Taxonomy of chess fairy pieces according to their march

04.04.22

When discussions about a fairy classification arise, they frequently oppose fairy pieces and fairy conditions. Sometimes a fairy definition seems to give birth to a new condition, and sometimes to a new fairy piece. But in fact any modification of an orthodox rule gives birth to one or many fairy pieces, all appearing on the diagram.

Example with the well-known Circe condition: a composer may well decide that only one isolated piece on the diagram will be reborn on its « Circe rebirth square » when captured. In that case there is no doubt that the piece will be considered as a fairy piece. If the composer decides that all the pieces on the diagram follow the Circe rule, what **in practice** he always does, then there is no reason not to consider all these pieces as fairy pieces, even if they do not appear as such on the diagram.

The pieces with an orthodox march who are of the fairy type because they follow a fairy rule are not the subject of the present chapter. Their properties are completely described by the fairy condition applied to them.

So we do not include here for example pieces who are just paralyzing other pieces. Their existence is sufficiently covered by the description of the condition. The classification of conditions, achieved in the « chapter » fairy conditions, implies at the same time the classification of the pieces which are fairy pieces not because of their march, but because they are subject to some other fairy condition. As an example, many fairy pieces are listed under the conditions resulting from « Restrictions to the moves allowed ».

At the moment we only need to classify the fairy pieces according to their march.

There are three main well known families of chess fairy pieces when we look at their march : leapers, riders, hoppers. Fairy pawns and kings belong to specific families. Then come families gathering pieces with « complex » marches, or « rare » marches.

The families are divided in subfamilies, which in turn can also be divided in order to reach the best level of homogeneity. This process creates branches. We call « boxes » the smallest groups at the end of the branches. Each of them hosts pieces designated individually. In this presentation, the final result is a list of « boxes », identified by a registration number in bold characters. All the pieces listed in Winchloe program fit in one of these « boxes », except for some rarities.

Remark: a given fairy piece is known usually by its name, most of the time disconnected from its march. In the text below, the name is sometimes accompanied by a « notation », mainly coordinates, giving a better view of the march of the piece.

1. Leapers
Pieces which move directly from one square to another, without being blocked by obstacles on intermediate squares.

1.1.Simple leapers
Notation : they are identified by coordinates (m,n), characterizing each move.
Examples: Wazir is a (0,1)-leaper, Fers is a (1,1)-leaper, Giraffe is a (1,4)-leaper

1.2 Leapers combinations
Notation : (m1,n1) + (m2,n2) +… Examples : Gnu is a (1,2)+(1,3)-leaper,
Root-25-leaper is a (3,4)+(5,0)-leaper

1.3 Bouncing leapers
they play again when they arrive on the edge of the chessboard

2. Riders
Pieces which move through a series of one or more vacant squares to reach their destination.

2.1 Bishop/Rook line riders
they move on a bishop or rook line**,** and are a particular case of the family 2.2
Orthodox Q,R,B are included here, although not being fairy pieces, but they are part of combinations of pieces, and the steps they make have coordinates (0,1) or (1,1)

2.2 Straight line riders
they make (m,n) steps and the squares on which the rider arrives after each step are situated on a straight line
Notation: here the notation (m,n) designates a step, component of a move.
e.g. a Nightrider makes Knight steps, a Moarider makes Moa steps.

2.3. Zigzag riders
these pieces make moves consisting in successive steps in two different alternating directions, which means that the sign of the angle formed by the directions of two successive steps changes alternatively from minus(=clockwise) to plus(=anticlockwise) or from plus to minus

e.g. Boyscout is a (1,1)-90°alternating- zigzag rider, moving on pathes such as a3-b4-c3-d4_e3. Big Boy follows the paths a1-c3-a5 or a1-c3-e1 but the intermediate squares must be empty

2.4. Circuit riders (could be called Rose riders. *Chris Taylor has demonstrated that the name 'Circuit'- and so is 'Rose'- is inaccurate and suggests 'Falcate'*)
the angle formed by the directions of two consecutive steps has a constant value and sign, and a null move is possible when the fairy piece returns to its departure square after some steps. Well known example : classical Rose
Notation : Dabbaba-rose is a (0,2)-90°constant circuit rider and can occupy the summits of a square like a1-a3-c3-c1

2.5 Multidirectional riders
after each step, the rider can make the next step in any direction.
Example : (1,1) -90° any (means constant or alternating)–rider placed on a black square can visit all the black squares of the chessboard. Quintessence= (1,2) -90° any-rider
The steps can have unven lengthes. Example : Zeppelin-1 = (0,1) followed by (1,2) followed by (1,3)

2.6 Bouncing riders
Bouncing riders bounce off the edge of the chessboard when they hit it.
e.g. Archbishop

2.7 Restricted riders
The restrictions concern the type of moves allowed, or the number of steps, etc
e.g. Nightrider-2 is a Nightrider making 1 or 2 steps
Maos and Moas can be classified as riders because the squares on their path must be unoccupied. But their path is restricted to a single Knight step.

2.8 Riders combinations
e.g. Elephant = Queen + Nightrider

3.Hoppers
these are Riders (chosen in any Riders subfamily) needing a hurdle to execute each of their moves or just some of them (example : captures). A hurdle is a piece of any colour forming an obstacle situated on the path followed by the rider. We call the corresponding rider the underlying rider.

3.1 Pure Hoppers
   these hoppers need a hurdle to execute all their movements, but they do not impact the hurdle.

3.1.1 Grasshopper family
   Pure hoppers moving on the lines associated to the underlying rider. They begin their move on a given path and finish it by making one more step on the same direction after the hurdle, moving generally to a square adjacent to the hurdle. Examples : Grasshopper, Rosehopper, etc

3.1.2 Lion family
   pure hoppers moving on the lines associated to the underlying rider. They begin their moves on a given path and finish it by making one or more steps on the same path after the hurdle. Examples : Lions, Nightrider-Lion, etc
   Special case : Contragrasshoppers, which play like Lions but must be in contact with the hurdle

3.1.3 Hoppers changing their path
   hoppers changing direction after passing the hurdle
e.g. Eagle.

3.1.4 Super hoppers
  they need more than one hurdle to perform their moves
e.g. Kangaroo

3.1.5 Equihoppers and equistoppers
  the first ones make an equal number of steps either side of the hurdle, the second make moves which are half way from the hurdle. Change of direction after the hurdle is allowed in some cases.

3.2 Chinese and Argentinian families : hoppers using a hurdle for a part of their moves.
   Chinese : these hoppers can only capture a piece situated on the path after the hurdle. Noncapturing moves are the normal ones associated to the underlying rider.
 Argentinian : these hoppers can only capture a piece situated on the path before the hurdle, noncapturing moves are allowed after the hurdle

3.3 Hoppers capturing the hurdle
3.3.1 Locust family
   these hoppers move on a rider lines and only by capturing the hurdle !
The arrival square is determined as for pieces of the Grasshoppers family
(e.g. Locust Nightrider), or pieces of the Equihoppers family.
Some change their path after the capture as in 3.1.3

3.3.2 Marine pieces
   these hoppers move like the underlying rider but capture only like the
corresponding hopper in the locust family
Remark **:** Hoppers (including Equihoppers) impacting the hurdle
   are classified in the chapter « conditions »

3.4 Hoppers using pseudo hurdles (pivots…)
   The Radial Leaper reaches all the squares located at the same distance from
another piece (the pivot) as he is himself

3.5 Restricted hoppers
   For example the hurdle must be of certain colour, type, etc

4. Fairy pawns for which the movement rules differ from orthodox rules
   e.g. Berolina pawn, Superpawns
   Remark: pawns for which the promotion rules differ from orthodox rules
           are mentiond in the chapter « conditions »

5. Fairy kings
   5.1 fairy kings for which the movement rules differ from orthodox rule
   5.2 fairy kings moving differently when in check
       e.g. transmuted kings
    Remark : Kings for which the conditions for being in check or parrying a
check differ from the orthodox rules are classified in the chapter « conditions »

6. Heterogeneous fairy pieces
   these pieces permanently cumulate the marching powers of several fairy pieces
belonging to the groups already listed
   e.g. Pegasus = Grasshopper+Nightrider (*source : Problème, March 1970*)

7. Pieces with variable marching powers
   7.1 pieces moving differently when they move upwards or downwards, or
sideways, etc
   7.2 pieces moving differently when they capture and when they don't
       e.g. a Chimere plays like a Locust when the hurdle has the opposite colour,
like a Grasshopper when it has the same colour.

7.3 pieces which move differently according to where they are
    e.g. Querquisite has the power of the orthodox piece situated initially on the same line and on the 1st/8th rank

8. Pieces with extended march
  e.g. Halma (or Multi-) pieces can make several moves until they capture.

9. Pieces with restricted march
  e.g. Edgehogs play like a Queen obliged to reach the edge if she does not touch it, or to leave the edge if she touches it

10. Pieces playing moves having successive stages

10.1 when playing a normal move
    e.g. a Bal-bishop plays like a Bishop but on a path towards the landing square made of two Rook moves
  10.2 when playing a normal move using a hurdle or an obstacle
    e.g. winged pieces play a Q-move towards an obstacle followed by another move from that square in accordance with their own march

11. Pieces having no march assigned
  these pieces like an Orphan or an Imitator or a Joker are symbolized by a disk on the diagram

12. Pieces materializing an attribute
  attributes are fairy characteristics conferred to one or more pieces on the diagram (description in chapter « conditions)
    e.g. the Spectre (*French name*) is the materialization of the attribute « royal » It will appear on the diagram when « dropped » by a royal piece

13. Invisible pieces
 Although invisible, it seems they have to be cited…