         |
|---------|--|-------|--------------------------------------|---------|
| Unknown | APT-Q-40<br>MoLuoSuo<br>(MoLuoSuo)<br>Aka<br>Confucius | India | MoLuoSuo (MoLuoSuo)<br>Aka Confucius | Unknown |
|---------|--|-------|--------------------------------------|---------|

Table 2: Partial Rosetta Stone

Reviewing the lists provided, there are 18 groups tracked under Qihoo 360 and Qi-ANXIN that are either unknown or have limited reporting in the Western press.

| Qihoo 360 APT Groups | Qi-ANXIN APT Groups | Country/Region of Origin                                      | Chinese Name   |
|----------------------|---------------------|---|--|
| APT-C-01             | APT-C-20            | Taiwan  | Poison Cloud Ivy<br>毒云 Ivy                             |
| APT-C-12             | APT-Q-21            | Taiwan  | Blue Mushroom<br>蓝蘑菇                                   |
| APT-C-15             | APT-Q-62            | Middle East   | Sphinx<br>狮身人面像  |
| APT-C-30             | APT-Q-32            | Southeast Asia  | Stalker<br>跟踪者   |
| APT-C-32             | Sandcat             | Israel<br><br>Qi-ANXIN attributes this activity to Uzbekistan | <a href="#">Sandcat</a>                                |
| APT-C-33             | Unknown             | Middle East   | ArmaRat  |
| APT-C-34             | APT-Q-90            | Kazakhstan  | <a href="#">Golden Flacon</a><br>金喇叭                   |
| APT-C-38             | APT-Q-66            | Middle East   | Saber Lion (Mobile malware)                            |
| APT-C-44             | North African Fox   | Algeria   | North African Fox<br>北非狐                               |
| APT-C-46             | LPR                 | Ukraine   | Luhansk<br>卢汉斯克<br><a href="#">Potentially related</a> |
| APT-C-47             | Wang Thorn          | Korean Peninsula  | Wang Thorn<br>王荆棘                                      |
| APT-C-48             | Unknown             | India   | CNC  |
| APT-C-59             | Unknown             | unknown   | Wuqiong Cave<br>无穹洞                                    |
| APT-C-60             | Unknown             | Unknown   | Pseudo Hunters<br>伪猎人                                  |

|          |   |                |                                 |
|----------|---|----------------|---------------------------------|
| APT-C-61 | Unknown                                     | Southeast Asia | Tengyun Snake<br>腾云蛇            |
| Unknown  | SlingShot                                   | US             | <a href="#">SlingShot</a>       |
| Unknown  | Stealth Falcon                              | UAE            | <a href="#">Stealth Falcon</a>  |
| Unknown  | APT-Q-40<br>莫洛苏 (MoLuoSuo)<br>Aka Confucius | India          | 莫洛苏 (MoLuoSuo)<br>Aka Confucius |

Table 3: Unknown or limited Western reporting

## Outlook and Implications

China's monitoring of foreign threat groups provides a broader view of the cyber espionage landscape and potentially new avenues for investigation. We also believe the Rosetta Stone will assist in follow-on analysis. In addition, it broadens the scope of targeting for groups that are currently tracked.

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